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## **Sustainable Development through African Indigenous Knowledge Systems: A Review of Evidence from Zimbabwean Rural Communities**

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### **Abstract**

This review paper is motivated by the peripherisation of African Indigenous Knowledge Systems (AIKSs), which is palpable in some contemporary Black African societies of Zimbabwe. Grounded in the 'Sociology of Knowledge' and 'Afrocentric' theories, the paper explores the centrality of AIKSs to sustainable development in Zimbabwean rural communities, with particular reference to climate change, traditional medicine, horticulture, environmental conservation, and biodiversity preservation, among other fields. The paper established that,

although AIKSs are sometimes viewed as manifestations of anachronism and pseudoscience, they remain the key to unlocking the sustainable socio-economic development potential of Zimbabwean rural communities, which are grappling with sustainability challenges imposed through Western Knowledge Systems (WKSs). The paper concludes that AIKSs are neither anachronism nor pseudoscience but an exigency for local sustainable socio-economic development initiatives. This reflection, therefore, urges the expeditious and policy-grounded integration of AIKSs into the various domains of human endeavour for sustainable development in Zimbabwean rural communities.

**Keywords:** *Sustainable development, African Indigenous Knowledge Systems (AIKSs), Western Knowledge Systems (WKSs), sociology of knowledge, Afrocentrism, Zimbabwean rural communities*

## **Introduction and background**

AIKSs are valuable resources owned by the Zimbabwean rural communities and have played critical roles in rural sustainable development initiatives, yet they have not been getting the recognition that they are due (Maunganidze, 2016). In fact, AIKSs are either generally invisible or remain an under-utilised resource in mainstream and local development policies and practices (Zengeya-Makuku *et al.*, 2013; Maunganidze, 2016), possibly because they are sometimes denigrated as manifestations of anachronism and propagation of pseudoscience. There have been some efforts, albeit few, to incorporate AIKSs into sustainable development initiatives but, overall, there is massive peripherisation of AIKSs, which has resulted in Zimbabwean rural communities losing what could benefit their sustainable development agenda. Guided by the Sociology of Knowledge and Afrocentric theories, this paper explores the sustainable development potential of AIKSs within Zimbabwe's rural communities in the areas of climate change, traditional medicine, horticulture, environmental conservation, and biodiversity preservation, among other fields.

The current reflection comes against the backdrop of the colonial logic (coloniality) in generic, and coloniality of knowledge in particular, which are ubiquitously and abundantly manifest in Africa South of the Sahara (Zimbabwe included). In the African context, coloniality of knowledge denotes the peripherisation of AIKSs (African epistemologies), exaltation and legitimation of WKSs (Western epistemologies), colonisation of African knowledge spaces by WKSs, and

portrayal of the Euro-North Americans (Global North) as custodians of real knowledge worth being sought (Ndlovu-Gatsheni, 2015). Likewise, Makuvaza and Shizha (2017:5) argue that, “While Sub-Saharan Africa might have attained political independence from their erstwhile colonisers, their coloniality still remains and thus requires interrogation.” This is applicable to contemporary Zimbabwe, a Sub-Saharan nation currently in the vortex on neocolonialism. Given such an arrangement, coloniality of knowledge continues to permeate the various domains of human endeavour in Zimbabwe.

Regarding this coloniality of knowledge, Shizha (2010) argues that there is inequality in the hierarchical placement or positioning of WKSs (herein equated to Western epistemology or Western science) and AIKSs (synonymous with African epistemology or African indigenous science or African ways of knowing or African knowledge production). As a result of the marginalisation of African ways of knowing, independent Africa has continued to suffer in various ways. Thus, alongside the socio-politico-economic subjugation of SSA in general and Zimbabwe in particular, colonialism committed symbolic violence, that is, it forced African epistemology into a position of subservience because it occasioned an arrangement that places AIKSs at a lower level and WKSs at a higher level in virtually all areas of human endeavour. To make matters worse, SSA (inclusive of Zimbabwe) seems to have legitimated this unduly oppressive *status quo* since most Black Zimbabweans<sup>1</sup> uncritically concur that WKSs are superior to AIKSs. In other words, Black Zimbabweans have acquiesced to the Western Universalist School of Thought which asserts that certain Western ideas are universally applicable and superior, forming a model for global progress.

Owing to the coloniality of knowledge, “African narratives have been marginalised and deemed irrelevant, when in actual fact they are the bedrock of African people’s existentiality and identity” (Shizha, 2010:33). This portrays a lamentable situation within which AIKSs are peripherised, yet they are the substratum of sustainable development, especially in the contemporary Zimbabwean rural areas. By uncritically concurring with the view that WKSs are superior to AIKSs, therefore, Afro-Zimbabweans are dismissing what could be of value to them (Wuta, 2020). They (Afro-Zimbabweans) could be dismissing the most viable alternatives for sustainable development.

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<sup>1</sup> The term ‘Black Zimbabweans’ is used interchangeably with ‘Afro-Zimbabweans’.

The thrust of this paper, therefore, is that of advancing the AIKSs as viable alternatives for local sustainable development initiatives in order to contest the universalistic conceptions of Western knowledge that seem not to be working favourably for the good of Zimbabwean rural communities. Exponents of epistemology seem to peddle divergent views on the value of AIKSs, with some viewing AIKSs as engines of sustainable rural development, whereas others deride AIKSs as manifestations of anachronism and pseudoscience. This clash, therefore, is evidence that AIKSs are possibly viable alternatives for sustainable rural development in Zimbabwe - a position this paper adopts. In fact, through Afrocentric persuasions, this paper holds that AIKSs are the best foot forward for sustainability in Zimbabwean rural communities.

### **Theoretical framework**

This paper is grounded in the Sociology of Knowledge and Afrocentric theories. The former theory assumes a global outlook, whereas the latter is of African origins and that local outlook serves to further contextualise the reflection to issues of AIKSs in Zimbabwean rural areas. Although the two theories are from different contexts, they complement each other in advancing the value of home-grown epistemologies and worldviews ahead of exotic epistemologies.

Karl Mannheim (1893-1947 A.D.) is credited as the founding father of Sociology of Knowledge as a theory (Had & Garijih, 2020). He built on the work of his predecessor, Karl Marx (1818-1883 A.D.). In Sociology of Knowledge, answers to the following questions are sought: (1) What counts as legitimate knowledge? (2) Who determines that which counts as legitimate knowledge? Hence, Sociology of Knowledge explores the relationship between thought and society (Coser & Rosenberg, 1991). The main concern of Sociology of Knowledge is the relationship of ideas to the sociological, historical, ideological, and cultural settings in which they are produced and received (Mannheim, 1991). Sociology of Knowledge is a fairly distinct board of ideas which is concerned with the social character of knowledge, social construction of reality, and everyday reality (Mannheim, 1991; Berger, as cited in Had & Garijih, 2020).

Peter Berger (1929-2017 A.D.) (as cited in Had & Garijih, 2020) argues that Sociology of Knowledge needs not focus much on theoretical and scientific knowledge because it constitutes a small portion of the conception of knowledge in a society. Hence, theoretical and scientific

knowledge is less important compared to “the sum total of what everybody knows about the social world, an assemblage of maxims, morals, proverbial nuggets of wisdom, values and beliefs, myths and so forth” (Berger & Luckman, as cited in Had & Garijih, 2020:916). Sociology of Knowledge, therefore, puts primacy on homegrown epistemologies and worldviews peculiar to any given society ahead of the exotic understanding of phenomena. In other words, “only a limited number of people are interested in understanding theories of knowledge as compared to other elements such as customs, beliefs, institutions, social processes and so forth; elements which, in themselves, comprise a greater part of the knowledge base” (Berger, as cited in Had & Garijih, 2020:916). Sociology of Knowledge, thus, sets a premium on indigenous epistemologies, which in the local context constitute the AIKSs.

The application of Sociology of Knowledge principles to AIKSs validates the latter as systematic, rational forms of knowledge, challenging Eurocentric biases in academia and related domains. Both fields (Sociology of Knowledge and AIKSs) intersect in the contemporary discourse on decolonising the curriculum and research. They jointly advocate for decentering Western knowledge hegemony and integrating AIKSs into mainstream education and development practices, promoting a more inclusive and representative global knowledge system. By revealing the social roots of knowledge claims, Sociology of Knowledge promotes an understanding of multiple valid ways of knowing (epistemic pluralism), which aligns with the push for cognitive justice where AIKSs are recognised as legitimate knowledge systems in their own right, rather than being mere alternatives to the Western framework. The intersection between Sociology of Knowledge and AIKSs encourages collaborative research models that view both indigenous and exotic knowledge systems as equal partners in the co-production of knowledge for sustainable development, leading to outcomes that are both scientifically-sound and culturally-appropriate.

In line with what Sociology of Knowledge says about context-based knowledge, the authors also situate this paper within the Afrocentric theory, which is not isolationism but thinking and acting African or Afrocentrism. For Higgs and Van Niekerk (2003:41), “Afrocentrism is a response by African scholars to re-write the skewed history codified by colonisers so that Africans can systematically construct an understanding of an African reality by themselves for themselves.” This liberatory inclination is endorsed by Okoye (2023), according to whom, Afrocentrism seeks to reposition the African continent positively to

enable Africans to achieve their development by themselves for themselves. One leading Afrocentric scholar is Molefi Kete Asante (1987), whose understanding is that Western epistemology is inadequate in explaining all ways of knowing because African indigenous knowledge is based on a particular cultural setting, which does not have general applicability.

Africans need to view reality from an Afrocentric worldview rather than treat everything Eurocentric as the truth. This is endorsed by Dei (2012) who argues that the African-centred paradigm is an important theoretical and pragmatic space for African peoples to interpret and critically reflect upon their experiences on their own terms and through the lenses of their worldviews and understandings, rather than being forced to understand the world through Eurocentric lenses. This is only possible through embracing the AIKSs. Africans, thus, need to accept and live by the fact that African worldviews and epistemologies are the best to explain African phenomena, solve African problems, and foster sustainable development. Hence, AIKSs remain the bedrock of holistic African existentiality. Afrocentrism affirms the African-centred knowledge systems, which are responsive to African phenomena. Sustainable development through AIKSs, therefore, is best understood and appreciated from the perspective of Afrocentrism.

### **Towards a shared understanding of Indigenous Knowledge (IK), African Indigenous Knowledge Systems (AIKSs), and sustainable development**

Indigenous Knowledge (IK) is a form of meaning-making, knowledge production or epistemology peculiar to a specific locale. To Zengeya-Makuku *et al.* (2013:447), Indigenous Knowledge is “knowledge that people in a given community developed, and continue to develop over time and is based on experience often tested over centuries of use, adapted to the local culture and environment which is ever-changing and dynamic.” Indigenous Knowledge, therefore, is home-grown and context-specific, but is still amenable to change in response to the external forces of globalisation without losing the local character/identity.

Indigenous Knowledge is configured into a matrix called Indigenous Knowledge Systems (IKSs), defined in generic terms as “the sum total of the knowledge and skills which people in a particular geographical area possess” (Shizha, 2010:32). For enhanced local contextuality, IKSs could

be called African Indigenous Knowledge Systems (AIKSs), incorporating combinations of epistemologies encompassing the technological, philosophical, social, economic, educational, legal, and governance systems of Africans (Msila, 2009). These systems are embedded in the history and culture of Africans, including their civilisation. AIKSs, thus, form the backbone of the social, economic, scientific, and technological identity of Africans (Msila, 2009).

Sustainable development refers to “meeting the needs of the present without compromising the ability of future generations to meet their own needs” (Fulwari, as cited in Wuta, 2025a:95). The agenda for sustainability, thus, enjoins the Zimbabwean rural communities to harness AIKSs in their pursuit of socio-economic development initiatives in a manner that does not preclude future development. To Nasibulina (as cited in Drew, 2023), sustainable development incorporates the ideals of environmental consciousness, environmental stewardship, ecological ethics, and ecological culture. Environmental consciousness enjoins the human person to know their proper place in the cosmos, *viz.*, the human person’s relationship with nature (ecosphere) and God (Wuta, 2025a). The word ‘stewardship’ means one looks after resources which he/she does not individually own. Environmental stewardship, therefore, urges the human person to be a beneficiary as well as a good custodian/caretaker of the natural environment (Wuta, 2025a). Environmental ethics is the moral compass that draws on ecological culture and which commands the human person to maintain the wholeness of the ecosystem (environmental integrity) through valuing even the non-human creatures and non-living things as well (Wuta, 2025a). Ecological culture is the human person’s sentiment and action to conserve, protect, and maintain nature so that nature reacts positively to man, in return (Wuta, 2025a). Above all, ecological culture is the underpinning philosophy of sustainable development. These ideals are nurtured and embedded in AIKSs, as shall be demonstrated subsequently.

## **Research methodology**

This is a review paper, which is an analysis of documentary evidence. Documentary analysis reposes within the qualitative research approach, considered more successful when studying human-social phenomena (Cohen *et al.*, 2007). Documentary analysis is a secondary research design in which the researcher(s) systematically examines existing documents or

literature to extract meaningful data relevant to the driving concerns of inquiry. According to Bowen (2009), documentary analysis is efficient, less time-consuming, and cost-effective, as it requires data selection instead of data collection. This design is handy in situations where field inquiry is incapable of generating convincing data on the issue under scrutiny. Documentary evidence is available and documentary analysis is unobtrusive and non-reactive (Muchabaiwa & Mawere, 2025). It is for these reasons that documentary analysis was herein preferred. Textual evidence is analysed using discourse analysis, which, according to Mhlanga and Shumba (2013), is the process of interpreting the powerful meaning or discourses underpinning text. This paper, therefore, is an analysis of other people's literary works that include primary and secondary sources (journal articles, book chapters, and handbooks) which address the issue under scrutiny – peripherisation of AIKSs in the 21<sup>st</sup> Century Zimbabwe.

### **Centrality of AIKSs to sustainable development within Zimbabwean rural communities**

Indigenous knowledge is the foundation for effective participation in any type of sustainable community development (Mugambiwa *et al.*, 2023). Subsequent sections, thus, discuss the application of AIKSs across the various fields that include climate change adaptation and interpretation, traditional medicine, horticulture, environmental conservation, and biodiversity preservation, with each of them logically demonstrating the centrality of AIKSs to sustainable development within Zimbabwean rural communities.

#### ***AIKSs in climate change adaptation and interpretation***

Climate change adaptation in this context depicts how the indigenous people adjust to the current and future climate change effects to reduce vulnerability, whereas climate change interpretation is the manner in which the indigenous people understand the observed changes from an indigenous perspective (Madamombe *et al.*, 2024). Prior to the widespread adoption of contemporary scientific methods, rural populations relied heavily on AIKSs, with some animals, birds, insects, and plants believed to be able to sense and respond to changes in atmospheric conditions (Mugambiwa *et al.*, 2023). AIKSs, therefore, remain a viable alternative available for local climate change adaptation

(Mugambiwa *et al.*, 2023). Environmental disasters have always been a fact of life for rural communities and small holder farmers, but rural farmers could harness AIKSs to cope with climate-related environmental shocks and stress (Mugambiwa *et al.*, 2023).

At a regional scale, Nigerian farmers use their understanding of weather systems such as rainfall, thunderstorms, windstorms, and sunshine to plan for future weather conditions (Ajibade & Shokemi, as cited in Mugambiwa *et al.*, 2023). This way, Nigerian farmers have adopted what is known as AIKSs weather forecasting, which is now an integral element of the farmers' disaster preparation and response system. Furthermore, senior Nigerian male farmers are responsible for the formulation of seasonal rainfall hypotheses based on their observations of natural occurrences (Rancoli, as cited in Mugambiwa *et al.*, 2023). A good example is the 'False Start' Hypothesis, which says early light rains do not signify the true start of the rainy season. The Nigerian rural communities' cultural-ritual professionals also derive weather forecasts from divination, visions, or dreams, all of which repose within AIKSs.

Locally, Zimbabwean rural farmers use AIKSs to assess climate change via the interpretation of observable characteristics, such as rainfall amounts and river flow patterns, blossoming and mating patterns of plants and animals (Mugambiwa, as cited in Mugambiwa *et al.*, 2023). The 'False Start' Hypothesis ascribed to Nigerian farmers is also observed in Zimbabwe's rural rain-fed farms since most farmers do not plant with the very first light rains of the season. AIKSs, thus, form the cornerstone and premise of climate change adaptation and interpretation as indigenous people are well-versed in positive solutions to environmental problems.

Mugambiwa (as cited in Mugambiwa *et al.*, 2023) also discovered that the Zimbabwean rural farmers were more ready to participate in the adaptation process when seasonal weather forecasts were combined with AIKSs. The primary aim of utilising AIKSs adaptation in rural communities is to help achieve sustainable development (Mugambiwa *et al.*, 2023). Hence, climate change should not be addressed outside of the framework of sustainable development. Since many rural communities rely heavily on the natural environment, they require indigenous-oriented measures to mitigate the consequences of a changing natural environment as well as a changing climate in order to achieve sustainable development.

The incorporation of AIKSs into climate change policies can lead to the development of effective adaptation methods like growing drought-resistant crop varieties and adopting conservation agriculture inclusive of minimum tillage and mulching (Madamombe *et al.*, 2024) – methods that are not only cost-effective but also participatory and sustainable. AIKSs provide communities with easy and user-friendly solutions for coping with, or adapting to, the effects of climate change. Many rural communities are lauded for their ability to predict weather and climate because AIKSs enable them to comprehend current weather circumstances, and predict future weather conditions and calamities. This has been noted in Zimbabwe where farmers have resorted to farming traditional small grains which are more adaptable to climate change (Madamombe *et al.*, 2024), quite consistent with the dictates of indigenous-oriented sustainable development.

### ***AIKSs in identifying underground water reserves***

AIKSs enable people in rural areas to get the most out of their natural environment without necessarily disturbing the natural ecosystems (Zengeya-Makuku *et al.*, 2013). Hence, Wuta (2020) avers that AIKSs are socially-desirable, economically-affordable, and developmentally-sustainable. A good example is the use of *syzigium guineense* (*Mukute*) to identify an area with water so that a borehole is drilled (Zengeya-Makuku *et al.*, 2013). This is common indigenous knowledge inherited from forebearers that areas with accessible underground water reserves are usually infested by the *Mukute* trees. Thus, the prevalence of these *Mukute* trees could guide in the identification of an area ideal for drilling a borehole without necessarily having to trial-dig first and degrade the land. This traditional method, therefore, remains effective and by many standards consistent with sustainable development, especially in the context of Zimbabwean rural areas.

### ***AIKSs in traditional medicine***

The UN Draft Declaration on the rights of indigenous peoples, Article 24, provides the right to ‘traditional medicines and health practices’ as well as the protection of ‘vital medicinal plants, animals, and minerals’ (Maunganidze, 2016). Traditional medicine is known to include diverse health practices and approaches, knowledge and benefits that incorporate plants, animals, and other mineral-based medicines, spiritual therapies,

manual techniques, and exercise applied singularly or in combination for the maintenance of well-being as well as to treat, diagnose or prevent illness (WHO, as cited in Maunganidze, 2016). Knowledge of the uses of specific plants and animals for medicinal purposes is an important component of AIKSs. In the Sub-Saharan context, Shizha (2010) cites the *Hoodia* plant used to curb severe abdominal cramps, hypertension, and for dietary care; the African Willow (*Salix Mucronata*) for treating fever and stomach issues; and *Iboga* for treating substance use disorders (anti-addictive therapy).

In Zimbabwe and among the Shona people, traditional herbal medicines like *Kigelia Africana* (*Mubveve*) and *Dicoma Anomala* (*Chifumuro*) have historically been used as primary treatment for main diseases and ailments such as cancer, and gastrointestinal issues like nausea and diarrhoea (Maunganidze, 2016). For most of the poor rural people, traditional healers are often the first and last line of defence against the most contagious and debilitating diseases that plague their lives. AIKSs in this regard remain the effective engines of sustainable social development, as they enhance people's health and quality of life in Zimbabwean rural areas.

### ***AIKSs in agriculture in general and horticulture in particular***

In terms of 'land management practices' in general, problems such as overstocking, overgrazing, land degradation, and soil exhaustion were rare in pre-colonial Africa because land was preserved especially through the use of dung as organic fertilizer, transhumance, trading-out surplus livestock, and mixed cropping (Mapira & Mazambara, as cited in Wuta, 2025b). These were, and still are, effective sustainability practices that fall within AIKSs, practices which work favourably well for the rural communities of Zimbabwe.

The primacy of AIKSs, particularly in horticulture, is exemplified in the Mutoko District of Zimbabwe, where farmers employ a variety of indigenous-oriented methods. "These methods include crop rotation, crop variety, and indigenous methods of irrigation. The underlying principle among the farmers is that they employ farming methods available to them in their context to boost their productivity" (Mugambiwa, 2021:223). Such indigenous-oriented methods of horticulture, therefore, are relevant to the people in Mutoko, who inherited them from their forefathers. These methods are designed within these farmers' cultural settings and environmental demands to

meet their agricultural needs (Mugambiwa, 2021). The preceding magnifies the culture-embeddedness of indigenous-oriented methods, which seem to be working favourably well for sustainable living among the farmers in Mutoko.

Crop rotation, as a method of horticulture practised by many African communities (Mutoko farmers included) over the years, boosts productivity because the soil remains fertile for a longer period of time (Mugambiwa, 2021). Notwithstanding the input of Agricultural Extension (AGRITEX) department, this crop rotation strategy was also found to have been passed from one generation to another and it emerged that communities in Mutoko used to receive guidance for such crop rotation processes from their ancestors (Mugambiwa, 2021). Likewise, Kurukulauriya and Mendelson (as cited in Mugambiwa, 2021) proclaim that crop rotation is a purely indigenous agriculture-based method with substantial sustainability potential and it has always been part of the African farming culture.

Crop variety is another method of horticulture deemed indigenous agriculture-based. It involves the growing of a variety of crops like onion, tomatoes, vegetables, and butternut, at the same time (Mugambiwa, 2021). This method was developed by the Mutoko community to minimise their chances of loss. A related but different strategy called mixed cropping serves to minimise the risk of crop failure and control the spread of diseases, since one pest attacking one plant could be destroyed by the other plant (Wuta, 2025b). Mixed cropping also promotes moisture-retention as the shorter crop acts as a mulch, thereby enhancing the symbiotic relationship among different plant species (Wuta, 2025b). Therefore, mixed cropping is a method of remarkable sustainability acumen worth adopting in Zimbabwean rural communities.

Due to insufficient rains as a result of climate change, horticulture farmers in Mutoko District have developed indigenous-oriented irrigation methods peculiar to their context so as to boost their productivity (Mugambiwa, 2021), and in the end enhance their entrepreneurship. The most economic and indigenous irrigation methods in place involve the utilisation of river waterholes, drilling and/or hand-digging wells on the riverside, and constructing gardens in the vicinity of rivers where water deposits are closer and accessible, either for the greater part of the year or all year round. According to Mugambiwa (2021), these indigenous knowledge-oriented practices are claimed to have been passed from one generation to another and are deemed to have the vast potential for sustainability.

Mugambiwa's (2021) findings are affirmed by Chirima (2025), who (from his inquiry into the integration of AIKSs and modern agronomic practices for sustainable horticulture in rural Mvurwi) reveals that combining AIKSs such as intercropping, organic composting, and indigenous pest control with modern practices like drip irrigation and greenhouse technologies leads to higher yields, improved soil fertility, and reduced input costs. Chirima's (2025) study, therefore, demonstrates that hybrid horticultural systems grounded in both AIKSs and modern agronomy serve to foster sustainability, resilience, and community empowerment.

### ***AIKSs in environmental conservation***

Precolonial Zimbabweans conserved some natural resources through the use of taboos, which repose within AIKSs. A taboo is "any ritual prohibition on certain activities which may involve the avoidance of certain people, places, objects or actions" (Jary & Jary, 1995:667). Consequently, some places were regarded as sacred and could not be molested by human activities (Mapira & Mazambara, as cited in Wuta, 2025b). Taboos, thus, serve to protect or safeguard certain resources against possible damage. As an African Indigenous Knowledge System, taboos are instrumental in salvaging certain elements of the ecology from possible extinction. Owing to 'taboos', therefore, certain rivers, water bodies, forests, caves, and veld resources in Zimbabwe are kept in their natural state for centuries without being degraded through human interference.

As they are grounded in the philosophy of *Unhu/Ubuntu*, AIKSs enjoin human beings to be good to the natural environment. Being good to nature portends the 'Pantheistic' religious predisposition about which Dei (as cited in Wuta, 2025a:97-98) writes, thus:

It is the belief among indigenous Africans that physical objects, especially those in nature such as trees, rivers, animals, and others, are imbued with spirits that give meaning and life to all that an individual does in the community. The use of natural resources without the approval of the ancestors and gods, who are usually represented by traditional priests, priestesses or chiefs, was unacceptable within indigenous systems (*Unhu/Ubuntu*). Doing so could incur the wrath of the gods and ancestors, which might result in individual or communal punishment.

Above is an articulation of environmental consciousness and ecological ethics as embedded in indigenous African religion, which harmonises with, and draws on, AIKSs.

Though indicted for lack of scientific validity, “traditional norms and beliefs (taboos included) have been instrumental in the conservation of natural resources... As part of AIKSs, they have proved to be an effective tool of natural resource conservation since the precolonial era” (Mapira & Mazambara, as cited in Wuta, 2025b:46). Therefore, Zimbabwean rural communities cannot afford to denigrate AIKSs, which, according to Tapfuma (2012), are the effective engines of ecological management and conservation synonymous with sustainable development.

### ***AIKSs in biodiversity preservation***

Totemism is valued for preserving biodiversity in many parts of SSA. For a shared understanding:

Totemism is defined as the practice of symbolically identifying humans with non-human objects (usually animals or plants). The classic use of totemism is when a clan claims an animal as a mythological ancestor, however, the term has been used to cover a wide-range of symbolic practices (Jary & Jary, 1995:692-693).

In the context of hunting and gathering communities, therefore, totemism reduces competition for some edible animals, birds, reptiles, insects or plants. Totemism, thus, saves certain animal species from possible extinction. In Zimbabwe, “totemism encouraged selective rather than indiscriminate hunting thereby preserving any endangered species from possible extinction” (Mapira & Mazambara, as cited in Wuta, 2025b:47). This is because transgressors of totemism were believed to be heavily punished through tooth-loss, tooth-decay, and fines, *inter-alia*. Such penalties were effective in the conservation of various natural resources and species. Totemism as part of AIKSs, therefore, promotes biodiversity preservation and natural resource conservation synonymous with sustainable development, especially in the context of Zimbabwean rural communities.

### **A critique of AIKSs**

Some brainwashed Black Zimbabweans tend to dismiss indigenous knowledge as a manifestation of anachronism. This penchant is premised on the belief that returning to ‘Africa of the old’ is practically impossible

(Wuta, 2025b). The preceding intimates that AIKSs have been overtaken by events. Critics of AIKSs are convinced that the African continent (Zimbabwe included) is immensely benefitting from the contemporary technological changes taking place in the world (Mosweunyane, 2013; Wuta, 2025b). To these apologists of Euro-Oriental hegemony, therefore, SSA (Zimbabwean rural areas included) cannot take the risk of reverting to its precolonial knowledge systems. This is because, with constant developments in Science, Technology, and Media, “any person who does not keep up-to-date with these changes is condemned to be overtaken” (Mosweunyane, 2013:56). This thesis of anachronism intimates that it is difficult or almost impossible for Africa to revive its AIKSs, some of which have been lost over time possibly due to the absence of proper and reliable documentation (Wuta, 2025b). It then becomes difficult to refute the pro-Western position that SSA in general and the Zimbabwean rural communities in particular have benefitted, and continue to benefit immensely, from the Euro-Oriental meaning-making.

In some enclaves of the Afro-Zimbabwean society, AIKSs are dismissed as pseudoscience. Thus, AIKSs are believed to lack scientific-technological validity. Likewise, Mosweunyane (2013:57) avers:

African continent is part of the ‘global village’ and cannot in its current economic, social and political situation afford to function in isolation. This means the technological advancement that is so far realised will remain attractive to Africans, which will further compound the problem of indigenisation.

The above casts aspersion on the agenda for integrating AIKSs into the local sustainable development initiatives and nullifies the possibility of decolonial thinking in Zimbabwe.

### **The thesis of hybridity**

Alternatively, as this paper argues, Zimbabwe can turn to the thesis of hybridity, which calls for the integration of AIKSs and WKSs with the former occupying a larger portion in climate change, traditional medicine, horticulture, environmental conservation, and biodiversity preservation in order to achieve sustainable development among the rural communities of Zimbabwe. It is important to note that even those African scholars who are in favour of indigenous knowledge are not dismissive of the Western forms of knowledge (Mosweunyane, 2013; Wuta, 2025b). This espouses and ennobles the ideal of epistemic

pluralism emphasised in the Sociology of Knowledge theory. Hence, Mosweunyane (2013:57) proposes that, “Africa should embrace both exogenous and endogenous technological activities for its advancement, which should be for realisation of both scientific and technological growth in areas of medicine, metallurgy, ceramics, textile, food processing and building technology.” Moswenyane’s terms ‘exogenous’ and ‘endogenous’ evoke the WKSs and AIKSs, respectively – which, again, advances the thesis of hybridity in SSA in general and Zimbabwean rural areas in particular.

## **Conclusion**

In spite of the dark side perceived to tarnish AIKSs, they have proved to be central to sustainable development, as they continue to complement WKSs in the areas of climate change, traditional medicine, horticulture, environmental conservation, and biodiversity preservation, among others. Hence, it remains admissible that AIKSs are not pseudoscience but a key to unlocking the sustainable development potential, especially of Zimbabwean rural communities. Likewise, AIKSs are not a manifestation of anachronism but a key to sustainable development within Zimbabwean rural communities. Above all, AIKSs uphold the ideals of epistemic pluralism and decoloniality, as entrenched in the Sociology of Knowledge theory, and they amplify and magnify the Afrocentric thought. However, this affirmation of AIKSs does not imply outright dismissal of WKSs. In fact, the full-blown negation of WKSs in this era of globalisation is suicidal, given that Western epistemology is the mainstay of the 21<sup>st</sup> Century world economies, Zimbabwe included.

## **Recommendations**

- Comprehensive and binding policy frameworks could be formulated to escalate sustainable development through AIKSs within the country’s rural communities, enabling Afro-Zimbabweans to responsibly harness their heritage for sustainable living.
- The said policy frameworks could draw on the hybridisation thesis, which urges the integration of AIKSs and WKSs within the areas of climate change, traditional medicine, horticulture, environmental conservation, and biodiversity preservation.

- There could be further research into the integration challenges so that hybridisation and sustainability policies are formulated from a more informed point of view.

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