



African Indigenous Knowledge Systems and the World

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INTRODUCTION

Nations of the world are currently encumbered with countless challenges that constantly threaten their inhabitants' continuous existence. These challenges stated here are often anthropogenic, meaning the excesses of man cause them through his many activities geared toward improving his comfort. Agyemang and Carver (2013) gave a glossary of such activities to include: indiscriminate grazing, large and small scale mining, sand and stone quarrying, periodic bush burning, and firewood harvesting have played an increasingly important role in driving the ecosystems in many developing countries far beyond their carrying capacity thereby causing unprecedented degradation and depletion of the natural resources.¹ Furthermore, Chopra (2016) also cited modern urbanization, industrialization, overpopulation, garbage, air and water pollution as well as land degradation (land clearance & deforestation, soil depletion through poor farming practices, overgrazing, etc.) as the human activities impacting the ecosystem negatively and plunging it into chaos.²

However, the emerging consequences of these acts indicate that man's comfort expedition is one that has been taken too far. Scholarly predictions of the effects of these irresponsible acts abound in literature and include: climate change, acid rain, desertification and pollution, changes in biological productivity, accelerated soil erosion, destruction of watershed stability, increased

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emission of greenhouse gases, and loss of biological diversity.^{3,5} The need to combat and manage these emerging threats has suddenly become urgent. Havemann (2016) thoroughly captured the urgency of the situation when he stated that the threats posed by climate change, food insecurity, and shrinking biodiversity are more urgent than ever, but adequate solutions have been slow to come.⁵ But while attention has focused on technologies and the need to invest in infrastructure development such as renewable energy systems, the damages done must be curtailed.

The consequential environmental crisis emanating from these unchecked excesses has led to numerous questions being asked about the carefree ways of living of the current generation, especially the growing estrangement of many societies from nature and the reckless exploitation of the planet for development or resource extraction. Containing this situation has suddenly become paramount. Otherwise, environmental collapse is imminent. Therefore, the time is ripe for man to unlearn some of his environmentally damaging ways of life and embrace other but safer ways of doing things, and one such way is to embrace indigenous Knowledge.

Indigenous Knowledge is the knowledge exhibited by indigenous people. Several scholarly definitions and descriptions that gave more elaborations on indigenous knowledge's subject matter abound in academic literature. Warren (1991) stated that indigenous Knowledge is, broadly speaking, the Knowledge used by local people to live in a particular environment.⁶ Ellen and Harris (1996) opined that indigenous Knowledge and indigenous knowledge systems refer to knowledge and knowledge systems unique to a given culture.⁷ It was also described as what indigenous people know and do, and what they have known and done for generations, practices that evolved through trial and error and proved flexible enough to cope with change.^{8,9}

Therefore, African indigenous Knowledge and indigenous knowledge system represent the knowledge and knowledge systems that are peculiar to African indigenous people.⁹ Crawhall (2006) also described the African indigenous people as the highly marginalized rural communities or African groups that are living by hunting and gathering or by nomadic/transhumant herding or were recently living by these specialized economic subsistence modes.¹⁰ Furthermore, indigenous people face rejection through acts that usually threaten their livelihoods and severely violate their collective human rights and cultural beliefs and consequently put their sustainability and survival in doubt.

One may wonder why African indigenous knowledge addresses the many debacles confronting man globally. Successes recorded by African indigenous people using their indigenous knowledge were largely undocumented. Its continuous success was halted by colonialism, which brutally interrupted and severely diluted the simplicity, stability, serenity, and efficacy that characterized this Knowledge when deployed. According to Lalonde (1991), this was partly because much of African traditional Knowledge exists in oral form or is

learned from elders through shared practice and trial and error experimentation.²⁰ It is also part of the complex unfolding of events stemming from the severe cultural disruption faced by native Africans during the colonial period as their Knowledge was completely submerged with Western practices.

According to Lalonde (1991), research has shown that around the world, aboriginal or tribal connection to the local land and wildlife is both symbolic (knowledge systems based on spiritual ritual, religious practice, taboos and naming, etc.), and experiential (travel, foraging, residence, etc.) hence recognizing indigenous traditional knowledge holders and their rights to self-determination, as well as mainstreaming their wisdom, a new biocultural paradigm could be developed to guide others on how to live within the Earth's ecological limits.^{5,20}

The preoccupation of this work is, therefore, to carry out a review of relevant research pieces of literature on the indigenous knowledge system of Africa and highlight its importance. The paper is organized around the following, methodology, conceptual framework, nature of African culture and indigenous knowledge system, African indigenous knowledge system and Western Knowledge as well as the successes of Indigenous Knowledge and Advocacy for Its Usage.

Methodology

This work was based on a qualitative research method, which according to Lincoln and Guba (1985), is called “the human as instrument” approach; hence it is concerned with understanding human beings’ richly textured experiences and reflections about those experiences.^{11,12} The relevant literature on indigenous people, indigenous Knowledge, cultures and other related literature were reviewed to enhance the necessary reflection and understanding to achieve this.

Conceptual Framework

A conceptual framework is a systematic arrangement of related and relevant concepts and/or assumptions put together to support and aid the understanding of the theme(s) of research work. It is a bridge deployed by a researcher to promote his work & aid understanding by linking it with the relevant or common concept in the mainstream research literature. The conceptual anchors for this research are those that could enhance the understanding of the indigenous people and their wisdom. They include:

- Worldview concept
- Participatory Mapping
- Adaptation Strategies
- Knowledge

WORLDVIEW CONCEPT

Worldview is a concept that has been described by different categories of people ranging from scholars to clerics and other interesting articles. Some of the commonest descriptions as collated by Naugle are given as follows: World-view is the whole manner of conceiving of the world and humanity's place in it, the widest possible view which the mind can take of things (James Orr); it is a life-system, rooted in a fundamental principle from which was derived a whole complex of ruling ideas and conceptions about reality.¹³ It is also a perspective on life, a whole system of thought that answers the questions presented by the reality of existence (Francis Schaeffer); James Sire described it as a set of presuppositions or assumptions held consciously or unconsciously, consistently or inconsistently, about the basic makeup of reality.¹³

Furthermore, Kalu (1978) and Kraft (1979) stated that world-view could be understood in terms of a unified picture of the cosmos explained by a system of concepts, which order the natural and social rhythms and the place of individuals and communities in them.^{14,15} Similarly, it can be referred to as how people perceive and explain their world or the ways things are or change in their environment. It is also defined as a coherent collection of concepts allowing us "to construct a global image of the world, and in this way to understand as many elements of our experience as possible.

A world-view based on the scholarly definitions and descriptions given above is about the perception of individuals, a tribe of people, or even a nation on life in general. It is about how people see the world, how they perceive occurrences or occasions and how they feel these things affect their lives. Worldview is the opinion or perspective of an individual about things and the effects such things have on them based on some fundamental reasoning, explanations, or assumptions they have acquired over time. For instance, there is constant talk of unemployment globally, and a person's world-view may be that he is not affected by the unemployment glut while another may feel he is affected. This position is often formed by a thought process formed as a result of growing within a certain culture, environment, or exposure. Nwoye (2011) is spot on with the statement that a people's world-view stands for their source of explanations for the ways things are in the world, including their theories of illness, death, and misfortunes, and how human afflictions and problems can be resolved.¹⁶ Indeed as Animalu (1990) sees it, a world-view or cosmological framework refers to people's way of organizing their activities, explaining the how and why of daily existence.¹⁷ It is a concept that emphasizes the fact that man does not exist in a vacuum but in a physical phenomenon that is the "world," so the intent is for him to get a grip of occurrences that shape his life.

Based on the foregoing, the explanation of the world-view to the indigeneous people of Africa could only be obtained through the mirrors of culture and tradition; hence their understanding of the world, environment, and life is tied to the apron of culture. The several elements which form the fulcrum

of the African culture such as the belief system, the norms and values, the spiritual rituals, religious practices, taboos, music, naming, languages, marriages, medicine, occupations, traditional authority, kingship, chieftaincy and leadership, births, deaths, wars, festivals, lands, the ecosystems, life after death, etc., aid the understanding of the average indigenous African man as well as shapes his world-view perspective. The world-view perception is something that could take a lifetime to be formed. In the African setting, it may come through everyday interactions, seasonal preoccupations, festivals, etc., all carried out within the dictate of culture.

PARTICIPATORY MAPPING

According to Di Gessa, Poole and Bending (2008), participatory mapping is well established as a development intervention tool as it has allowed for improved information exchange between community members and outsiders (e.g., researchers, NGOs, government) in the design and implementation of development projects.¹⁸ The emphasis in this concept is on multiple participation and contribution from people from different works of life; hence this approach is an important tool as it gives room for many stakeholders such as indigenous people to partake in resource management.

Participatory mapping can also be described as a traditional top-down, agency-driven decision-making in resource management that has moved toward processes that involve stakeholders (those who have an interest in or are affected by a decision) and acknowledge the importance of public attitudes, perceptions, beliefs, and Knowledge. The whole idea is that combined Knowledge, ideas, and experience can generate a map that can be instrumental in managing resources. Maps allow for a clearer understanding of an endless variety of issues attached to a resource or resources.

Notable areas where participatory mapping will come in handy include coastal issues, land issues, forest management, weather and climate management, etc. These are all areas where indigenous people's Knowledge, which has thrived for centuries, could be integrated with relevant ideas from other sources. An example of the hybrid map that may evolve from participatory mapping was given by NOAA.¹⁹

The hybrid map generated by NOAA highlighted the usefulness of participatory mapping in coastal issues to include: provision of a way to engage stakeholders near and far, generation of objective local information on resources, traditional knowledge and practices from the community, access to information on how communities perceive, value, and use resources, a focal point for discussions on coastal issues, a valuable tool to support decision-making and graphical and easily understandable communication tools.¹⁹ A similar template may be designed for other resources; hence merging indigenous Knowledge with Knowledge from other sources can lead to a robust map that would be extremely useful.

ADAPTATION STRATEGIES

Adaptation is a central theme in the man–environment relationship. According to Wikipedia, adaptation is an evolutionary process whereby an organism becomes better able to live in its habitat or habitats. The indigenous people of Africa are historically vast at adapting to different challenges that the environment poses against them. As stated by Lalonde (1991), indigenous people adopt varieties of cultural strategies that are ingeniously designed to address local ecological limitations by maintaining a sustainable utilization and protection of commonly shared natural resources.²⁰ Adaptation strategies such as those that were deployed in agriculture, managing weather and climate, trading, medicine, among others, all count as indigenous Knowledge as they have served the local people for many generations and have been instrumental in their survival and essential in their sustenance.

Ngenwi (2011) highlighted the season prediction capability of the African indigenous people as a knowledge that supported their agricultural livelihood.²¹ Their understanding of this is deep as it includes planting dates, mixed farming, and storage of extra harvest for food supply separately from that destined for the market. Furthermore, they take cognizance of planting materials for the coming planting season by ensuring they were separated from food reserves; they adopted the use of local plant materials in protecting grains against weevils in storage; and also made crop diversification: a lot of crop species on the same piece of land guarded against crop failure in times of adverse climatic conditions.

In Nepal, communities have dealt with natural climatic variability and other changes by innovating and institutionalizing indigenous and local knowledge practices in managing local natural resources and infrastructure development.²² Related to this is the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) program, which ensures that the communities use their knowledge to manage their natural resources. Mapara (2009) stated that indigenous ways of knowing had brought forth useful Knowledge on medicine and health.²³ The rural community of Ilocos Norte Province of the Philippines heavily relied on indigenous weather forecasts to plan and prepare agroforestry activities and disaster prevention.²⁴

There is no denying the fact that the man–environment relationship as explained via the concepts of environmental determinism, through possibilism to probabilism, was based on a high level of resilience and adaptation and the lessons learned helped the early man to survive, dominate, and manage his environment; the theme of these concepts is no different from that of the indigenous people who adapted to environmental impositions, constraints and travails to acquire survival intelligence that was continually fine-tuned until it became refined indigenous Knowledge that was orally passed from one generation to another. Therefore, adaptation strategies help conceptualize African indigenous Knowledge as bundles of tested and productive knowledge nuggets that can still help in the current time.

KNOWLEDGE

According to Bolisani and Bratianu (2018), knowledge is an abstract concept without any reference to the tangible world. It was also described as an ambiguous concept, just as its equivalents in other languages (Hist-analytic.com/ETC1).²⁵ The abstract nature of the concept contributes to the ambiguity and difficulties that characterize the failed attempts by various scholars, clerics, and other interested parties to adequately define or describe the concept. It is therefore not surprising but understandable that Coffey (1917) tagged it “*sui generis*,” meaning it cannot be defined properly/sufficiently/adequately/convincingly by anything other than itself.²⁶

The failure in generating a universally acceptable definition for Knowledge is trans-generational as scholars and philosophers of repute from the ancient period like Plato, Montaigne, Descartes, Pascal, Hume, Kant, Nietzsche, and Gettier as well as great spiritual leaders and philosophers such as Buddha, Confucius to the modern-day experts, were all unable to come up with a consensus definition rather the outcome of their trial was rather fuzzy. The foregoing therefore tallies with the opinion of Bolisani and Bratianu (2018) that Philosophers, starting with Plato and Aristotle, developed Epistemology as a theory of Knowledge in trying to answer the fundamental question: What is Knowledge?²⁵ Many answers and many arguments emerged as points from scholars in supporting their perspective on Knowledge, but none of those theories has been accepted so far as being fully satisfactory; hence Neta and Pritchard (2009) and Russell (1972) stated that defining Knowledge and explaining its nature proved to be elusive and without a convincing and universally accepted result.^{27,28}

Despite this inconclusiveness in defining Knowledge, there is some consensus level among historical and modern scholars and philosophers that Knowledge is anything that fulfills the condition of justified true belief; this, therefore, suggests that any postulation that can adequately satisfy the conditions of justified true belief is Knowledge. Furthermore, Agarwal (2017) gave the opinion that Knowledge requires three necessary and sufficient conditions to be defined as justified true belief. Hist-analytic.com/ETC1 highlighted the conditions as follows: cognitive abilities that result from learning but sometimes even motor abilities; acquaintance, familiarity, personal experience, and corresponding recognitional abilities; and facts gathered by study, observation, or experience, and conclusions inferred from such facts.²⁹

Notwithstanding the complexity in defining Knowledge, it can still be described in the context of a preoccupation, i.e., within the subject matter framework. And just like Travica (2013), Knowledge will be defined in terms of understanding³⁰:

- what something is (concepts, concepts' relationships, taxonomies),
- why something is (cause-effect relationships), and
- How to do something (procedures, know-how).

This definition pinpoints the knowledge content and is anchored in the literature on cognition.^{31,32} This means that Knowledge in this work is based on understanding the African indigenous knowledge system.

Nature of African Culture and Indigenous Knowledge Systems

Africa, before her invasion by the colonialists, was firmly rooted in culture and tradition. This is so because the everyday life of the African people, their conduct, their norms and values, occupations, marriage, religion and belief, and general well-being were all subject to culture. Culture is ubiquitous; hence, it is not peculiar to Africa alone. Other countries and continents (Europe, Asia, South America, North America, and Australia) also have the cultural and traditional elements that define them regulate their ways of life. This submission is in tandem with Lalonde's (1991) opinion that indigenous knowledge systems in Africa (which is similar to other indigenous societies worldwide) are traditionally applied in harmony with the natural and spiritual world.²⁰ Therefore, it is not surprising that culture as an aspect of human life commanded the attention of many academic scholars who carried out endless research on it and came up with a plethora of literary findings on the subject matter.

Culture is a complex whole that includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society.³³ Culture consists of patterns, explicit and implicit, of and for behavior acquired and transmitted by symbols, constituting the distinctive achievements of human groups, including their embodiment in artifacts; the essential core of culture consists of traditional (i.e., historically derived and selected) ideas and especially their attached values; culture systems may, on the one hand, be considered as products of action, on the other, as conditional elements of future action (Kroeber and Kluckhohn 1952).³⁴ Schwartz et al. (1992) stated that culture consists of the derivatives of experience, more or less organized, learned, or created by the individuals of a population, including those images or encodements and their interpretations (meanings) transmitted from past generations, from contemporaries, or formed by individuals themselves.³⁵ It was considered as a collective programming of the mind which distinguishes the members of one group or category of people from another.³⁶

The above definitions and descriptions of culture gave credence to the fact that culture is a lot of things as it encompasses the totality of the ways of life of a people and largely dictates their behaviors. This description tallies with the scenario in Africa where culture functions as the thermostat for regulating the conduct of the natives in every given circumstance. This, therefore, suggests that the spectrum of African culture is broad, and its sphere of influence can be better understood if considered from the sociological perspective in which culture is seen as a merger of material and non-material elements. Knowledge is an aspect of culture that belongs to the non-material division.

Therefore, the foregoing suggests that most of the indigenous Knowledge, whether African or otherwise, is situated and exercised within culture; hence, the importance of culture to indigenous Knowledge cannot be over-emphasized. Indigenous knowledge, according to Bruchac (2014), is conveyed formally and informally among kin groups and communities through social encounters, oral traditions, ritual practices, and other activities.³⁷ They include oral narratives that recount human histories; cosmological observations and modes of reckoning time; symbolic and decorative modes of communication; techniques for planting and harvesting; hunting and gathering skills; specialized understandings of local ecosystems; and the manufacture of specialized tools and technologies (e.g., flint-knapping, hide tanning, pottery-making, and concocting medicinal remedies). The opinion of Bruchac as given above is notable in the African indigenous people who are known to exhibit some degree of spatial intelligence because of their understanding of the local environment (ecosystem), the terrain and the general geography of their domain as well as the possession of some technical skills which were deployed in making simple tools for their numerous activities especially farming, and hunting.³⁷

Aside from the above, there are still other dimensions to indigenous knowledge. Some indigenous knowledge is commonplace and known to every communal member; such Knowledge is shared by all members of a tribal community, ethnic groups, kin networks, or families. Many of such pieces of knowledge are learned through phenomenological experience and everyday activities (Bruchac 2014). On the other hand, some knowledge are classified; hence, they are restricted to special categories of indigenous people. This other type of Knowledge, as highlighted by Lalonde (1991), is often kept in the custody of indigenous people who are generally called keepers of indigenous Knowledge. He stated that the wisdom and skills maintained by the “keepers of indigenous knowledge” (as applied in the traditional practices of farmers, hunters, gatherers, master fishermen, artisans, etc.), are based on a dynamic and sophisticated understanding of their local surroundings. Bruchac (2014), on his part, stated that more specialized types of information are preserved by gatekeepers (e.g., tribal leaders, ritual practitioners, medicine people) who have vested interests in, deep experience with, and long-standing connections to significant sites.³⁷ Keepers of oral traditions are often carefully trained to link parts of traditional narratives to specific events and locales, and cultural coherence is ensured by regular repetition.³⁸ Furthermore, Bruchac (2014) hinted at the existence of skilled individuals and families entrusted to maintain these traditions; some are specialists who protect esoteric knowledge.³⁷ Ecological knowledge is also important; they can efficiently manage local resources, which are most needful to ensure human survival.

There are also other variants of Knowledge exhibited by the indigenous people. The keepers of indigenous Knowledge or the gatekeeper are also gifted in devising simple but efficient communication methods. They are reputed for devising distinctive methods of encoding useful data within philosophies

of thought and modes of activity linked to particular landscapes. This data includes geographical, genealogical, biological, and other evidence that maps human relations to flora and fauna, land and water, and supernatural forces. Knowledge is often passed on through regular Indigenous performances—including oral traditions, song, dance, and ceremony, conveying both literal and metaphorical truths about these relations.³⁷ This medium of knowledge transfer from one generation to another is also a pointer to the relevance of culture to Indigenous Knowledge.

The opinions of the scholars quoted above indicated that indigenous Knowledge is beyond mere trial and error but a product of diligence, conscious efforts, repetitions and continuous testing, intelligence, environmental understanding, and prolonged experience. These pieces of knowledge, it must be said, are also effective, productive, and well thought out as it is the basis upon which the livelihood and the general well-being of the natives hinges; hence any error in judgment or prediction will often time be fatal for the indigenous tribes as they could suffer in numerous ways including death. Therefore, it means that indigenous Knowledge is hard work as it leaves marginal room for errors that may have dire consequences if it occurs.

Furthermore, diverse forms of indigenous Knowledge, deeply rooted in the relationships of the natives with the environment as well as in cultural cohesion, have allowed many of these communities to maintain a sustainable use and management of natural resources, to protect their environment and to enhance their resilience; their ability to observe, adapt, and mitigate has helped many indigenous communities face new and complex circumstances that have often severely impacted their way of living and their territories. Also, indigenous peoples worldwide have preserved distinctive understandings, rooted in cultural experience, that guide relations among human, non-human, and other-than-human beings in specific ecosystems. These understandings and relations constitute a system broadly identified as Indigenous Knowledge, also called traditional Knowledge or aboriginal Knowledge.^{37,39}

As much as it can be claimed that African indigenous Knowledge is rustic and not scientific, it can be agreed that it is based on rationalism and empiricism, which are standardized concepts used in the explanation of Knowledge hence the indigenous people in the formation of their Knowledge and knowledge system adopted these core ideologies to formulate ideas, fine-tune their ideas, demonstrate it practically and it was able to sustain for many generations.

African Indigenous Knowledge System and Western Knowledge System

Doubt and rejection have characterized the rest of the world's disposition to indigenous Knowledge, and African indigenous Knowledge, which also belong to this category, has suffered the same fate as its relevance and efficacy have often been subjected to severe scrutiny, rejection, and downgrading. Lalonde (1991) highlighted this concern when he stated that indigenous peoples'

cultures and their respective knowledge systems had been largely misunderstood or even dismissed by development planning experts in the past.²⁰ He referred to the final statement by the Brundtland Commission (WCED) to emphasize his point that: "Some traditional lifestyles are threatened with virtual extinction by insensitive development over which the indigenous people have no participation. Their traditional rights should be recognized, and they should be given a more decisive voice in formulating policies about resource development in their areas."⁴⁰

In recent times, academic scholars from different social and behavioral science disciplines like geography, anthropology, sociology, psychology, etc., have resulted in a surge in the call for recognition of Indigenous Knowledge. These recognitions came mainly from these scholars' research works who observed a pattern that may be useful in confronting the modern-day challenges. Lanzano (2013) stated that the debate over the use of indigenous Knowledge and its epistemological status concerning mainstream scientific and technical Knowledge first appeared in the academic literature of the 1980s, both in the social and in the natural sciences.⁴¹

It has already been stated on the pages of this work that indigenous Knowledge is not peculiar to Africa alone; several other indigenous people are scattered worldwide. However, the content of indigenous Knowledge and its tie to culture means indigenous people's knowledges always have some similarity level, especially in certain preoccupations like season prediction, farming practices, ecological Knowledge, tool-making skills, etc. A common tragedy for all indigenous Knowledge is the doubts that characterize its usefulness, especially when considered in the same breath or sphere as the Western knowledge system. To shed light on the situation, there is a need to get a proper understanding of the knowledge system of indigenous Africa and the more popular Western knowledge system.

According to Noyoo (2007), the Western knowledge system is regarded as universal because Western education is entrenched in many world cultures.⁴² He stated further that WKS has long been noted for its rigorous observation, experimentation, and validation procedures, all of which are carefully documented. The same cannot be said of indigenous knowledge system in particular when it comes to documentation (Kolawole 2001); rather, indigenous Knowledge is embedded in community practices, institutions; relationships and rituals; it refers to what indigenous people know and do, and what they have known and done for generations—practices that evolved through trial and error and proved flexible enough to cope with change.^{8,43,44}

Melchias's definition of indigenous Knowledge as which suggests that these pieces of knowledge are a monopoly of trials and error is wrong.⁸ This narrative, as stated by Senanayake (2006), is a product of colonial thinking in which many scientists and academics considered indigenous knowledge systems as primitive, simple, and static, and this opinion persisted in the post-colonial period.⁴⁵ Hence, while the former (indigenous Knowledge) is presumed clogged, concrete, and inaccurate, the latter is painted as intangible, weighty,

right, and imbued with universal reasoning.⁴² This submission is questionable because Indigenous Knowledge, though not documented, was developed via experimentation. The emerging knowledge systems were legitimized and fortified under suitable institutional frameworks, culture, and practices and have subsequently been transferred to generational descendants (though sometimes based on discretion). Noyoo (2007) stated further that this method of doing things had enabled indigenous people to survive, manage their natural resources and the ecosystems surrounding them like animals, plants, rivers, seas, natural environment, economic, cultural and political organization.⁴² So it can be argued that provided these knowledges had been put to practice and it has produced laudable results, then it is wrong to tag it trial and error besides what more experimentation is required when something has yielded the desired results for countless generations.

As previously mentioned, the spectrum of Indigenous knowledges is broad; hence their areas of relevance should not be discarded without due diligence being carried out to gauge it. Senanayake (2006) pinpointed one such area of strength when he stated that indigenous Knowledge has a broad perspective of the ecosystems and sustainable ways of using natural resources.⁴⁵ However, the colonial education system replaced the practical everyday life aspects of indigenous knowledge and ways of learning with Western ideas of theoretical Knowledge and academic learning methods. Therefore, the issue with indigenous knowledge system and Western knowledge system is one of the perspectives, and none should ideally be said to be inferior to the other or subdued without a proper attempt to work with it or implement it. African Indigenous knowledge, for instance, is practical, interlinked with culture, and played out every day; hence the daily interactions among the people and the environment ensure that learning takes place as people gained valuable experience from varieties of encounters rather than learning from theories within the comfort of the classrooms and other modified environments.

Despite the objective nature of indigenous Knowledge, its relegation and rejection by Western Imperialism in many circumstances suggest that what Noyoo (2007) said about imperialism, seeking after the obliteration of the indigenous knowledge system, is true.⁴² This is so because they strive to prevent indigenous Knowledge from thriving within the domain of its manufacturing. According to Noyoo (2007), the local population has privy to this Knowledge as it has been handed down from generation-to-generation within their context; hence, it is linked with their way of life.⁴² Therefore, the indigenous knowledge system becomes relevant so far as it is not imported or imposed outside. The moot point here is that solutions to countless issues are easily availed to local decision-making processes. This is because the indigenous knowledge system encompasses: technology, social, economic, philosophical, learning and governance systems (Business Referral and Information Network 2005). Therefore, indigenous Knowledge has made, and can still make, a significant contribution to resolving local problems.

Today, there is a grave risk that much indigenous knowledge is being lost and, along with it, valuable knowledge about ways of living sustainably both ecologically and socially.^{45,46} Eyong (2007) also echoed the situation surrounding indigenous Knowledge's gradual disappearance.⁴⁷ He stated that unfortunately, these systems are fast eroding due to colonialism, commercialization, globalization, and modernization, lack of efficient codification, breakdown of the traditional family structure and function (the institution that helps in the socialization of tacit Knowledge), developmentally induced human displacements, the decline in the practitioner base and many other reasons. This situation is also the aftermath of the domination of Western Knowledge within the African continent and the basic fact that more people stay in the urban areas than rural areas where most of the conveners and practitioners of indigenous Knowledge reside.

Recorded Successes of Indigenous Knowledge and Advocacy for It Usage

According to Lalonde (1991), indigenous technologies that are implemented in partnership with development agencies and indigenous societies can be duplicated and adapted to help solve problems faced by another society in a similar agro-ecosystem located elsewhere, both developing and developed countries.²⁰ This implies that a recorded success case using indigenous Knowledge can be replicated in other locations with similar problems. The problem of changing conditions such as weather and climatic conditions, change in soil and drainage system can make replication difficult, but scientific adaptations to these conditions can help. An insight that could aid the scientific system was given by McNeely et al., (1990).⁴⁸ He stated that identifying the ecological functions of the various components of ecosystems and predicting the way new and improved agro-ecosystems can be designed for specific localities can come in handy.

Lalonde (1991) gave examples of case studies where African indigenous Knowledge was used to improve natural resource development projects.²⁰ This includes the following:

- Agroforestry Research Project in Kenya;
- Neem Bio-Pesticides in Niger;
- Soil Regeneration in Rwanda;
- Agro-Forestry Projects in West Africa;
- Water-Harvesting in the Sahel; and
- Indigenous Societies and Conservation Areas

The case studies highlighted above were collaborations between indigenous people's indigenous Knowledge and the state and international agencies. For instance: the Agroforestry Research Project in Kenya was carried out in conjunction with the International Council for Research in Agro-Forestry

(ICRAF), the Neem Bio-pesticides project in Niger had the USAID as a major sponsor while German Agency funded the Soil regeneration project for Technical Cooperation.

Despite these relative successes, the adoption of indigenous Knowledge remains minimal as efforts to integrate these pieces of knowledge into mainstream processes to alleviate the various challenges currently affecting man are negligible. According to Trogrlic et al. (2019), studies of practical experiences of community-based approaches remain scarce, as current scholarship is oriented toward mere documentation of local knowledge, and there is a lack of understanding of the extent to which community-based approaches facilitate the uptake of local Knowledge.⁴⁹

Findings and recommendations from academic research works are currently showing the numerous areas where indigenous Knowledge will be beneficial in combating some of the everyday challenges that have emerged from man's indiscretions. The literature covers a broad range of resources, including forest management (Messerschmidt 1986; Appleton and Hill 1994), agronomy and agricultural research (Chambers et al. 1989; Richards 1985; Scoones and Thompson 1994), soils (Dvorak 1988; Tabor 1993; Chadwick and Seeley 1994), and soil and water conservation (Kerr and Sanghi 1992; Critchley et al. 1995; Riej et al. 1996).^{50,51,52,53,54,55,56,57,58,59,60} The literature also covers indigenous institutions and organizations (Messerschmidt, 1986; Price, 1995), indigenous knowledge and gender (Fernandez 1994) and indigenous experimentation (Abedin and Haque, 1989), as well, reviews of indigenous knowledge systems as a whole (Hausler et al. 1995; Warren et al. 1995).^{58,61,63,64,65,66} Other areas include Flood risk management; Indigenous Healing Practices; Knowledge of Plants and Animals and their Uses, indigenous agricultural system; Disease vector control, food habitats, indigenous Conservation Techniques: hunting habits, sacred forests, cultivation habits, control of foreign exploiters, food taboos, Knowledge of forest and its resources.⁴⁷

Multiple other practices could be immensely useful in ameliorating the effects of the anthropogenic legacies of man that are ravaging the globe; hence it has become critical for a man to explore indigenous Knowledge either alone or in conjunction with other knowledges to checkmate the impending danger and the onus is on African researchers to carry the torch as proposed by Owusu-Ansah (2013) and persist in developing and using alternative methods of studying our reality and refrain from sticking to the research pathways mapped out by Western methodologies, within which many have been trained.⁶⁶

CONCLUSION

Almost all cultures have bits of knowledge that have profound relevance that is enshrined in its historical contributions to the people's livelihood and sustainability for centuries. From this perspective, it is therefore dangerous,

if not oppressive, to hail any one method of investigation as universal.⁶⁷ Furthermore, Knowledge is not exclusive to any race, tribe, or ethnic nationality; rather, it is a product of capability, intelligence, diligence, ingenuity, and endurance. Similarly, the solution to a problem is not necessarily unilateral; it could come from diverse sources; hence it has become cogent that knowledges from multiple sources be examined and tested to gauge their applicability in ameliorating the many emerging challenges that represent worries for mankind. The issue at hand has made it compulsory for humanity to refrain from any egos contest and embrace Knowledge irrespective of where it emanates. As discussed on the pages of this paper, African Indigenous knowledge is one such rich source of Knowledge that represents workable solutions on a variety of issues that have been tried, tested, and certified as excellent. Therefore, it will be criminal to keep ignoring this Knowledge without making concerted efforts at applying it to checkmate some of the self-created debacles that threaten our continuous existence.

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