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Abstract—Sustainable development goals are resolutions born out of the need to create a people-centered development projects design to address the unfinished agendas of the Millennium development goals and also a framework aimed at achieving global sustainability agendas. It is a project that is designed against failure through various tracking indicators and visualization measures. Various researches, however, have suggested Indigenous Knowledge as a fundamental indicator in the realization of these goals. This short piece of work visualized the concept of sustainable development in the light of Indigenous knowledge systems and analyse its roles and potentials in contributing to the realization of global sustainability by exploring its values and merits. The paper focuses on the SDG 4 and 17 highlighting the need for a radical exploration of Indigenous knowledge practices for a more quality education that is inclusive and indigenously informed. It explores the interrelatedness in the values of Indigenous knowledge systems, openness in education/knowledge sharing and sustainable development in the context of Africa settings. It identifies this interrelatedness as a mechanism for the realization of Indigenous knowledge expansion that could help in achieving partnership among world communities as a pathway for international developmental projects sustainability and suggests the need for the birth of theoretical models for data collection towards the realization of documenting and codifying indigenous practices despite its complexities and tactical nature.

Keywords—sustainable development goals, millennium development goals, Indigenous knowledge, openness in education, open education resources.

Background—Sustainable Development 2030
The Sustainable Development Goals (SDGs) are part of the resolutions 70/1 of the United Nation General Assembly (UNGA) a collection of 17 global goals set in 2015 for 2030. With each goal having a list of targets that could be measured with various indicators and tools for tracking and visualizing progress towards the goals. Sustainable Development Goals is the post-2015 Development Agendas developed to define a framework to sustain the Millennium Development Goals (MDGs) which have been reviewed and analyzed as not completely successful in all its ramifications even though its primary target was to make inroads towards ending hunger and extreme poverty in the land (Coonrod, 2014; Kumar, Kumar, & Vivekadhish, 2016). According to Kumar et al. (2016):

The MDGs reshaped decision-making in the developed and developing countries alike. It helped to lift more than one billion people out of extreme poverty, to make inroads against hunger, to enable more girls than ever before to attend school, and to protect our planet. Yet inequalities persist and the progress has been uneven. The world’s poor remain overwhelmingly concentrated in some parts of the world. Several women continue to die during pregnancy or from childbirth-related complications. Progress tends to bypass women and those who are lowest on the economic ladder or are disadvantaged because of their age, disability, or ethnicity. Disparities between rural and urban areas remain pronounced.

SDG was launched on the expiration of the MDGs in 2015 with the first draft in 2013 by a high-level panel which distinguishes five transformative shifts that would characterize the SDGs (Coonrod, 2014). SDGs were
designated to address the unfinished agendas of the MDGs. Coonrod maintained that, the major distinguishing factors between the MDGs and the SDGs is that, the former was designed as a top-down process envisioned to be funded by aid flows which did not eventually materialize the later was based on inclusive participatory process and economic development that would generate countries capabilities as the core of its developmental strategies which is new to the world within international development space. The birth of the new dawn that ushered in the SDGs was predicated upon the need for new ideas and people-centered development agenda to be created (Kumar, et al., 2016).

SDG is summarized as meeting the needs of the present generation without compromising the ability of the future generations to meet their own needs (WCED, 1987). Kumar et al. (2016) divided the SDGs into three broad categories:

First, an extension of MDGs that includes the first seven SDGs; the second group is inclusiveness (jobs, infrastructure, industrialization, and distribution). It includes goals 8, 9, and 10; and the third group is on sustainability and urbanization that covers the last seven goals: sustainable cities and communities, life below water “consumption and production; climate action; resources and environment; peace and justice; and the means of implementation and global partnership for it”.

The world community for the first time through SDGs is focusing on quality education and the values in its role towards attaining a better humane world; “education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture’s contribution to sustainable development.” (Coonrod, 2014).

The focus of this study is centered around the SDG 4 and 17 which centers basically on quality education that is inclusive and partnership by countries for the goals. The study emphasis on the exploration of the values in Indigenous African knowledge and openness in education resources and knowledge sharing as a pathway towards the realization of these goals for both develop and developing countries. During the MDG era education quality decline in many societies because the MDGs focus is basically centered on quantity in ensuring education for all particularly the girl child.

Understanding Indigenous Knowledge and Identifying its Place in Development

Indigenous knowledge systems is an all-encompassing system of knowledge that facilitates communication and decision-making and revolve around diversified aspects of life; agriculture, biodiversity, environmental sustainability, resource management, production and ecosystem. Indigenous knowledge forms an integral part of local communities’ history and culture that must be learnt to enrich developmental processes (Wollensohn, as cited in Gope et al. 2017). According to Mukhopadhyay (2009):

Indigenous knowledge is a precious national resource that can facilitate the process of disaster prevention, preparedness and response in cost-effective participatory and sustainable ways. Hence a blend of approaches and methods from science and technology and from traditional knowledge opens avenues towards better disaster prevention, preparedness, response and mitigation. (p.1).

Africa Indigenous knowledge is an embodiment of different modes of thought and "epistemology”. It is an appreciation of the possession of interconnected details, which in isolation, are of lesser value (Boon & Hens, 2007). Warren (1991) defines Indigenous Knowledge (IK) as “the local knowledge that is unique to a given culture or society. IK contrasts with the international knowledge system generated by universities, research institutions and private farms. It is the basis for local-level decision making in agriculture, health care, food preparation, education, natural resource management, and a host of other activities in rural communities” (p.1).

Gope et al. (2017) opined that Indigenous knowledge is tactical and community-centric by nature, which could be difficult to codify and document. The success and sustainability of any development activity depend largely on indigenous knowledge and practices. Most solutions that are offered by development projects are likely to fail if it does not involve indigenous knowledge that will suggest how such solutions could fit into the local settings which imply that the success of a development project often depends on the inclusion of local indices, ideas and participation (Warren, 1991).

Flavier (1995) sees Indigenous Knowledge as the information base for a society, which facilitates communication and decision-making. Indigenous information systems are dynamic and are continually influenced by internal creativity and experimentation as well as by contact with external systems. According to the World Bank (1998) “Indigenous Knowledge is situational
knowledge that is unique to every culture of society”. Similarly, Owuor (2007) in an attempt to summarize several definitions of Indigenous knowledge concluded that “Indigenous knowledge is a process of learning and sharing social life, histories, identities, economic, and political practices unique to each cultural group” (p.23).

The relevance of Indigenous knowledge in the promotion of development in the world today particularly the sustainable development goals are unassumingly effective and efficacious (see several examples in Gope et al., 2017; Magni, 2017; Mukhopadhyay, 2009; Noor Muhammad et al., 2018; Senanayake, 2006; Warren, 1991). For example, in Illustrating the greatness in the value of Indigenous knowledge to environmental changes and sustainability, Rautela and Karki (as captured in Magni, 2017) highlight that the value in traditional knowledge extends beyond preventing and mitigating natural disasters alone but also has the mechanism for preparedness, early warning and means for post-disaster recovery. This has helped in many ways to create cost-effective resilience in climate change response, agriculture, food production and preservation, trade, medicines, biodiversity and many more. The relevance of Indigenous knowledge to environment and development activities was also acknowledged by Lalonde (1991) in his article presented at the Common Property Conference in Manitoba, stating that, “an understanding of Indigenous knowledge and customs can help the development planner to establish a more flexible position to support project alternatives or innovative mitigative measures, in order to avoid inadvertent damage to the ecosystem or culture”. (p.6).

Exploring the Values in Indigenous Knowledge Systems:

[1]. Indigenous Knowledge Systems and Sustainable Development in Africa

Several studies have indicated the increasing significance of Indigenous knowledge systems and the important dynamics it possessed in contributing towards achieving sustainable development and assurance of long-term sustainability in Africa and beyond (Boon & Hens, 2007; Jean-Francois, 2018; Khumalo & Bakoyi, 2017; Warren, 1991). This is an indication that Indigenous Africa knowledge is gradually gaining global recognition for its rightful place and becoming synonymous with development.

This emphasized the need for development cooperation policy-makers, Pan-African activist, post-colonialists, administrators, stakeholders, African scholars and researchers of Indigenous Knowledge Systems to heighten the design and implementation of research in order to make more contributions to the global knowledge space with more emphasis on Indigenous knowledge. Efforts in this regard are seen to be lagging and not deliberate enough as it should be, considering the real values embedded in the African Indigenous knowledge systems (Jean-Francois, 2018; Owusu-Ansah & Mji, 2013; Senanayake, 2006). Jean-Francois highlights that:

African scholars lag behind in terms of their contribution to global scholarship, and there is a historical explanation for that. Before colonization, the African continent was home to some of the best universities in the world. When the European colonized Africa, they destroyed practically these institutions because they wanted to kill the Africa in Africans. To be fair, the struggles in Africa are not caused only by external actors. There are some internal actors who conspire with external actors to exploit and abuse the ignorance of the African proletariat. Therefore, education and research endeavors should aim to make radical changes, both internally and in interactions with external actors (p.4).

Senanayake (2006) opined that Indigenous knowledge systems have a broad perspective of the ecosystems and of sustainable ways of using natural resources for societal survival which has been exploited in many parts of the world for several decades in past. This broad perspective must be explored beyond ordinary narratives of the Indigenous Africa knowledge values. Scholars of Indigenous knowledge must begin to think on how to advance theories and models appropriate for the codification and documentation of African Indigenous knowledge and information for it to take its rightful place in international development agendas. The need to galvanize a theoretical system and methods for the collection of data and relevant materials using field methodologies to upgrade IKS is vital and key for the achievement of quality education that is inclusive and indigenously influenced. Indigenous Africa knowledge through its diversified nature and the unfolding practical discoveries in the area of ecological knowledge and biodiversity has proven to be underutilized and more sophisticated than assumed.

[2]. Indigenous Knowledge Systems and Open Education/Knowledge Sharing

Openness remains an essentially unique element upon which the achievement of sustainable development goal 4
can be built owing to its unique feature of no-cost and free of copyright restriction, it’s equally of important value in the realization of goal 17 allowing countries to facilitate open forums to synergize principles and practices related to sustainable developments particularly for developing countries such as Africa on account of its sharing characteristics to strengthen the means of implementation and realize the global partnership for sustainable development. “Openness in education is defined as a philosophy about the way people should produce, share, and build on knowledge” (Open Source, n/d) an education that does not necessarily require academic admission for it to be accessed and explored in the training and learning process of an individual, a system that aid in broadening access to education that could be ordinarily attained in the traditional school systems but for obvious reasons.

According to Open Education Consortium (OEC), open education is not a new idea “sharing is probably the most basic characteristic of education” OEC highlight education as the “sharing of knowledge, insights, and information with others, upon which new knowledge, skills, ideas, and understanding can be built.” (Open Education Consortium, n/d). This speaks volume of what the Africa indigenous knowledge systems represent. A process of inculcating societal norms and values in the educational preparation of people through systemic and open socialization means of sharing insights, skills and ideas as upholding by society which transference has always been a direct form of reciprocated skills which are handed down through generations and through open source systems of teaching and learning (Adeyeye & Mason, 2019).

The philosophy of openness in education is primarily an African Indigenous knowledge heritage. An inherited system of knowledge sharing that requires every aboriginal members and inhabitant of the African Indigenous society to assume the role of a teacher and discharge the obligation of parents thereby making every parent a potentially unemployed and unpaid teacher within the society. Every child’s training and education is seen as the responsibility of the society where he/she was born and lives and it’s not confined in any formal classroom or requires any formal processes but through open engagements, activities, and practices.

The African society had long established as a societal way of life the philosophy of In-loco-Parentis before it was cultivated and entrenched as a doctrine in the English common law. Warren, as captured in (Khumalo and Baloyi, 2017), defined indigenous knowledge as “local knowledge that is unique to a given culture or society and it is the systematic body of knowledge acquired by local people through accumulation of experiences, informal experiences and intimate understating of the environment in a given culture” (p.2). Owing to this definition, Khumalo and Baloyi highlights the fact that Indigenous knowledge is a gradual process and system of education that is accumulative in nature and acquire through environment i.e. (openness) and community’s interaction, experiences, and observations which might not be in laboratories.

Open education remains an indispensable tool for education access and knowledge creation that engenders scaling opportunities for individuals and societies that could not access education through formal means of traditional classroom education or lacks the availability of educational resources. It serves as a paradigm shift through which government and education institutes can bridge the gap of insufficient capacities for the seemingly increasing rate of education seekers by creating essentially freeways of disseminating knowledge, information and educational materials to people to ensure inclusiveness and equitable quality education and promote lifelong learning opportunities for all. Mason (2014) averred that to broaden the agenda beyond issues of access, open agenda remains a natural place to reposition development and learning into the future.

African Indigenous knowledge systems already possessed the unique features that could facilitate and promote the process of openness for the African Indigenous knowledge sharing and enhance open educational resources for its advancement, preparedness and swift response in its maximal utility that could be sustained and well managed as this is not in any way alien to it. Efforts could, however, be required for a blend of technological approaches and scientific methods to properly fine-tuned its efficacy and broaden its scope most importantly in the area of codification and documentation of the practices. This can be justified by the assertion of Open Education Consortium (OEC) that: “Open Education combines the traditions of knowledge sharing and creation with 21st century technology to create a vast pool of openly shared educational resources, while harnessing today’s collaborative spirit to develop educational approaches that are more responsive to learner’s needs.”

Owing to the global recognition of the need for the annexation of international practices in developmental assistance with local knowledge to improve the impact of sustainable development goals, Kaya and Seleti (2013) argued that, the sharing of traditional knowledge among communities and the adaptation of international practices
with the local settings would contribute greatly to the enhancement of cross-cultural knowledge sharing and promote sustainability of developmental efforts. They concluded that the adoption of modern techniques to the local settings will yield global best practices.

CONCLUSION

The values and merits embedded in Indigenous knowledge systems and practices in the realization of global sustainability in developmental efforts cannot be seen as being overrated and it’s been currently underutilized. This has been verified by various research studies and practical engagements. African government and scholars have not done enough in the elaboration of African Indigenous knowledge values. This article has acknowledged the uniqueness of Indigenous knowledge practices and its potential in addressing global needs particularly in the area of global knowledge sharing and inclusive education for sustainable developments projects and policies. It calls for concerted efforts by all relevant stakeholders and practitioners in working towards the realization of means through which the Indigenous knowledge systems — with the use of field methodologies and modern facilities — can be codified and documented to make it accessible for global use and available through the open education resources. Such that it becomes a formal discipline that can be formally learnt and scientifically verified and improved upon as against its conventional approach. This submission conforms to the statement of Lalonde (1991) that “to gather and to apply traditional knowledge can be a worthy objective; however, this must be achieved through mutually supportive relationships and fair arrangements with traditional knowledge informants and their communities” (p.11).

REFERENCES


