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**UTILIZATION OF INDIGENOUS KNOWLEDGE AND THE ATTAINMENT OF SDGs
IN AFRICA: ISSUES AND CHALLENGES**

BY

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ABSTRACT

This paper looks at the challenges Nigerian faced in the attainment of the Sustainable Development Goals (SDGs) and the contributions which indigenous Knowledge (IK) provides in attaining these goals. The paper observes that despite the challenges faced, Nigeria has the potential to attain the SDGs by 2030 provided there is sustainable effort and involvement by all stakeholders. The paper contends that the indigenous knowledge (IK) is a significant resource which could contribute to the increased efficiency, effectiveness and sustainability of the development process in Nigeria. IK is defined as the basis for community – level decision making in area pertaining to food, security, human and animal health, education, natural resources management and other vital economic and social activities necessary for the attainment of the sustainable development Goals (SDGs). The paper further highlights some of the initiatives and achievements that have been scored in the use of IK to promote development and reduce poverty. The paper further looks at the challenges of implementing IK programmes and concludes by making recommendations on what steps Government, development partners and NGOs should take so as to promote and facilitate access to IK for the attainment of the SDGs

Keywords: Sustainable Development Goals, Indigenous Knowledge, Nigeria, Development Goals, Indigenous, Goals

Introduction

Indigenous Knowledge (IK) is a valuable resource for development, which under certain circumstances can have advantages over scientific knowledge. As Rouse (1999) observed, that there are situations in which modern science is not appropriate (when the application of scientific knowledge would require among others electricity, good infrastructure, access to necessary, inputs, capital etc. and in such cases the use of simpler technologies and procedures based on IK are required. Warren (1993) defined IK as the systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments and intimate understanding of the environment in a given culture. It is the basis for local level decision making in Agriculture, health care, fore preparation, education, natural resources management and a host of other activities.

However, for any sustainable development goals to be achieved there are some key issues to be addressed. In the context of this study, the key areas of great attention that required and could play leading roles in promoting sustainable development goals are education, funding among other factors which has to do with the development and transformation of the economy and society. Sustainable development resolves as aspects of human and nation life affecting the social welfare and sustenance. Okeke, Igbegbulum and Ason (2013) observed that sustainable development means resolving the conflict between the various completing goals and simultaneously pursuit of economics prosperity, environmental quality and social equality with progress as the major objective. World Commission on Environment and Development (WCED,1987) observed that sustainable development recognizes that the basic needs of all should be met while at the same time extending all the opportunity to satisfy their aspiration for a better life. In a real sense, the main focus of sustainable development is how nations, communities, individual, and other global stakeholders can meet their developmental issues or aspirations in everyday decision with the wellbeing of the whole environment in mind rather than just their own selfish end (Sampson, 2003). In view of the above, it is no more in doubt to note that education not only in formal one but informal education in the form of indigenous knowledge has become indispensable for sustaining development in any nation. Education obtained through indigenous serve as a key resource in achieving sustainable development, when indigenous knowledge of people is embedded in education attaining or achieving sustainable development goals become easier.

Therefore, strong commitment of indigenous knowledge is training in education with other co-ordinating tools such as policies, funding is seen as imperative in promoting and attainment of sustainable development of sustainable development goals in Nigeria.

Conceptual Definition of Terms:

Goals

Goals as a concept relate to target setting leading to some standard or policy fulfilment. Webster's Universal Dictionary and Thesaurus (2010) defined goals as objectives. In directly Goals may be viewed as a set target to be met as to bring about development that can be retain for the present and future leading to improvement of lives and other materials resources for the welfare of the entire communities. Agbede (2015) cited United Nation Document (2015) identifies some objectives of development of policies and sustainable development as thus:

- Reviving growth
- Changing the quality of growth
- Meeting essential needs for jobs, foods, energy, water and sanitation
- Ensuring a sustainable level of population
- Conserving and enhancing the resources base
- Re-orientating technology and managing risk
- Merging environment and economics indecision making

Sustainable Development

Sustainable development as a concept has a great relationship with improvement of activities, programmes and thriving to maintain and build on them. Several scholars have defined sustainable development in various ways. Ibe Ahmed (2007) described sustainable development as means of maintaining and retraining development over time. It is further remarked that the ideas of sustainable development initially emphasized the environment only in development policies, but more emphasis has evolved to encompass socio- economic domain as articulated in the Johannesburg World Summit on information for all held in 2002 (UNESCO,2015). Presently, according to UNESCO (2015) its policies incorporated other areas such as education, culture,

population, animals and plants species ecosystem, natural resources, fight against poverty, promotion of gender equality, inter-cultural dialogue among others. Invariably from above observations sustainable development encompass of all aspect of economic, social, political and cultural developments of the society associated with transformation and ensuring the continuity and improvement in the lives of the people. Ogar and Oyeniran (2019) affirmed in their study that sustainable development offers invaluable a vision of progress that integrate short- and long-term objectives, local and global actions and take cognizance of social and economics an environmental issue as coordinated and interdependent components of human activities. In a concise concept definition and from real economic sense, Onyindo and Odun (2014) viewed sustainable development emphatically as the creation of sustainable improvement in the quality of life of all people through increase in real income per capital improvements in education, health and general quality of life and improvements in the quality of natural environmental resources.

Sustainable Development Goals

Babatunde and Salauwa (2015) described sustainable development goals as development aims at acting as the incubator upon which the developmental end and products are hatched. Babarinde and Salauwa also viewed sustainable development goals from economic point of view that emphasizes improving the quality of life of all citizens while conserving the environment and national resources for future generation. Ogar and Oyeniran (2019) in their study described sustainable development goals as specific and comprehensive outlined objectives planned and aimed at trying to address and solve identified and stated problems within a set target.

Development

Development is viewed as the process of changing environment a central ingredient in the transformation of any society. From the above it cord be interpreted from the story as an improvement in the quality and quantity of social services or human and materials resources and services towards the transformation of Nigerian economy to meet the need of Nigerian citizen

Obegbulam, Orakpor and Asom (2013) described development to be the quantitative and quantitative transformation of societies from one stage to another. In a nutshell development is viewed as a process relating to or has to do with the progressive transformation of economy and society.

Indigenous Knowledge

Indigenous Knowledge is described as a system a complex arrays knowledge know- how, practical and representations that guide human societies in their innumerable interactions with natural environment. IK is a unique to every culture or society. It is seen to be in contrast with the knowledge generated within the international system of universities, research institutes and private firms. According to Warren (1993) Indigenous knowledge is the systematic body of knowledge acquired by local people through the accumulation of experience, informal experiments and intimate understanding of the local level decision making in agriculture, health care, food preparation education, natural resources management and a host of other activities in communities. IK provides problem-solving strategies for communities. It is embedded in particular community and defined by economics, social cultural and ideological beliefs in which it is found (World Bank, 1996).

Historical Overview of Sustainable Development Goals

The sustainable development goals emerged as concerted efforts by members of world body – United Nation. To develop and have common ideas in tackling global problems with the view of improving the quality of life of all the citizens of the nations. At the exist of the millennium Development Goals (MDGs) in September 2015. The world leaders came together at the 70th session of the United Nation General Assembly (UNGAS,2016) in New York to sign a new global partnership for development tagged Sustainable Development Goals (SDGs).

The objective was to produce a set of universal; goals that will meet the urgent environmental political and economic challenges facing the world today. The Sustainable Development Goals were adopted to replace the Millennium Development Goals which started a global effort in 2000 to tackle extreme poverty and hunger, preventing deadly diseases and expanding primary education to all children among other developmental priorities (UNDP,2016). The Sustainable Development Goals are broad with seventeen (17) goals each containing several targets (totaling one hundred and sixty-nine) 169 aimed to be achieved by 2030. The implementation programme is designed to be carried out in three phases and according to the specific needs of each zone of the country.

Phase 1: 2016-2020

Phase 2: 2020-2026

Phase 3: 2026-2030

Each goal is multi-dimensional which means every goal is geared toward the achievement of different aspect that are related and inter woven or inseparably connected. Horoszowski (2015) listed the seventeen (17) goals as thus:

Goal i: End poverty in all its forms

Goal ii: End hunger, achieve food security and improved nutrition and promote Sustainable agriculture.

Goal iii: Ensure health lives and promote well-being for all at all ages

Goal iv: Ensure inclusive and equitable quality education and promote lifelong learning

Goal v: Achieve gender and empower all women and all girls

Goal vi: Ensure availability and sustainability management of water and sanitation for all

Goal vii: Ensure access affordable, reliable, sustainable and modern energy for all

Goal viii: Promote sustained, inclusive and sustainable economic growth, full and Productive employment and decent work for all

Goal ix: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Goal x: Reduce inequality within and among countries

Goal xi: Make cities and human settlements inclusive, safe resilient and sustainable

Goal xii: Ensure sustainable consumption and production pattern

Goal xiii: Take urgent action to combat climate change and its impacts

Goal xiv: Conserve and sustainably use the oceans, sea, and marine resources for Sustainable development

Goal xv: Protect, restore and promote sustainable use of terrestrial ecosystem, sustainably

Manage forest combat desertification and halt reserve land degradation and

Halt biodiversity loss

Goal xvi: Promote peaceful and inclusive societies for sustainable development, provide

Access to justice for all and build effective, accountable and inclusive

Institutions at all levels

Goal xvii: Strengthen the means of implementation and revitalize the global partnership

For sustainable development.

Sustainable Development Goals serve as a blueprint for member nations of United Nation whose sub-region is responsible for sustainable Development Goals to adopt and implement based on their nation's peculiarities and priorities for national development and sustainability.

The Role of Indigenous Knowledge in the Attainment of SDGs in Africa

Indigenous Knowledge has proved to have provided problem-solving strategies for local communities, especially the poor. This is because the poor are usually familiar with indigenous practice and technologies. IK draws on local resources people that are less dependent on outside supplies, which can be costly, scarce and not regularly available. Many technologies project in the developing world fail due to lack of indigenous knowledge and beneficiary communities (Warren, 1993). The implementation of development project among the local people requires participation and detailed understanding of IK practices (how people relate to daily problems and how much the local people know in a given field). By understanding what the local communities have, gaps may be identified which modern knowledge could be improved upon or help bridge the gaps. The World Development Report of 1998/99 also shows that efforts to harness local knowledge or to reconcile with new technologies require the involvement of those who possess it. The report further states that for the knowledge generated by local adaptive research to be relevant and broadly required some input of end users and local communities in design and implementation (World Bank, 1999). It has been found that learning from IK, by investigating first what local communities know and have, can improve understanding of local condition and provide a productive context

for activities designed to help the communities (Warren, 1993). The researches and case studies have shown that IK is resources that can assist local problems, grow more and better food, maintain healthy lives, manage local affair etc., thereby contributing positively to the attainment of SDGs by 2030, As Mkapa (2004) put it, there is no one among SDGs to whose achievements not imbedded in Indigenous knowledge. The potential development impact of IK can be gauged by a number of practical examples where its application has produced desired results. To illustrate this, the paper focuses on three SDGs namely: Goal 1: End poverty in all forms

Goal iii: Ensure healthy lives and promote well being

Goal xv: Protect, restore and promote environmental sustainability

Terrestrial ecosystem, manage forest, desertification and halt land degradation highlight the contribution of IK to these goals accordingly.

GOAL I: No poverty (End of extreme poverty)

Scientists and Developmental practitioners have long recognized IK significant. It ensuring role as the mainstay of local food production in developing countries especially in Nigeria cannot be over emphasized. In sub- Sahara Africa for example, local knowledge guides the decision and practice of small-scale farmers who represents 70% - 90% of Agricultural producers and more than 60% of the population (Nakashima & Roue, 2000). Increasing attention is being given to IK innovation in agriculture, the process by which farmers develop New and better ways of doing things, primarily using local resources and on their own initiative, without pressure or direct support from formal research and development agents. In this process, farmers have developed not only better farming techniques but also better ways of organizing themselves. In countries like Nigeria, Burkina Faso and Tanzania, improvement on a traditional farming technique have become very widespread, largely on account of the innovativeness of farmers on developing their own forms of farmer – to – farmer extension. They have found to be highly effective ways of spreading their ideas and encouraging other farmers to try them out (World Bank, 2005). Pickstock (1992) summarizes his finding in the seminar that was organized by the Natural Resources Institute (NRI) of Britain's overseas Development Administration provided a forum for African Farmers, to exchange viewers on ways of reducing crop losses due to pests³ The NRI, working on the Mall Millet Project described how indigenous farmers in North-Wester Mali placed leaves of the neem

tree under the millet, heads when they lay them on the ground to dry. This practice discourages insect infestation. Because of the success of the project, the USAID provided support and brought together a team of entomologists and social scientists from Niger and the University of Minnesota to promote the exchange of knowledge on the uses of neem products in improving the sustainability of traditional Agriculture in Niger (Warren, 1991).

Goal 3: Ensure healthy lives and promote wellbeing for all ages

Indigenous Knowledge has been found to be helpful in achieving sustainable development goals in the area of health and promote wellbeing of all ages. Nnadozie (2017) citing the statement of Health information – office of National coordinator (US) remarked that:

“Our health care system is helping to cure diseases, extend our lives and improve the wellbeing of our communities, Now through the use of Secure health. Information technology, health care can benefit from advancement that make sure health information is confidential, available when and where it is needed, contributing to safer higher quality, more coordinated and more efficient and less costly care for everyone”

It is estimated that some 80% of the world’s population fulfils their primary health needs through the use of traditional medicines and that when industrialized countries, local knowledge accumulated across generations continues to play a fundamental role in sustaining localized resources use practice. One of the challenges faced by Nigeria and the world at large is to find a cure for diseases like HIV/AIDS and to prevent the spread of other deadly diseases such as Tuberculosis, Ebola, Covid 19 etc. Green (2004) noted that evidence is mounting that, the global Model of diseases prevention which based on risk reduction or remedies interventions of HIV/AIDS includes (condoms, treating sexually transmissible infections with drugs) rather on risk evidence (mutual monogamy, abstinence or delay of age of first sex) has ineffective in developing countries in African, especially Nigeria. In response to this challenge country like Senegal developed a model. The model was based on traditional practice which did not allow women in their early 20s to have sex until they are almost 19 years older. Using this model Senegal enlisted the support of religions organization in HIV/AIDs prevention, started with HIV/AIDs education in primary school and deliberately used fear arousal as a prevention strategy. Both Nigeria and Senegal applied local measure in response to treatment and prevention of deadly diseases like HIV/AIDs. In the same manner, the lives saved by Madagascar Government in the treatment and

prevention of Covid 19 was unimaginable. This raised so much hope for local measure in response to treatment and prevention of deadly diseases like covid 19 and other similar diseases especially with the assistance and response most other African countries got from Madagascar.

Further to the illustration of the model above, another indigenous knowledge practice that has recently come to recognized and to play a significant role in HIV/AIDs is the prevention of male circumcision. Data from a range of observational epidemiological studies conducted since the mid-1980s, showed that circumcised men have a lower rate of HIV/AIDs infection than uncircumcised men. Three random researches were conducted in Nigeria, Senegal, Uganda (World Health Organization, 2007). The results revealed that because of this development WHO used the policy to improve the safety of male circumcision practice in many countries in providing stable Health benefits to the people especially in reducing the risk of male circumcision

Goal 15 Protect, Restore and Promote Environmental Sustainability

Goal 15 focuses mainly on ensuring, protecting, restoring, promoting environmental sustainability through Terrestrial ecosystem, sustainably manage forest, combat desertification and halt reserve land degradation and halt biodiversity loss. More importantly, reducing poverty and achieving sustainable development must be done in conjunction with healthy environment. The SDGs recognize that environmental sustainability is part of global economics and social well-being, unfortunately exploitation of natural resources such as forests, land, water and fisheries often by the powerful few have caused alarming changes in our natural world in recent decades, often harming the most vulnerable people in African especially in Nigeria who depend on natural resources for their livelihood (Kashweka & Akakandelwa, 2005). Effective system of management can ensure that these resources not only survive, but also cause increase in rational use and equally providing the foundation for sustainable development and a sustainable national economy. Natural resources have for centuries been an important integral part of people diet, economy and culture. The traditional use of natural resources was anchored on traditional value. For centuries the people's way of life has comprised mechanism of conserving or ensuring a system of values and taboos. For example, the people of Western provinces of Zambia had a tradition of avoiding the catching of small fish (Steiner & Oviedo, 2004). Communities observed fishing seasons usually through a set of traditional ceremonies. Such ceremonies would usually open the fishing seasons usually open the season for a given period. These practices ensured sustainable exploitation of

resources. Indigenous or traditional people have a wide knowledge of the ecosystems in which they live and how to use natural resources sustainably and this should never be ignored when undertaking development project. Lane (1990) carried out a case study to investigate some of the impacts on the traditional land management practice of the Barabaig, a semi- nomadic pastoral group in Tanzania, where the government imposed a large-scale agricultural development scheme.

Driven by the need to meet the demand for wheat in Tanzania, government appropriated large tracts of land, including much of the fertile Basotu, plants to implement a large – scale foreign – aid wheat scheme without involving the locals. The perception was that Barabaig land was often left vacant or lying idle and that was underutilized and therefore could be used for more productive purposes (Young,1983). In reality, the practice was meant to let the ecosystem recover through fallow period. The Barabaig have accumulated knowledge of how to make efficient use of natural resources to prevent exploitation of the ecosystem’s carrying capacity. All Barabaig forage regimes are subject to strict and complex restrictions developed and enforced by a hierarchy of Barabaig, rural institutions that control the use of land, interpret customary rule, and adjudicate in rare conflict over right and duties (Lane,1990).

However, the introduction of the scheme resulted in disruption of the ecosystem because of ecologically inappropriate mechanized mono-cropping of wheat on the Basolu plains. In addition, because of the increased Barabaig reliance on the remaining forage regimes (i.e unsustainable grazing rotations due to excessive grazing demand and hoof traffic), the overall carrying capacity of the forage ecosystems has been significantly lowered. This has serious implications on both Barabaig people and the long – term fertility of Hnang plains. The learning point is that existing tradition practice or indigenous knowledge could be recognized in order to attain efficient or sustainable development programme because they are based on practical accumulated local knowledge (Kashweka, & Akakandelwa, 2008).

The challenges of Indigenous Knowledge in the Implementation of SDGs in Africa

Although IK has been recognized as of great value to both local and global community, there is need to understand its application in the context of the local communities and integrate the most effective and best practices in the developmental project. By helping to share IK within and across community development practitioners can learn a list about the local conditions that affect those

communities. Among challenges face in the implementation of SDGs through IK are the following:

Education

More children are being educated in Western type of Education system, which unfortunately seem to give children a negative attitude towards IK. The young generation are acquiring value and life styles different from their ancestors. The informal education system through which the traditional African societies used to synthesize local knowledge over a long period of time is no longer in place. No wonder, Opole (1930) put its education in the current system of development has contributed to the gradual loss of IK by separating young ones from the elders when they spend most of their time at school.

Scientific Validation

Indigenous Knowledge faces the critical challenges of scientific validation. Health regulation and protocols require the treatment in medicine or processes in other discipline are clearly described and subjected to critical analysis that they produce replicable result (Sibisi, 2004). IK practitioners are expected to provide documented evidence of the efficacy of their claims in academy journals. However, much IK is rooted in oral traditions and not is systematically documented in written form.

Documentation

Documentation of Indigenous Knowledge requires capacity in term of skills expertise and financial resources. There is a common perception that IK system is at risk of becoming extinction. The existence of local knowledge is threatened by extinction because the IK system is no longer evolving as was the case previously. Roue (1999) attributes the change in IK system evolution to the fact that the method (oral apprenticeship) of transmitting this knowledge are longer popular and people are no longer staying in homogenous communities. This therefore means that if method of presentation is perpetuation is distributed there is a danger that within one generation the knowledge could be lost forever.

Commercialization

Indigenous knowledge faces the threat of being exploited for commercial gains. The pharmaceutical agricultural and technological industries have been particularly active in this arena. Nakshima and Roue (2002) argue that these industries have recognized that the accumulated knowledge and traditional practice of indigenous communities are powerful resources that can greatly facilitate the task of identifying useful new varieties plants or animals, isolated novel biological components or developing innovative technologies and techniques. This may lead to the patenting of these plants or animals' varieties or other biological resources whose identification and use are added in traditional knowledge for commercial benefits at the expense of indigenous communities.

Ways of Overcoming the Challenges

The following are some of the ways by which information professionals can overcome the effect of Indigenous Knowledge on the Implementation of SDGs in Africa

- i. Introducing informal education along with the Western or formal education so as to encourage the young ones to recognize and appreciate the traditional African societies and of course local knowledge that are no longer in place.
- ii. Ensure documentation of indigenous knowledge practice by indigenous communities
- iii. Indigenous knowledge should be systematically documented to provide evidence on the efficiency and to be subjected to scientific validation.
- iv. Indigenous practitioner should not see commercialization of indigenous knowledge as threat but development.

Conclusion

As the world body came up with a common ideal in tackling global problems and with the view of improving the quality of lives of all citizens of members nation of the world, through the introduction of Sustainable Development Goals. There is need for the recognition of the role of IK will play in consonance with the modern scientific and technological intervention in social and economic development, cultural and political transformation. There is further need for recognition

of the important role of local communities in contributing their indigenous knowledge system in enhancing the sustainable Development programme of the country. Realizing that IK is a powerful resource that enable local comment to improve and sustain their lives, there is therefore, need for a new vision by libraries and other information professional to promote IK system for the rapid attainment of sustainable development Goals. It is also important to urge information professionals especially those working with government and other stakeholders to develop strategies that seek to add value to IK and to apply it to modern science and technology to make lives more meaningful and above all in the attainment of the SDGs in Nigeria.

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