

## INDIGENOUS KNOWLEDGE FOR SUSTAINABILITY EDUCATION IN ETHIOPIA

*Teshome Abera Tessema*

*Research Associate, Addis Ababa Science and Technology University, Addis Ababa, Ethiopia*

**Received: 30 Dec 2019**

**Accepted: 10 Jan 2020**

**Published: 31 Jan 2020**

### **ABSTRACT**

*Education, which is the vehicle of social and economic development, has to be de-marginalized in Ethiopia by reconstructing and transforming the discourses in education and construct in a manner which fit to the situation within the country. It should be able to equip the learners to fit into the day to day life situations and enable them to cope up with the emerging problems in their daily life. The issue of sustainability in education helps to protect the world's social diverse that is in danger. This is possible by giving a chance to Indigenous knowledge which provides a key source of information and understanding regarding the day to day life of the local community in agriculture, traditional medicine, local resource utilization and other activities to play part in shaping our development endeavor. Indigenization helps to rely on the local reality.*

*The objective of this paper, therefore, points to several important aspects for those who demand to raise the responsiveness of indigenous knowledge in education. Integrating indigenous knowledge into curriculum is vital to ensure sustainability education. The data required for the research determines the nature of the method to be employed. The source of my data is secondary, and the nature of the study is qualitative and historical. This article concluded that indigenous knowledge has valuable insights for realizing sustainability in education.*

**KEYWORDS:** *Sustainability, Sustainable Education, Indigenous Knowledge, Education. Marginalization*

### **INTRODUCTION**

#### **Sustainability Education**

In many works of literature and research works, three terms are interchangeably and synonymously used such as Education for Sustainable Development (ESD), Education for sustainability, (EFS), and Sustainability education (SE). In this article also, the terms are used interchangeably depending on the context used by others. Sustainable development without education is unthinkable. The two are highly interconnected the problem is for manyperson's education as we know in the real sense and that of education for sustainability is not clear (Mckeown 2002www. Estd toolkit). Education for sustainable development focuses on culturally and locally relevant programs. And hence it includes the main pillars such as "the local, environmental, economic and social conditions"(Ibid).

Education is the most important tool for the development and application of indigenous knowledge. Indigenous knowledge in this paper is defined as the totality of local knowledge, belongs to the different cultural groups in Ethiopia, which are essential for survival in both the natural and human-built environment. From the historical survey since the beginning of the so-called modern education in Ethiopia, the curriculum is copied from western countries. The curriculum lacked integration with indigenous knowledge which is rooted in the cultural setting of Ethiopian communities.

School education can establish the linkages between indigenous knowledge and modern (Western) knowledge and it can also convey about the connection with the local context and knowledge. "Education is the key to national development and a path for the survival of civilization" (Wuhibegezer and Hailu2015: 38). However, in Africa, it is very less concern that is given to the relationship between education and that of development. Education is an instrument of cultural change. Moreover, it is an instrument for the continuous and changing nature of nation-building (Woolman2001:29)

In the case of Africa from practical reality education instead of playing a cultural transmission, it is colonized and lost its identity. The education system of one country must take into account the cultural tradition of the population within which it functions (Wuhibegezer and Hailu2015: 39), but this function is completely lost due to colonization of education.

The importance of indigenous knowledge for sustainable education can be explained when it incorporates indigenous knowledge. This is because indigenous knowledge is the product of the direct practical experience of local people with nature and its connection with the social world of society. It is the knowledge that is essential for the survival of society in the given natural setting. It is knowledge produced from the rational understandings and analyses of the social, physical, spiritual and political domains of the society. It is part of the concepts, beliefs and perceptions, and experiences of the local peoples and their natural and human-built environments (Dei 2000). It is the knowledge that is accumulated from experiences for a long period and passed down to the new generation. It is this knowledge that is helpful for the sustainability of education and sustainable development.

The term sustainable development is subject to many definitions. "Sustainable development is an evolving concept which has scientific and moral connotation" (Bredlid2009:142). It is not the purpose of this article to define sustainable development and to choose the one which is the correct definition. However, the definition used in the United Nations Brundtland Report (1987) which is defined as "sustainable development is the development that meets the need of the present without compromising the ability of future generation to meet their own needs". Education for sustainable development is "the process of equipping students with the knowledge, understanding, skill, and attributes needed to work and live in a way that safeguards environmental, social and economic wellbeing, both in the present and for the future generation"(QAA 2014: 15). Sustainability includes three important elements, environmental, social and economic.

According to UNESCO (2012). 'Sustainability' encompasses those basic concept environments, social and economic which in other words mean thinking about the future that contributed to the development and better quality of life. The essences and principles that inspire sustainability include an all-encompassing concept such as "equity among generations, gender equality, peace, tolerance, poverty reduction, environmental preservation and restoration, natural resource conservation, and social justice" (UNESCO2012.[www.unesco.org/en/esd](http://www.unesco.org/en/esd)).

Currently, the consideration for education is not stopped in the development of knowledge. Recent developments have moved the focus onto education for sustainability (EFS), with its promotion of understanding the need for supporting sustainable lifestyles (Thomas 246:2011). This concept is lacking in the education system of Ethiopia after it totally excluded the ancient system and indigenous knowledge in the name of modernization of education. The system is completely Europeanized. For Ethiopian education to be sustainable and aimed at serving the society it has to be indigenized. Indigenization, in this case, is concerned with integrating indigenous knowledge with the current Europeanized school curriculum.

## INDIGENOUS KNOWLEDGE IN SUSTAINABLE EDUCATION

Indigenous knowledge is a critical factor for development” (Gorjestan (2000:7). The marginalization of indigenous viewpoints is contributed to educational inequalities, presently there is a growing awareness of the contribution of indigenous knowledge for sustainable education and development in general. However, this concept is still in infancy in the case of the Ethiopian education system.

The sustainability of education can be explained in terms of the emphasis it gives to the environment which science education gives less concern and therefore, Indigenous knowledge can serve as an alternative to scarcely focused scientific disciplines which may lack care for the interconnection of natural phenomenon, like in agriculture, that may stimulate sustainable development (Bridled 2009:142). In contrary to scientific discipline indigenous knowledge arises from long- term cautious observation of natural occurrence (Apusigah 2011:9), which is essential for sustainability. There is a fertile ground for science education and local knowledge integration. Indigenous knowledge can serve in filling the space that is not found in the scientific model. Such knowledge is found with the local people (Kalland 2000:322).

Sustainable development is largely linked to environmental issues. Hence, the contribution of education for sustainable development is significant. The type of education which is essential for sustainable development is education which is part of the daily life of the local people, which they experienced and rooted in their real-life (Bredlid2009:142).

Integrating indigenous knowledge into the school curriculum is important for sustainability and it is one implication for the contribution of indigenous knowledge for sustainable development. This knowledge has been vital for indigenous communities to survive and thrive by keeping alive the knowledge and practices for living in harmony with the land, healing and natural medicine, pregnancy and childbirth, agriculture, food preparation, education and stewardship development, among others. Moreover, knowledge of the environment in the world gradually being lost and as a result, there is an urgent need to conserve indigenous knowledge to help develop mechanisms to protect the earth's biological diversity (Woolman2001:8). The same thing is true in the Ethiopian. The various local knowledge which, is rooted in Ethiopian cultures is marginalized in the Ethiopian school curriculum. Moreover, the West considers indigenous knowledge as primitive and superstitious and its existence is systematically denied and considers it as not part of the knowledge system (Whitt2009: 31). As a result of this intension, the developer of Ethiopian school during a different period of Ethiopian education history completely gets rid of from the school curriculum.

The western scientists consider their epistemology is superior to indigenous knowledge. This attitude is a serious hindrance to sustainable development in fulfilling local development demand and to play the expected role in protecting the natural environment (Brelid2009:142). This situation is clearly revealed in the Ethiopian education system.

From 1908 Ethiopian school system is managed and developed by a Western expert. These experts gave less concern for indigenous knowledge since they considered it as primitive, and superstitious. Due to this fact, the contribution of the Ethiopian school curriculum for sustainable development is less significant.

Western knowledge is mostly anthropocentric knowledge which gives value to human than nature. The incorporation of indigenous knowledge brings another alternative for looking at the world with new perspectives and equipping students with different skills for granting sustainable development in Ethiopia ; therefore, for increasing the potential of development in Africa, it is important for policymakers and intellectual to do little in bringing indigenous

knowledge into the educational stream (Dipholo and Biao2013:28). To realize sustainable education, it is important to indigenize the system of education.

The indigenous knowledge system gives great importance and values to another way of understanding the world, especially in giving the considerable value of life other than a human being. In other words, the concern given by indigenous knowledge extends to that of the natural environment beyond humans (Whitt2009:34).

Since indigenous knowledge can be considered as an alternative significance to sustainable development in its concern for both human and natural intrinsic values, it has to be incorporated in the mainstreaming Ethiopian education.

*Where the aim of education remains development, and where the process of development is to be driven by the people development is to serve, both the process and methods of education and indeed, the content of education must be run in a way that understands and malleable by the people. One easy and logical way of establishing an environment such as this is through the deployment of indigenous knowledge within the current African educational enterprise (Dihpolo and Biao 2013:32)*

Then the step toward sustainable education(SE), education for sustainable development(ESD) and Education for Sustainability (EFS), are concerned with bringing together largely different value sets economic environment with society somewhere in the middle (Thomas2009:240). This is the age in which we have an evolution in education related to the environment in Ethiopia. "Indigenous knowledge poses an alternative to narrowly focused scientific disciplines which may neglect the interconnection of natural phenomenon, for example in agriculture that may promote sustainable development" (Odora 2002:242).

Though it is not incorporated in the school curriculum in Ethiopia, indigenous knowledge still plays a significant role in maintaining the environment, peace and other human relation for continuous existence.

Indigenous knowledge is the local knowledge that is unique to a culture or society. Other terms for it include: 'local knowledge', 'folk knowledge', 'people's knowledge', 'traditional wisdom' or 'traditional science'(Ellen and Harries 2005:2). This knowledge is passed from generation to generation, commonly by word of mouth and cultural formalities, and has been the basis for agriculture, food preparation, health care, education, conservation and the wide range of other activities that sustain societies in numerous parts of the world including Ethiopia. On the issue of sustainable development, there is an increase in the interest in indigenous knowledge. Currently, the increasing attention given in indigenous knowledge is directly related to increasing concerns about the degradation of the environment. However, it is important to notice that environmental management is among the areas in which indigenous knowledge is used (George1999; 79). Indigenous knowledge gives much concern for the natural environment. It valued the relation human being has with the environment based on ethical considerations which are vital for sustainable education in Ethiopia.

Odora (2000) claims that "a major threat to the sustainability of natural resources is the erosion of people's knowledge, and the basic reason for this erosion is the low value attached to it" (Odora 2000). These low values are attached due to marginalization in the Ethiopian context. Therefore, to de-marginalize indigenous knowledge, it is essential to incorporate the knowledge into the education system of Ethiopia.

Education is the basic tool for revitalizing indigenous knowledge. It is through education that the integration between indigenous knowledge and modern knowledge is realized, and also interpreted in the knowledge and context of

the local people.

No doubt the inclusion of indigenous knowledge in the Ethiopian school curriculum will contribute to developing a curriculum that fits with the culture of the society and so enhances sustainable development. The incorporation of indigenous knowledge in the current so-called modern knowledge helps in providing the foundation for sustainability education in Ethiopia.

In sustainable development, the main issue is the environment, and hence the importance of education for sustainability is associated with nature, which indigenous knowledge gives much focus in the rural part of Ethiopia.

*Education for sustainability, therefore, can be seen as a more expansive concept that goes beyond the existing notion (and academic boundaries of science education or natural science education. As, such the issue of curriculum, pedagogy, and assessment of educational knowledge about nature, environment, and sustainability and the view of students and teachers regarding these issues be stated in local, national, and global contexts that recognize social, cultural, and economic dynamics. It is these contexts that differential powers operated and influence and narratives are constructed relaying the interactions of human dynamics and power (O'Hera and Nozak 2004: 4).*

Because of these rational dynamics, natures of of all existing realities, indigenous knowledge is considered holistic in considering such realites. In the importance of indigenous knowledge perspectives, it understands humans and all things constructed by humans cannot be separated from either their culture or the natural world (Semali and Likinhole 1999:42). Hence, "the understanding of indigenous ways of seeing as a subjugated knowledge alerts us the fact that there are different ways of seeing the world "(Ibid). The issues of sustainability are not only important but also greater consequences for students who are denied of the educational experiences from indigenous view. Hence, we need to consider what constitutes an appropriate curriculum and pedagogy (Thomas2011: 240). For the one who needs or wishes to introduce a cost-effective, participatory and sustainable development process, the role of indigenous knowledge is very significant (Agrawal1995:413-439). "Indigenous knowledge thus embodies a web of relationship within the specific ecological system; has localized content and meaning has established customs concerning acquiring and sharing knowledge". (Battiste2002:14). This web of relationship, make students diverse learner from the experiences they have in the practical world. "Indigenous pedagogy values a person's ability to learn independently by observing, listing, and participating within a minimum of intervention or instruction. This makes indigenous learner diverse learners" (Ibid: 15). However, in Ethiopia little has been made to incorporate indigenous knowledge into formal education which hinders Ethiopian students to think and learn in diverse way.

The understanding and knowledge come from long term observation of nature. That is why this knowledge is different from Western or modern knowledge. Indigenous knowledge has an intimate relationship with natural phenomenon, "it is also very accurate and may often be superior to Western science in the ability to predict local phenomena" (Pierotti2011:10). The knowledge is from long experiences with the interaction of the natural world, it is predictive ability is very accurate.

Sustainability education (SE), Education for sustainable development (ES) is a locally relevant education, which resulted from the long experiences of the community with their natural environment therefore,

*ESD carries the inherent idea of implementing programs that are locally relevant and culturally appropriate. All sustainable development programs, including ESD, must take into consideration the local environmental, economic and societal considerations. As a result, ESD will take many forms around the world... (1) Improving basic education (2) reorient existing education to address sustainable development (3) develops public understanding, awareness and (4) training (Mckeown 2002).*

The knowledge which is locally relevant and culturally appropriate is no doubt indigenous knowledge. However, this knowledge which is holistic and communal is marginalized by colonial education, imposed on non-colonized Ethiopia let alone the other colonies (Teshome 2017).

The African education system that experienced and dominated by colonial education faced the problem of marginalizing local people, and at the same time changing the value of the local people communal life into Eurocentric individualistic value system and also detaching the students from the norms and values of the local people (Woolman2001:29).

Currently, the incorporation of Indigenous knowledge in the school education system is increasing. There is a growing recognition of indigenous knowledge. This growing recognition of indigenous knowledge can be a response to the erosion and loss of indigenous knowledge through the process of colonization, globalization, and modernity (May and Aikman2003:139-145). As Florey (2009) said the concern given to the loss of indigenous knowledge is increasing at international scale from year to year, especially in the last fifteen years' time (Florey 2009:29).

Here, it is important to recognize that indigenous language is important in understanding indigenous knowledge. However, in Ethiopia ancient language Ge'ez is not learned in school. The language is respected in other European countries like Germany to exploit the knowledge in ancient literature of Ethiopia. Moreover, the European language English has served as a medium of instruction, especially in the secondary school curriculum of Ethiopia than the indigenous language Amharic. As we all know indigenous education is mainly transmitted from generation to generation orally. Therefore, this can be supported by elders who have long experiences in knowledge. The reason is that when Florey (2012) explains about Alune village of Lohiasapalewa of poor communities in Eastern Indonesia "the shift to formal education has disrupted social relationship, particularly, the role of elders and knowledge holders in the teaching and learning process" (Florey2009:32). In many developing counties traditional leaders or elders are the guardians of the indigenous knowledge. Therefore, the participation of the leaders in the development process of Indigenous knowledge is vital to ensure those who involved, especially the researcher to easily gain access to the knowledge and to use it for sustainable development(Kwame2007:52).

This is clearly stated in Workeneh (2011) study of Borena Oromo society in Ethiopia, in which the Oromo community of Ethiopia because of their belief system respect and refrain from killing some animals considering that God brought them to save their life and hence they kept the animal in the worship places (Workeneh2011:3-4).This shows that the indigenous people are environmentally friendly people who have their mechanisms to cope with the environment. Indigenous people have long years of accumulated knowledge which transmitted from generation to generation about the complex ecological system in nature. (Gadgil et al 1993:151-156).This knowledge of the indigenous people is vital for sustainability, which is lacking in the Ethiopian education system.

The concern we will give to Western education in the future leads to "simultaneously and gradual marginalization

the indigenous existential situation" (Shakaya 2010:132). Indigenous knowledge is developed through the practice of experiential learning by the people living in the given geographical area of the local culture. The knowledge is derived from various sources within the natural environment (Barua 2010:64). Thus, to ensure sustainability in education, the integration of the indigenous knowledge system in the so called Ethiopian modern curriculum has to be appropriately carried out across all learning areas that are offered as an independent course. Indigenous knowledge is considered to be as prior knowledge in which it can be thought of as a student's experiential knowledge. Students can gain different forms of knowledge of their communities, homes or local activities they are living and working (World Bank2005:1).

Indigenous knowledge is rich knowledge that can help students to teach the communities knowledge that students are located. Moreover, it recognizes their culture and value system by incorporating it into the curricula (Ibid).

In Ethiopia indigenous knowledge systems were historically degraded by Western educators and experts; however, there is a need for a current shift towards knowing the importance and value of the knowledge. It's very crucial to integrate it with current curriculum. The impartial application of modern knowledge, no doubt can lead civilization to a new stage. However, it has serious negative consequences for the natural environment. That is why it is significant to give importance to indigenous knowledge in a sustainable development program (Gupta 2001:60).

Indigenous way of knowing in the most African education systems was/is undermined by the influence of colonialism, post-colonialism, and neo-colonialism, which are increasingly embedded in globalization discourse (Damme and Neluhalani 2004 [www.tandfonline](http://www.tandfonline)). However, there is a current shift towards recognizing the value of this knowledge. The recognition comes from the benefit that this knowledge provided for sustainability. Concerning the situation in Kenya O'Heren and Nozaki (2014) said: " presently, the study of grassroots views on natural science education for sustainable development is critically important in countries such as Kenya, where dramatic environmental degradation has occurred over the past twenty years" (O'Heren and Nozaki2014:2). That is why:-

*In the 1990s environmental education has taken a more clearly defined stance. Mounting concern over environment and development problems has meant greater support for an educational approach which not only considers immediate environmental improvement as an actual goal but which also addresses educating for sustainability in the long term. This form of environmental education differs significantly from the political, naturalist, and scientific work that was carried out under environmental education banner in the seventies and early eighties (Tilbury1995:1998).*

Thus, this is the real-time to return to indigenous knowledge and cultural values of sustainability to be achieved in Ethiopia. In an age of cultural globalization of Africa and its malevolent effects on people and their cultures considering the relation between the environment and its populations and the marketplace and its systems, in general, are vital (Apusigah2011:1). Ethiopia with the assistance of her international development and education partner excluded the cultural knowledge (indigenous knowledge) from school education and adopted (imported) non-homely foreign system of education in the name of modernization.

## CONCLUSIONS

In Ethiopia education system the role indigenous knowledge contributes to sustainable education is very minimal. Indigenous knowledge is excluded from the Ethiopian school curriculum in the name of modernizations of the system of

education. The role of Western experts in this regard is high. The Ethiopian school system was led and developed by Western experts who considered and believe indigenous knowledge as superstitious and primitive.

Indigenous knowledge is essential for development and sustainable education. Integrating indigenous knowledge in the school curriculum of Ethiopia will facilitate the promotion of knowledge and skill that enables to fit the culture and nature. It makes education relevant to the students' daily life which commonly involves the teaching of culturally relevant circumstances.

Indigenization facilitates appropriate teaching methods and models, which are culturally approachable teaching or culturally based education that is important to sustainability.

## REFERENCES

1. Agrawal, A. (1995). *Dismantling the divide between indigenous and scientific knowledge. Development and Change*. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-7660.1995.tb00560.x/full>
2. Dixon, A. B. (2005). *Wetland sustainability and the evolution of indigenous knowledge in Ethiopia. Geographical Journal*, 171(4), 306-323.
3. Apusigah A.A. (2011). *Indigenous knowledge, cultural values, and Sustainable Development in Africa, 2nd annual Ibadan sustainable development summit, Nigeria, PP1-15.*
4. Bariua B.P. (2010). *Ethnic Minorities, indigenous knowledge, and livelihoods (Editor Kapoor and Shiza) Struggle for Survival in southeastern Bangladesh. Indigenous knowledge and learning in Asia, the Pacific, and Africa. Perspectives in development, Education, and culture, New York, NW: Palgrave Macmillan, PP63-80*
5. Battiste M. (2002). *Indigenous Knowledge and Pedagogy in First Nations Education. A Literature Review with recommendations, Ottawa: National Working Group on Education and The Ministry of Indian Affairs, Indian and North Affairs Canada (INAC), Ottawa.PP1\_69, www.afn.ca/.../education/24.\_2002\_oct\_marie\_battiste\_indigenouknowledgeandped, Accessed 15/08/2016.*
6. Breidlid, A. (2009). *Culture, indigenous knowledge systems, and Sustainable Development. A Critical View of Education in an African context. International Journal of Educational Development, Elsevier, Journal home page:www.elsevier.com/locate/ijedudev.PP (140-148).*
7. Dei, G. J. S. (2000) *Rethinking the role of Indigenous knowledge in the academy, International Journal of Inclusive Education, 4:2, 111-132, DOI: 10.1080/136031100284849.*
8. Dipholo K. And Biao, I. (2013). *Rethinking Education for Sustainable Development in Africa. The African symposium; an online journal of African Education Research Network, Volume 13, No.2,*
9. Ellen. R. and Harris. H. (2000). *Introduction.( Ellen and et al (Eds.). Indigenous Environmental Knowledge and Its Transformation. Critical Analysis Anthropological perspectives (U.K. Harwood Academic Publishers: 2000) PP 1-30.*



10. Florey, M. (2009). *Sustaining Indigenous language and indigenous knowledge: Developing Community Training Approach for the 21st century*. UNESCO learning and knowing indigenous society today, Paris: UNESCO.
11. Gadgil et al (1993). *Indigenous Knowledge for Biodiversity Conservation*. *Ambio*, Vol. 22, No. 2/3, *Biodiversity: Ecology, Economics, and Policy* (May 1993), pp. 151-156, published by Springer on behalf of the Royal Swedish Academy of Sciences <http://www.jstor.org/stable/4314060> Accessed: 15-02-2016.
12. George M.J. (1999). *Indigenous Knowledge as a Component of the School Curriculum*. In L. Semali & J. L. Kincheloe (Eds.), *what is indigenous knowledge? Voices from the academy* (pp. 79-94. London: Falmer Press.
13. Gorjestani N. (2000). *Indigenous Knowledge for Development. Opportunities and Challenges (Indigenous Knowledge for Development Program the World Bank)*. Paper presentation at the UNCTAD Conference on *Traditional Knowledge in Geneva, November 1, 2000* (accessed 11/09/2013).
14. Gupta A.D. (2011). *Does indigenous knowledge have anything to deal with Sustainable development? Antrocom online Journal of Anthropology Vol.7 No. 1, PP57-69*.
15. Kalland, A. (2005) *Indigenous knowledge: Prospect and limitations*. In Roy Ellen, Peter Parks, and Alan Bickers (Eds.). *Indigenous Environmental Knowledge and Its Transformation. Critical Anthropological perspectives*, (The Netherlands: Harwood Academic publisher).
16. Kwame A.D. (2007). *Indigenous Knowledge Systems and the need for policy and institutional reforms*. In Emmanuel k. Boon and Luc Hens (eds.) *Indigenous knowledge system and sustainable development: Relevance for Africa*, Kamla-raj Enterprises, Tribes and Tribal. Special volume No.1), PP 41-52.
17. May, S.; Aikman, S. (2003). "Indigenous Education: Addressing Current Issues and Developments". *Comparative Education* 39 (2): 139–145.
18. McKeown, R. (July 2002). *Education for Sustainable Development Toolkit Economy, Environment Version 2 July 2002*, <http://www.esdtoolkit.org>. Accessed 15/03/2016
19. Odora. Hopper C.A. (2017) *(Culture, Indigenous Knowledge, and Development; the role of University)*. Published by the Centre for Education Policy Development (CEPD) Braamfontein.
20. Pieroti R. (2011). *Indigenous Knowledge, Ecology, and Evolutionary Biology*, London, U.K: Routledge, Taylor & Francis.
21. Shakaya D. (2010). *Education, Economic, and Cultural Modernization and the Newar of Nepal*. (Editor Kapoor and Shiza). *Indigenous knowledge and learning in Asia, the Pacific, and Africa. Perspectives in development, Education, and culture*: New York: Palgrave Macmillan, PP.131-144.
22. Semali, L. M., & Kincheloe, J. L. (1999). *Introduction: What is indigenous knowledge and why should we study it*. In L. Semali & J. Kincheloe (Eds.), *what is Indigenous Knowledge? Voices from the academy*, London: Falmer Press (pp. 3-57).
23. Teshome Abera (October 2017). *Indigenization for Restoration of Ethiopianism*. *International Journal of Multidisciplinary Research and Development*, Volume 4; Issue 10; October 2017; Page No. 60-63

24. Teshome A. Sobha B.N.( December 20172). *Indigenizing School Curricula for Life skill Development. Kerala Sociologist*45 (2, Pp. 165-171
25. Tilllbury D. (1995).*Environmental Education for sustainability. Defining the new focus of environmental education in the 1990s. Environmental Education Research, Vol. 1, No. 2, 1995, PP195-212, UK: University of Swansea.*
26. Whitt, L. (2009). *Science, Colonialism, and Indigenous peoples: The Cultural Politics of Law and Knowledge. UK: Cambridge University Press.*
27. Woolman D.E. (2001). *Educational reconstruction and post-colonial curriculum development: A comparative study of four African countries. International Journal Vol.6 No 5, 2001, WCCES commission special 2001 congress issue, <http://www.finders.edu.au/education,iej>*
28. .World Bank (December 2005).*IK Notes, No.87The African region's Knowledge, and Learning Centre <http://www.worldbank.org /afr/it>.*
29. Workeneh K. (2011). *Indigenous and Modern Environmental Ethics. A study of indigenous Oromo Environmental ethics and Modern Issues of Environmental Development, Ethiopian Philosophical Studies I. (USA: Cultural heritage and contemporary change series II, Africa, Volume 13).*
30. Wuhibegezer F. &Hailu G. (2015). *Re-Africanizing the Educational system of Ethiopia.African Journal of History and Culture.Vol.7 (2), PP 38-44*