International Journal of Multidisciplinary Approach and Studies

ISSN NO:: 2348 – 537X

# Strengthening Higher Institutions Towards Sustainable Development in Somaliland

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**ABSTRACT:**

*This paper explores the effective role of Somaliland higher education (HE) sector that would play on development of the economy through human capital, knowledge and skills. This paper is essentially based on review analysis of set of indicators to evaluate the readiness of the education sector of Somaliland in providing the human resources to the different sectors of the nation's economic growth. The indicators used to assess the role of HE in development sector include: number of universities that offer S&T, higher education sector plan, R&D and GE sectors. In order to identify the existing gaps in Somaliland development, four important documents were reviewed including Somaliland Development Goals, Somaliland Vision 2030, National Education Sector Plan and HE Policy. The study revealed that all plans set for national development are not linked to HEIs and other structures that would significantly contribute to the development of the economic pillars of Somaliland. These gaps also indicate that there had not been notable collaborative efforts among HEIs and concerned ministries on synergizing to establish coordinated structures or a framework that enhance HEIs capacity to foster economic development. The paper recommends major reforms in the development sector including formulating/developing a designated policy, structures and funding to strengthen STEM in HEIs to contributing to the national development by producing human capital with both scientific and technological knowledge which are very crucial in the development sectors. The paper concludes with need for a revised national framework for sustainable development that integrates the different sectors of economy into HE to avail human capital required to foster the nation's economy growth and development.*

**Keywords**: S&T, HEIs, Human Capital, Sustainable Development, ESD

## 1.1 INTRODUCTION

Higher education for sustainable development (HESD) became an important concern and a major issue on international, regional, national and institutional agendas concerning education policy over the past decades. Science and technology capacity in higher education institutions (HEIs) play a key role in the promotion and the progress of sustainable development (SD) through availing human resource equipped with skills and knowledge required (Nolan, 2012 ). It is very important to note the promotion of SD is a significant component of the objectives of many countries in the developing world and it is part and parcel of their development goals steering by science and technology provision implemented in HEIs and the relevant ministries.

The term sustainable development is a broad with numerous interpretations and definitions. According to the definition used in the United Nations report on Our Common Future

(Brundtland, 1987) sustainable development was defined as a development that meets the needs of the present without compromising the ability of future generations to meet their own needs. However, ESD was drawn from the UN conference and it is defined the process of equipping students with the knowledge and understanding, skills and attributes needed to work and live in a way that safeguards environmental, social and economic wellbeing, both in the present and for future generations. (Longhurst, 2015)

At the present HEDS has been acknowledged as a main strategy to fostering sustainable development through utilization of high science and technology cultivated at higher education institutions. The UN has declared in 2005-2014 the Decade of Education for Sustainable Development (ESD) at Johannesburg. The UN has encouraged integration of science and technology into higher education as a bridge for attaining institutional sustainability which contribute a lot to the development of other economic sectors let be socio-economic, environment, infrastructure and health care systems as well as the education system.

As notable as these accomplishments are for developed and some developing countries of the world, numerous challenges and opportunities remain to be realized in Africa and particularly in Somaliland. Certainly, even though it is crucial for SD, Somaliland's science and technology (S&T) in education and training facilities or infrastructures, especially in areas of science, technology, engineering and mathematics (STEM) have been over the years undervalued and under-resourced let alone to designate policies and plans towards improving the capacity of HEIs deliver programs with high S&T. As other countries in the region, such as Rwanda, and Kenya, Somaliland outsource and import costly technical assistance in S&T and this is only for short term projects but does not maintain for a longer time and does not help with universities build S&T capacities of their own.

Improvement and restructuring higher education system in Somaliland would energize and unlock the mind for brighter economic prospects which is certainly one of the main objectives of higher education. This would also give a handle to develop science and technology strategies linked to national economy and help with realization of the SD. S&T are crucially important for increasing higher education's capacity to participate in the development by producing qualified manpower needed in the different sectors of the economy. The proposed framework is intended to refine and provide greater focus in the implementation of S&T in HE. As a result, this will contribute to and accelerate economic growth through the provision of the needed expertise in S&T including primary and tertiary education as well as technical vocational skills. Therefore, this paper will discuss and identify existing gaps in ESD and proposes a framework that improves these gaps.

### 1.2 Importance of science and technology in sustainable development

Science and technology as well as engineering knowledge are highly demanded in both undeveloped countries like those in the East Africa as well as the developing countries (African Development Bank, 2014). Some countries in the region like Kenya, Rwanda and of course Uganda set national policy for science and technology to provide a platform to leverage and to transform the country's economy to attain sustainable development. In recent years, almost all East African countries acknowledged importance of S&T in sustainable development and put strategies forward to increase capacity of S&T and started to integrate it

into higher education institutions. The following table shows enrolment of S&T in higher education of some countries in the region **(Tracy Bailey, 2013)**

| Field | Country | | | |
|---|---|---|---|---|
| | Uganda | Kenya | Somaliland | Rwanda |
| Technology | N/A | 46345 | 565 | 25894 |
| Science | 18504 | 21556 | 1653 | 12837 |
| Engineering | 5482 | 14342 | 452 | 11456 |

**Source:** Case Studies of Kenya, Uganda 2013 and HIPs 2014

As you can see in the above table, the enrollment of S&T in higher education of these countries has been growing for the last decades while Somaliland has the least enrollment of S&T in higher education. This is because; the government of Somaliland does not give support of any kind to the higher education institutions which need capacity in the areas of science and technology infrastructures. At the present, the science and technology gaps of African countries particularly Somaliland is exaggerating with every pass time. Somaliland is left behind by the other countries in the regions since these countries like Rwanda and Kenya took bold steps towards capacitating and enhancing science and technology by integrating it into higher education institutions. Additionally, these countries have concrete plans and policies towards improving and adopting contemporary scientific and technological knowledge based on their development priorities. Generally, Muslim countries like any other undeveloped countries produce disproportionate small amount of scientific output (Zamhari, 2013)

Possession of science and technology knowledge as we can see from our own experience of the developed countries is one of the most crucial factors that bring these countries to the prosperity and the significant economic growth. One of strategies to achieve the advancement in the fields of S&T in African countries is through education. Integrating S&T into higher education can play an important role in preparing skilled human resource equipped with relevant knowledge and skills needed to improve socio-economic situation of the country. However, incorporating science and technology with higher education can be done if Somaliland government able to cope with pressing setbacks and challenges to the development of science and technology in their national policy and strategic plans (Rebello, 2003)

## 2. SCIENCE AND TECHNOLOGY IN HIGHER EDUCATION FOR SUSTAINABLE DEVELOPMENT

In the year of 1997-98 is marked the birth of the Somaliland higher education and it starts with Amoud University to be the first higher education institution ever established in Somaliland followed later by University of Hargeisa and others. In general, higher education system of Somaliland has been growing in arbitrary environment without having solid policies and procedures were put in a place. At the present, there are around 12 universities in Somaliland; most of them are private only three universities are public or community owned (Education, 2014). Most of these universities offer undergraduate programs except Amoud

University that offers both undergraduate and postgraduate degrees. Almost all universities of Somaliland have fewer programs in science, technology, engineering and mathematics; very few of them that offer these fields do not have the capacity in terms of infrastructure and the human resource (HIPS, 2013).

The most common courses offered in the universities and other academic institution in Somaliland are mostly on corporate governance, international marketing, business management and other social sciences specialties in the areas of political science and leadership. Education for sustainable development can be implemented through integrating the mentioned courses with SD oriented contents in curricula such as corporate social responsibility, so that values and principles of sustainability can be cultivated in students before they graduate and move into the workforce, as a result they will be having concrete concepts about the SD and social involvement (Majumdar, 2009).

In addition to this, almost all programs offered at universities are not followed any quality assurance standards let it be national, regional or even international. This situation let inability for HEIs to develop programs related to S&T for development. While universities are expected to play very specific roles in promoting sustainable development through their traditional functions of teaching, research and knowledge dissemination, there is a growing consensus that our current paradigms are inadequate for addressing the long term needs of a sustainable future. As such, it is then necessary for universities to fill the gaps by updating strategies and procedures to accommodate the resilience required to progressively adapt to changing physical, historical and social conditions in order to play an active role in shaping a more sustainable future. To do so, universities should encourage new thinking within the educational system (UNHCR, 2010) and introduce new creative and innovative solutions to problems of sustainability.

Moreover, education and sustainable development cannot be separated in the modern world. Developed countries went breakthrough when they comprehended their educational system to address core issues of social development and sustainability. Starting from primary and tertiary education, the issues of the sustainable development has been taken care of and incorporated with the curriculum (AAU, May 2011). Unlike these countries many undeveloped countries, like Somaliland is far behind to address and incorporate education and sustainable development.

Since, the existence of Somaliland HEIs and their involvement in development are not imperially analyzed and recognized. In contrast, sustainable development in the contemporary world much depends on science and technology provisions and capacities in HEIs that are linked by and responsive to the development agendas of a country. Many developed countries and some countries of the fastest growing economy in the world today achieved much through reforming their education system by developing an efficient S&T capacity in their higher education institutions.

Today, reorienting current education system to address sustainable development is very important for both developing and developed nations. Cultivating sustainable development mindset among individuals and communities in general could be addressed through integrating academic disciplines and values of sustainability. Since there is no an international standard for integration knowledge, skills and sustainability, but every country requires considering better suited plan and strategies when implementing development

activities. The general educational outcomes and its aims in the curricula should be rearranged to develop multidisciplinary curricula to comprehend the social factors, cultural perspectives and socio-economic aspects of sustainable development in comprehensive and interdisciplinary ways (Cristina Escrigas, 2011)

The potential role that Somaliland Higher education Institutions would play in the national development is not only the supply side but also the implementation and evaluation structures for Somaliland development initiatives. The role of universities in SD is made more important by the fact that the students they teach are the decision-makers of the future. In short, the expected role of higher education institution of Somaliland is summarized in the following table;

| | |
|---|---|
| **Moral obligation** | **universities are morally bound to create change through preparing graduates with sound skills of science, research and technology that would participate the development of the country;** |
| **Community outreach/engagement** | universities should apply their knowledge in solving the problems of society in the communities in which they reside through providing consultancy services based on applied research; |
| **Encourage sustainable research** | encourage research that contributes to local,· regional and global sustainability |
| **Partnership with government, non-governmental organizations (NGOs) and· industry** | This is an encouragement for collaboration between universities and other agencies. |
| **Develop interdisciplinary curricula** | Subjects studied should show a link to the environment to help students become more environmentally literate |

In short, ESD should incorporate socio-cultural, environmental and the global economic domains. Somaliland and the wider Somalia, the issue of sustainability and educational system has not been recognized and acknowledged. Therefore, it is latest time to understand the relationship between educational system, economic growth, and sustainable development.

## 4. BUILDING HUMAN CAPITAL FOR SUSTAINABLE DEVELOPMENT

Building Human Capital for Sustainable Development requires people with the right skills of scientific and technological knowledge that participate in the development initiatives

embarked in the country. A key issue in creating a critical mass of required human capital is strengthening the role of education and in particular, education for sustainable development using a multidisciplinary approach (bade A. Peters MBA, 2013 ) and providing training to a diversified group of stakeholders including students and specialists, particularly those specialized in the fields of science, technology, engineering and mathematics (STEM). The crucial importance of a strong educational component for sustainable development was stressed at the 1992 World Summit in Rio de Janeiro, Brazil. Chapter 36 of Agenda 21 states, "Education", including formal education, public awareness and training should be reorganized as a process by which human beings and societies can reach their fullest potential and capable to influence economic growth at all levels.

Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues (Melnychuk, 2010). Education is an instrument for developing human resources to optimize productivity by encouraging technical progress and promoting cultural conditions that are conducive to social and economic change. The objective is to use, all forms of capital, including the human capital, to achieve rapid, more equitable economic growth with elimination and avoidance of the impact to the environment (Tilbury, 2011). Accordingly, building human capital for sustainable development will require a reform of the educational system especially at the university level because the university is the major and apex 'feedstock' for a country's human capital. The university supplies the human capital needs for both lower levels of the educational system (primary and secondary) and the non-educational organizations. The university therefore has a very critical role to play in the promotion and implementation of sustainable development.

The impact of human capital development through schooling and other educational system and economic development has long been explored. Researches on this issues stress on rather distinct two perspectives (Robert E. LUCAS, 1988). One side, human capital development through training/education makes significant contribution to the national development by leveraging socio-economic status of the country. The other side, Lee, et al (1990) argues that the investment of human capital on growth of physical capital would lead to economic growth (Mihaela Dumitrana and Radu, 2009).

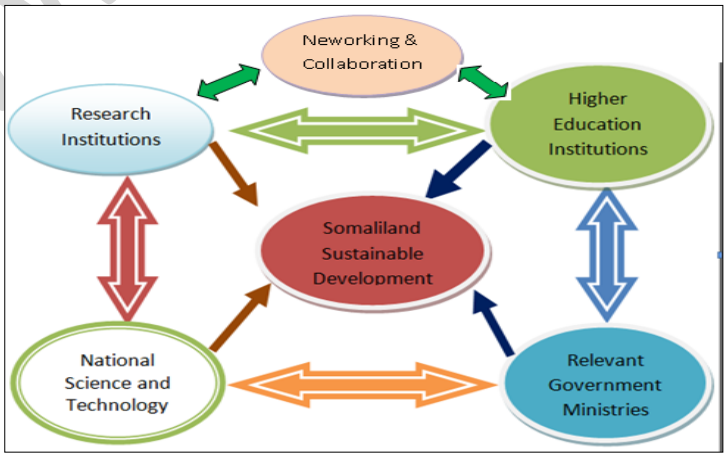
## 5. FRAMEWORK FOR SOMALILAND SUSTAINABLE DEVELOPMENT

Formulating and implementing development oriented policies and strategies demand a comprehensive and inclusive framework. There are many different frameworks adopted in sustainable development for different purposes. The most common and global framework is Higher Education Sustainability Initiatives proposed in UN conference on Sustainable Development (Rio+20) in 2012. This framework is very general and again based on the context of developed and developing nations since it consists of four crucial sectors that together address the common future or goals for SD. These four sectors are aiming to: teach sustainable development across all disciplines of study, encourage research on sustainable development, green campuses and support local sustainability efforts, eventually, share information with international networks.


**SOURCES, HESI, UN, 2015**

However the above framework cannot be applied to all countries since their priorities and context are not much the same in terms potential development sectors, socio-economic status, environmental and among others. For instance, the framework encompasses of all important aspects of sustainable development but is not all applicable to some countries like Somaliland that do not yet have solid strategies for fundamental aspects of sustainable development. Additionally, green technology and research on sustainability are post implementation outcome of sustainability goals brought by predetermined plans and strategies. As a result, Somaliland wants to adopt a contextualized framework that addresses the basic principles of sustainable development including availing functional structures, policies and plans aimed at fostering national socio-economic development.

Furthermore, a framework that consists of major stakeholder in policy formulation and implementation is crucial to achieve a particular set of outcomes or objectives related to national development goals. Somaliland has set its own indigenous development goals which cover five import economic pillars. These pillars could not be achieved without engaging in other players who might influence on the process of implementing or achieving in the millennium development plan of the country.



**SOURCES: the authors**

The above diagram displays the role of education in sustainable development and their links to the development sectors of the economy. As stated, universities are expected not only in teaching and learning but also participating in community engagement to address community and national development at all levels. Universities also have great influence on national development strategies through leveraging research findings and other statistical data required to consider during policy planning sessions. In addition, Universities have great influence on industry and government policies and decision making. Investing in higher education is therefore essential to the production of the experts needed to address sustainability and other societal problems. As indicated in the UN conference on SD (2012) that universities were identified to develop necessary capacity required for a sustainable future, therefore, they were given specific roles to furthering SD.

The proposed framework as summarized above creates linkages between policies, government institutions, HE and research institutions to guide the strategic directions of economic development. The strength for Somaliland HEIs to address national development goals lie in clear articulation of integrated functional structures that together work on development through collaboration on policy formulation and implementations. S&T and HEIs as well as other research institutions need strong policy to provide the knowledge base for all sectors of the country. Improving the collaborations between these institutions are essential for demands across all sectors and the way forward of the country. For instance, S&T in HEIs have been targeted as fundamental tool for broader access, collaboration and networking between national and international institutions.

## 6. DISCUSSIONS AND CONCLUSION

Towards achieving sustainability depends much on government strategies on numerous development portfolios with respect to its potential available resources. The government is also responsible for creating social structure designated to participate in the development endeavors. It is not surprising that almost all undeveloped countries have plans and strategies aimed at improving different sectors of economic development, but all are not yet implemented due to either political issues or perhaps financial scarcity. Thus, all these cannot be valid, but the most important thing to note, is a knowledge barrier among functional structures that are supposed to lead strategic directions of the national economy. However, this situation led almost all government and academic institutions less involved in the development initiatives in the country.

Development initiatives and breakthrough need the understanding of social dynamics at national, regional and global level. Since, Somaliland is a part of the global ecosystem, it should have been responsive to the new emerging economy system and those in the past as lesson learned. Understanding how world operates and becoming a member in the global economic system, needs a technocrat government with the help of professional and strong research institutions take the country from the current situation to a more developed one. As such, establishing research centers, professional organizations and relevant technical

institutions would together help Somaliland to fill up the current development gaps if they properly collaborate on SD strategies.

In the case of Somaliland, lack of coordination and synergy among its functional institutions and other supporting entities on promoting factors that could bring sustainable development are yet to be apprehended. HEIs and other entities of the same kind are stand alone and do not have strategic link to other government institutions and among themselves as well. This resulted, that universities and other higher education institutions' contributions to national development are not seen except mass graduates produced without proper planning. Additionally, research institutions, higher education institutions and other professional organization are not engaged with policy making and other development activities and are solely implemented by the government ministries which as mentioned do not have all the capacities and knowledge to a paradigm shift and radical change of the economy. Nonetheless, Somaliland does not have currently a single national/public or even a private research institution that promotes and participates in sustainable research programs.

Since, Science and Technology are recognized wheels that foster sustainable development as many researchers in the development sectors highlight. The main source of scientific and technological skills in both resides institutions of higher learning aim to produce the qualified manpower with these skill. At the present, besides the UN submit on SD, afterwards, other universities in the world started to incorporate part of their function with SD research. However, almost all universities of Somaliland does not offer programs and other research projects on SD and science and technology programs but they rather focus on business and social science programs. Although, developing enterprises is (Willie O. Siyanbola, 2011) an important pillar in development but without social responsibilities do not much contributing to socio-economic development. This is to say, that universities do not have any programs to introduce students the corporate responsibility so as the employer align with his/her mind some sort of social responsibility like environmental protection, poverty reduction, and civic engagement and leadership roles.

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