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Fostering the Educational Policies of Somalia: Resolving Somalia's Underdeveloped Economy through Educational Sustainability Development

Abdisalam M Issa-Salwe
East Africa University
Email address: abdisalamm@eau.edu.so

Abstract

One of the major challenges facing Somalia and the rest of under-developed countries is the lack of proper educational planning to improve their sustainable economic development, boosting inclusive growth and promoting poverty reduction. One particular area they are missing is science and technology development in their educational programs.

In the last few decades, the world has witnessed a huge scientific and technological explosion. However, Somalia and the rest of the under-developed countries have lacked behind these developments. The failure to apply science and technology in their educational curricula is attributed as one of the major reason for failure to catch on world development as well as losing the national sustainability development plan.

Science and technology became crucial and critical to the process of modernising and developing national economies. Over the last decades, there have been many developments where some countries focused on science and technology education, while others lacked the spirit of applying science and technology in their education.

This paper will look at the contribution of science and technology (which in this writing will be extended to science and technology) can help the sustainable development of Somalia.

Keywords: Under-developed countries, STEM, science and technology, educational sustainability, economic development.

Background

The collapse of the Somali state and the subsequent civil war let to the collapse educational system in Somalia. This resulted in an entire generation to lose basic education. In the following decades, many regions in Somalia started some kind of schooling where the majority were private ones.

Somalia's educational system has developed through political and social mayhem, taking some decades. In the 1970s and 1980s, under the rule of General Siad Barre, the country was a centrally controlled "scientific socialist". (World Bank Group, August 2019) In 1972, the Somali language was made the official language of business, and education and later a literacy campaign was launched to teach many Somalis how to read and write. This followed the printing of school textbooks in Somali which were designed to "reflect the values and ideals of the Somali society". (ibid,)

For the first time in the country's history, students throughout Somalia were taught in the same language, using the same textbooks. In the years before, schools were taught in

English, Italian or Arabic languages. This progress was temporary as when Somalia went to war with Ethiopia, the nation's progress went dissipated.

The overthrow of the Siyad Barre government in the early 1991 and the subsequent civil war interrupted the national economic plan as it wrecked most public facilities such as educational institutions. By 1994, the majority of the school. (ibid.)

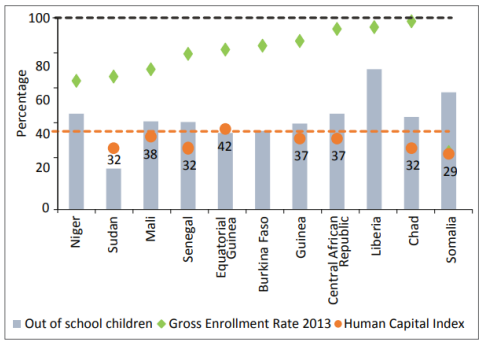
In their report, the World Bank Group ranked Somalia education in their lowest scorer compared to other Sub Sahara Africa countries. (World Bank Group, 2019) The report says that "… Gross primary enrollment in Chad is close to 100 percent while in Somalia it is just 30 percent.. . it is clear from low participation in basic education that the country needs to be investing heavily in educating its children." (ibid)

Proper Education as Start-up for the Young Generation

The prospective contribution of science and technology to national development is well known. Scientific and technological knowledge has been the two elements which have contributed to the economic growth of developed countries. (UNESCO (1983) Moreover, a large number of developing countries are still using old-style production system as they are inert to the modern system of technological innovation. (ibid.) The character of science is to enlighten humanity while the position of technology is to apply existing knowledge. Moreover, science helps to be inventive while technology helps the logics to solve problems. (Schuurman, 1977)

Enlightening the young generation with good educational prespective is a crucial element in helping with sustainable economic development. enhancing comprehensive and promoting poverty reduction in Somalia. (World Bank Group, 2019) Education can

provide stability to the young generations who have been devastated and traumatised by war. The preliminary point to start is by directing the young generation to make them skilled workforce to the different sectors of the nation's economic growth. In the end, education fosters the intellectual discipline necessary to solve problems, and the civic virtues essential for good governance.



Source: Based on data from HCI, World Bank and Facing Forward: Schooling for Learning in Africa, World Bank, 2018.

According to Poverty & Equity Global Practice (2017), over one-third of the Somali population live in poverty. Since the collapse of the state, education depends heavily on fee-paying schools. Therefore, poor students have been at a distinct disadvantage. The limited availability of public schools limits the opportunity for those who could not afford private fees. Often private schools are not even an option since business operators do not run schools in poor and disadvantaged areas.

The Need for Technological and Science Curriculum at Early Stage of Education

As reported above, the role of science is to enlighten humanity, while the role of technology is to use existing knowledge to serve humanity. (UNESCO (1983) The first calls for powers of investigation, while the other promotes ability combined with knowledge..

As science and technology knowledge provides a platform to influence and transform the country's economy to attain sustainable development, one crucial step to start is to reform educational curriculum by including and strengthening science and technology programs to primary, secondary and higher education levels. This step will mean to boost the number of students enrolled to science courses. It is also essential to provide the necessary resources to apply to the new curriculum.

It is necessary to incorporate science and technology at an early stage of education to help create a condition which may facilitate science and technology education in the country. This can also be added with developing techniques and indicators of use to the planner in assessing science education provision. This will follow creating a plan to identify the measurement of the impact of science education on human resource development.

Science and technology education is related to some crucial aspects of development as they are essential and most important areas of the curriculum as they are also crucial medium to provide human resource development, modernisation and overall development in Somalia. Some of these include health, food, agriculture, energy resources, industry and technology, the environment, etc. Scientific development is the most effective factor which will enable Somalia to enter the mainstream of contemporary technology and commerce.

Boosting the Capacity of the National Future

The potential contribution of science and technology to development is generally known as scientific and technological knowledge has contributed to the economic growth of developed countries. (Bhaneja et al. 1978)

It has been emphasised by UNESCO Congress report (1983) that science, technology and their teaching in formal and non-formal education are a vital factor in enlightening the lives, material and cultural conditions of a country. Quoted by Gödek (2004), some of the general purposes of science and technology education include:

- Promoting agricultural development, industrial production, scientific research and social development
- Providing pupils with scientific spirits of curiosity and inquiry
- Helping and controlling the natural world
- Transforming the environment
- Developing scientific and technological manpower.

The majority of developing countries such as Somalia cannot cope with the technical aspect of science and technology as they can outsource and import technical assistance from outside.

Restructuring the educational system anywhere in Somalia would strengthen and unlock the mind for brighter economic prospects which is certainly one of the main objectives of education. This would also boost educational strategies linked to the national economy and help with realisation of the sustainable development as science and technology is critically important to boost the capacity to qualified human resources needed in the different sectors of the economy. (Madar et al, 2016)

According to Tracy Bailey (2013), despite recognising the importance of science and technology in sustainable development in all Somali region, there is no clear strategies to increase science and technology into the higher education system in Somaliland. For

example, the following table illustrates the level of enrolment of science and technology in higher education of some countries.

Field	Country			
Technology	**Uganda**	**Kenya**	**Rwanda**	**Somaliland**
Science	N/A	46345	25894	565
Engineering	18504	21556	12837	1653
	4582	14352	11467	452

Table 2:Quoted in Madar et al (2016): Case Studies of Kenya, Uganda, Rwanda and Somaliland, 2013 and HIPs 2014

While Somaliland has been slow in applying science and technology, the other countries in the table have been steadily growing their application in science and technology. This phenomenon is worst in the other parts of Somalia. Madar et al (2016) argue that one of the main reasons Somaliland has been slow in is because of the Somaliland government "…does not give support of any kind to the higher education institutions which need capacity in the areas of science and technology infrastructures". (ibid). The other parts of Somalia is expected to be worst than Somaliland as Somaliland has a better government system than the rest of Somalia.

Under-developed World Yet to Move Forward

It is recognised that education is critical to a nation's development and progress as it supports to eradicate poverty and provide national growth. Moreover, the basic level of education can help to further the individual learning potentiality in addition to the socio-economic development of a nation (quoted in Madar et al)

Notwithstanding, knowing the significance of education as a crucial for the national development, many developing countries such as Somalia fell behind when compared with other developing and the developed countries (Oduga and Heeveld, 1995;

UNESCO, 1993; UNICEF, 1997; 1999; Mehrotra, 1998; Buchmann, 1999a, b). Numerous reasons have been recognised to lead obstacle of developing countries to attain Universal Basic Education (UBE) (Bekalo et al, 2010) The inadequacy of educational facility are drawn as some of the factors which limited the capacity of the developing countries.

Unplanned Educational Centres

Despite that there has been some significant growth in the number of private schools in Somalia, these schools were unplanned and uncontrolled which undouble brought problems associated with quality and uniformity in standards. They are characterised by untrained teachers and by the lack of teaching, instructional materials and support facilities.

The schools characterised by overcrowded classes as they have insufficient classrooms to meet the increasing demand for school places. The over-crowdedness of classrooms diminish the overall quality of classroom and school experiences of those children who attend.

The rapid growth of private schools in Somalia which favours those who can pay has created a disparaging situation to poor students. The partial availability of public schools obstacles for those who cannot afford private schooling. Regularly private schools are not proper for the unaffordable people since they do not operate in poor and disadvantaged areas.

World Bank Group reported that over 69 percent of the Somali population live in poverty, which has resulted in highly unequal access rates for the disadvantaged, who are "served by neither state nor nonstate schools". (World Bank Group, 2019)

Alternative educational programmes is another way of education society. This type of education is also referred to Flexible Approaches to Education and also as non-formal education. (Sliwka, 2008) It provides education to those people who miss formal education, and it defined as "a system providing a variety of education to those who have no access to the formal system, who need to supplement education already received, or to pursue objectives not catered for by formal schools". (Bekalo et al. 2010) It is dissimilar from formal education in its arrangement and in that it delivers a fast response to "diverse community education and training needs, which are fulfilled through the formal education system". (ibid.)

Conclusion

The potential contribution of science and technology to development is generally known as scientific and technological knowledge has contributed to the economic growth of developed countries. (Bhaneja et al, 1978) Today's world is a technology-driven world. Therefore, education must be based on preparing the student for science and technology education. Science and technology education is a global prerequisite for individual development. Therefore education program on science and technology must be given priority.

As we have discussed above that education is a vital component for a nation as it determines how a country is developing. It is also the conduit to any nation-building enterprise as it gives people the essential skills they require to develop and prosper.

As no part in Somalia is given science and technology a priority initiative in education, the country has to give priority to design education towards improving the capacity of educational deliver programs.

Despite there has been important progress in the number of private schools in Somalia, these educational institutions where business-oriented rather as they were uncontrolled, which caused difficulties related to the quality and standards of the education.

The local and national governments can resuscitate and rebuild the national economy by giving a good started-up beginning from the level of education to the high education institutions. This policy will help the national sustainability development.

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Recommendations:

The following lists below are to provide the best advice on how to have a start-up of proper educational start to the economic opportunity for national sustainability development. These steps have to define and mark the following principal:

- An impact and scalable economic policy
- An innovative policy which can affect education to boost the economic opportunity of the nation,
- A model that can lead to a market-oriented condition which will focus on the primary aspect of the knowledge that can help create an opportunity for the economic start-up of the nation,
- A standard that creates ownership and sustainable industrial policy which will have an impact on the local market needs

These primary steps include the following:

1. **Standardising the National Educational Curriculum in all Levels of the Education of the Country:**
   a. For quality education policy there must be a standardised system for all the educational systems of the country.
   b. One way to have a control on the educational system is to create an educational commission which can enhance the quality of student learning through investment in the learning environment.
   c. Setting education quality assurance and professional standards are important in establishing a system which controls and contributes to the national education quality.

d. This process can lead to setting quality of teaching, learning facilities and educational experience offered to learners.

2. Science and Technology Education Start-up at the Primary Level of Education:

As stated above, the rapid technological changes demand that workers continuously update their knowledge and skills. Unlike the past where a job could be held for life, it is commonplace to change vocational several times. Besides that, educational institutions will have to provide education based on local needs and development. Such learning can be different type at different levels:

a. Strengthen and support the primary education so school-age children can attend school
b. The primary education is the first step in the making of welfare and society. Primary education is a pre-requisite for continuous development.
c. It supports children to develop their social, cognitive, cultural, emotional and physical skills.
d. It creates the next generation of leaders, thinkers, and innovators.
e. It is measured as the base for future intellectual developments.
f. It must be provided in a positive environment where effective learning can take place.
g. Academic programs to be focused more on STEM (science, technology, engineering and mathematics) such as medicine, engineering, computing, mechanics, electronics, etc.
h. General education must be expanded to include vocational curricula and courses to increase work-based learning routes for young people. One such policy is applying Technical and Vocational Education and Training (TVET) programs.

3. Introducing and Encouraging Training for Work:

Governments and businesses to encourage and set a system where workers are trained for work.

a. The training can be directed to vocational training courses/ competence-based qualifications. The training should reflect the skills and knowledge most needed to prepare trainees to do the job successfully and show that an applicant will be capable in the area of work..
b. The type of training programs should be work-related qualification as it must be designed to prepare the trainee's career development.
c. Trainees must be exposed to completing projects and assignments that are based on realistic workplace solutions and activities.
d. Trainees can be helped to progress for further skills and sent to work placement. The aim of the work placements can give trainees the opportunity to use their vocational skills in the workplace and to gain a realistic impression of working life.

4. Vocational Skills to be Build in the General Educational Programs:

As part of boosting the learning skills vocational institutions, there must be created professional programs which can prepare student/trainees to work as a technician and providing trainees vocational education.

a. Vocational education (or TVET) can take place at the post-secondary, further education, or higher education level and can interact with the apprenticeship system..
b. TVET serves multiple purposes. One key goal is to prepare the youth for work as it takes the form of learning and developing work-related skills and mastery of underlying knowledge and scientific principles.

c. TVET curricula include entrepreneurship training as it can enable in two ways: first provides broad-based technical skills on which different occupations can be based on. The second it can provide vocational training to workers.

5. Using Education for a Start up of the National Sustainable Economic Opportunity

One common solution to boost the economic opportunity of the country is to focus on small scale industries which can become a start-up for the country's development. One of this industry is the cottage industry.

a. Commonly, the cottage industry is referred to the traditional artisanship of the rural people who produce various household items with locally available raw materials and artistic skills inherited from past generations.
b. In the modern era, the cottage industry can provide economic opportunities for the poor or the middle-income section of people through employment and income generation schemes.
c. The cottage industry can play a significant role in the economies of developing countries like Somalia.
d. For the Somalis, one solution is to apply cottage industries traditionally in rural-based, with technological progressions, helping with marketing facilities and financial support from institutional sources.
e. Small scale industry requires a small business startup. Financing the small-scale sector can be obtained from suppliers in the form of raw materials. Another source of financial start-up might come from friends and relatives as loans.
f. Small cottage industries also are an important source of employment. This will help generate income.

6. Creating an Environment for National Sustainability Development

Creating an environment where economic opportunities are created is one solution that can help the development.

a. The policy which may create such condition is to develop local needs within the domestic situation.
b. Economic development by creating a cottage industry (small industry)

7. Investment:

It advisable banks and business people to invest in business ventures as they may benefit from their contribution. Some of the steps may include the following:

a. Bank and investor to invest in the small scale industries.
b. Local bank to be encouraged to invest in the small scale industry.
c. Local and national government to give guarantees to investors in providing loans to the small business and industries with local products.
d. Local small enterprises to satiate the market with low products needed in the market

8. Government Policy:

The government local as well national will play a major role in creating an environment of national development. Some of the steps might include the following:

a. Local and federal government to give guarantees and encouragement to investors in providing loans to the small business and industries with local products
b. Encourage to minimise imports and encourage exportations
c. Local and national governments should encourage and deliver regulations where people are required to buy local products.
d. Tax to be relieved over local products and put higher taxes on imports