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*The Impact of Teaching and Learning Methods of  
English Course on Students' Satisfaction at  
Mogadishu University, Somalia*

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*Abstract*

The purpose of this study is to explore the relationship between Teaching and Learning Approaches to English Course and Students' Satisfaction at Mogadishu University. This article surveys undergraduate students first year in academic year 2017/2018. The sample of 278 students, (150) male and (128) female was conducted. Structural equation modeling (SEM) was followed to examine significant correlations between the students' satisfaction and teaching and learning methods of the English course.

The results showed the positive relationship between students' satisfaction and teaching and learning approaches to English course. The author suggests to investigate other factors such as student background, learning environment, teaching resources and faculty motivation that may influence students' satisfaction with English course as well as examining other courses at Mogadishu University faculties to find out the level of students' satisfaction with the courses.

**Key words:** Students' Satisfaction, Teaching, Learning Methods, English Course, Mogadishu University.

## ***Introduction***

After the collapse of the central government in Somalia in 1991, there was a complete destruction of the country, including educational institutions, and educational gap emerged. The education system was not provided because of the security chaos surrounding the country. In response to educational needs, institutions were established to try to fill the educational gap, such as schools, institutes, and universities.

Mogadishu University is the cornerstone of private universities established in 1997 and has a good reputation in higher education in Somalia after the collapse of central government in 1991. Thousands of students graduated. The university was over 20 years since its foundation and developed a comprehensive five-year strategy to develop the university in various areas including academic affairs. English is one of the essential languages at the university. The university noted that this course needs to develop in terms of content and teaching methods and selected a new English curriculum. The author as a dean, faculty of Arts and Humanities, followed up English course lecturers to investigate how they apply the new English curriculum and conducted a field study which this paper was extracted.

Several studies related to the relationship between teaching, learning methods, and students' satisfaction were applied mainly; Teaching Quality and Students Satisfaction: The Intermediator Role of Relationship between Lecturers and Students of the Higher Learning Institutes(Journal & Sciences, 2015) and The Effect of Scientific Approach on Students' English Achievement for Junior High School Level in Riau Province, Indonesia(Hasan, 2018),The Quality of Teaching

and Learning towards the Satisfaction among the University Students (Aziz & Yasin, 2017) and Student Satisfaction as an Indicator of Quality in Higher Education (Uka, 2014). Basing on this, this article tries to investigate the relationship between students' satisfaction and teaching and learning methods of the English course and to examine the hypothesis below:

**Ha** there is a positive relationship between students' satisfaction and teaching, learning methods of English course at Mogadishu University at significance level 0.05.

### ***Satisfaction***

Kotler and Clarke (1987) define satisfaction as a state felt by an individual who has expertise performance or an outcome according to his or her expectation. Satisfaction is a function of the relative level of expectations and perceives performance. In the method of learning and teaching, the lecturer has a great role in shaping the quality of teaching is employed and fulfilled (Betty-Ruth, 2017).

### ***Students' Satisfaction:***

Wiers-Jensen, Stensaker, and Grogard (2002) defined Student' satisfaction as students, assessments of the facilities offered by universities. According to (Elliott and Shin 2002) Student satisfaction is a frequently changing construct in the higher education environment because of constant interactions. Student satisfaction is a complex construct influenced by a variety of characteristics of students and institutions (Thomas and Galambos 2004).

English has achieved some kinds of global rank. It created an opportunity for social and economic functions in the lives of people from

many nations. English plays a vital role in the major aspects of life in this global era. It is the most widely spoken languages in the world so that English today is fast becoming a lingua Franca of international trade and commerce. (Hasan, 2018).

Likewise, Ramsden (1991), Rowley (1996), and Stringer and Irwing (1998), in their studies, reported that there was a relationship between the learning quality and students' perception of the teaching quality. Henning et al. (2001) discovered that the quality of teaching and students' emotional commitment to the institution was important to maintain the students' loyalty. (Aziz & Yasin, 2017).

### ***Higher Education***

Higher education is the education at a university level is supposed as one of the most vital tools for individual, social and economic development of a nation. The main purpose of higher education is a creation of knowledge and diffusion for the development of the world through innovation and creativity. Hence, many studies have been conducted to find the factors influencing student satisfaction in higher education (Weerasinghe, Lalitha, & Fernando, 2017). Higher education plays a vital role in the development of economic systems which depends on disseminating knowledge and innovation, promoting a more resource-efficient economy, greater environmental friendliness and competitiveness to raise cultural growth and social and territorial solidity. Furthermore, more universities have expanded their research topics and their educational programs through the years (Salvioni, Franzoni, & Cassano, 2017).



## ***Teaching Approach in High Education***

Teaching is a means to achieve educational goals. Hence, a lecturer must be able to manage the classroom, using teaching approaches and attitudes and characteristics of the faculty in handling the manner of effective teaching and learning, enhancing the lecture materials, and improve the ability of students to follow the course and master the educational goals they need to achieve (Buamona, 2017)

Good and qualified teachers are essential for efficient functioning of educational systems and for enhancing the quality of learning. Many researches support the notion that a good teacher and actions to be taken in the classroom play a vital role in provoking, effective and efficient learning on the students (Markley, 2004)

Teachers also have a fundamental role in their learners' academic achievement and their quality can highly influence student outcomes (Campbell 2004) English language teachers are key role in effective language learning cannot be overlooked. Special attention must be paid to this link between teachers and learners (Kariminia & Salehizadeh, 2007), .

## ***Methodology***

### **Sample, Data Collection and Measures**

The participants in this article consisted of students at Mogadishu University , the first year 2018. Random sampling was used. 300 questionnaires were distributed, 278 respondents returned and have been left for analysis. The questionnaire was sent out through KoBo collect. The items of the questionnaire were rated using Likert-type scale (strongly disagree, disagree, neutral, agree and strongly agree).

## Data Analysis

Package for Social Sciences (SPSS), version 20.0 was used for data analysis. The quantitative statistical methods were adopted. The structural equation model (SEM) analysis was applied for examining the model fit. To perform the SEM analysis, the researcher used Maximum Likelihood (ML) and estimated in AMOS whereas the fit index of the model was evaluated, including the chi-squared statistic by the degrees of freedom ( $\chi^2 /DF$ ), root mean square error of approximation fit index (RMSEA) and comparative fit index (CFI).

## Findings and Discussion

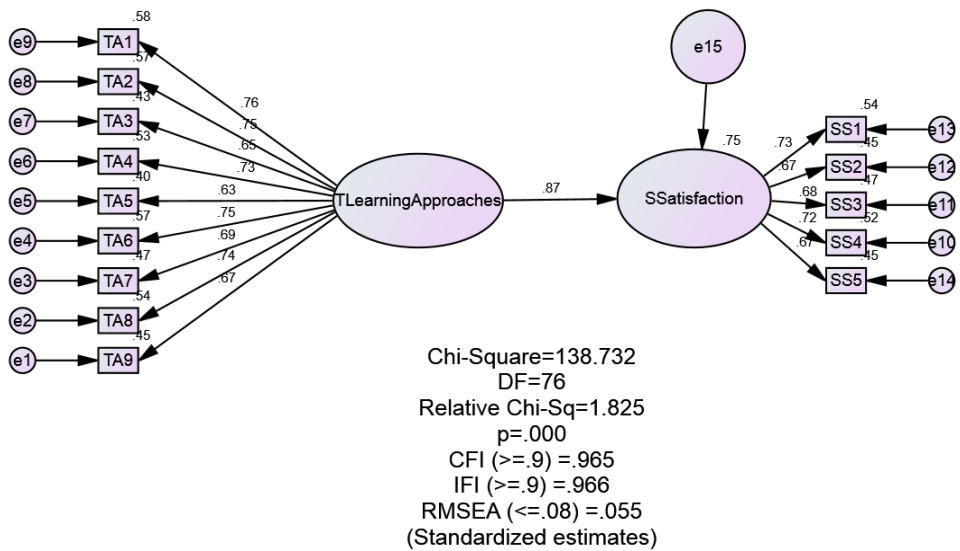
### Profile of Respondents

Table 1 shows the profile of respondents. Female respondents made up 46% of the sample while males made up 54%. The majority of respondents aged between 19-25 96%, while 3% aged between 26 - 31 and 1% were between 32 - 38.

**TABLE 1. Demographic Profile of Sample (n=278)**

	Frequency	Percent %
<b>Gender</b>		
Male	150	54
Female	128	46
<b>Age</b>		
19-25	268	96
26-31	8	3
32-38	2	1

Figure 1 illustrates the impact of teaching and learning of English course to the satisfaction of Students at Mogadishu University. The path analysis of AMOS followed by researcher explored the degree impact of teaching and learning of English course on the students' satisfaction. The researcher tested model fit and result showed that the model was fitted at the table 2 below indicates:



**Figure 1 Model presentation shows the impact of teaching and learning approaches to English course on students' satisfaction at Mogadishu University**

**Table 2. Model Fit Estimation**

Indicator	Estimate	Recommended
CMIN/DF	1.825	<0.5
CFI	0.965	> 0.9
IFI	0.966	> 0.9
RMSEA	0.055	<0.8

Table 2 describes the model analyzed by researcher has met the criteria of model *fit* due to the results of the measure of the conformity model which presents at the high level.

**Table 3. Standardized Factor Loading, SMC, CR, AVE and Discriminate Validity**

Construct	Standardized Factor Loadings	Squared Multiple Correlations	Composite Reliability	Average Variance Extracted	Discriminate Validity
Teaching & Learning Approaches					
TLA1	.76	0.5776	0.9	0.504	0.71
TLA1	.75	0.5625			
TLA1	.65	0.4225			
TLA1	.73	0.5329			
TLA1	.63	0.3969			
TLA1	.75	0.5625			
TLA1	.69	0.4761			

Table 3. indicates standardized factor loading, SMC, CR, AVE and discriminate validity were convergent validity was attained if loadings of the measures to their respective constructs were at least 0.60 (Bagozzi & Yi, 1988; Kline, 2005). The table shows the range of loadings is between 0.63 and 0.76 thus convergent validity was established. All squared multiple correlations (R-square) must be at least 0.40 (Bollen, 1989), on this base the sum of SMC shows at 0.495. The composite reliability (CR) of all constructs must be above 0.6 (Bagozzi & Yi, 1988) hence the table revealed that CR is at (0.9 and 0.83) while average variance extracted (AVE) indicates at 0.5. Discriminate Validity made up at 0.71 thus this contributed convergent validity.

Table 4. The relationship between teaching and learning methods of English course and the students' satisfaction at Mogadishu University

<b>Variables</b>	<b>R</b>	<b>Sig</b>	<b>Correlations</b>
Satisfaction and Teaching and Learning Approaches	0.87	0.000	High

Table 4 shows the relationship between teaching, learning methods of English course and the students' satisfaction at Mogadishu University. The correlation between students' satisfaction, teaching and learning approach is 0.87 the sig value of .000 is less than at 0.05 level of significance, thus, the hypothesis which states that there is positive relationship between students' satisfaction and teaching, learning methods of English course at Mogadishu university at significant level 0.05 was supported and accepted.

### ***Conclusion and Future Research***

Students' satisfaction with the teaching approaches to English course, delivered by the lecturers at Mogadishu University was at the high level. Students possessed positive perceptions of the course. This implies that

Mogadishu University's five-year strategy for academic development is showing results, especially enhancing language skills, where the result of this study showed the positive relationship between students' satisfaction and teaching English course.

One of the main limitations of this paper didn't investigate other factors influencing student satisfaction with teaching English course, such as Student background of learning, faculty motivation, learning environment and teaching resource. Future research can thus be conducted with these factors to explore the relationship between student satisfaction and the mentioned factors. The researcher suggests the need to investigate articles related to other courses at Mogadishu University faculties.

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*The Importance of Mother Tongue as Language of Instruction in Light of African Experiences*

*Dr. Sharif Osman*

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*Abstract*

This paper explores the link between language and education and its role in development, while it traces back to the colonial history of education in Africa and how foreign languages contributed to the lack of establishing native languages as national official languages in many African countries, which created educational development setbacks. The paper focuses on Tanzania and Somalia experiences regarding to mother tongue campaigns. The paper also investigates the importance of mother tongue or first languages in the success of education. In this paper, the author followed the analytical, descriptive method and collected the required data from different references. The paper suggests that Somalia needs to reutilize its language in education, while not ignoring the practical obstacles impeding the use of Somali language in education. However, as history teaches us, we can overcome these impediments as we did earlier

**Keywords:** Africa, Education, Development, Obstacle, Language, Administration, Colonial

## ***Introduction***

There is a relationship between language of instruction and education and its impact on development. The colonial history of education in Africa reveals how education problems contributed to the hindrance of development in sub-Saharan Africa, (henceforth, Africa). Mother tongue or first language has a great role play in the success of education and, hence, the translation of this success or failure into development. In addition, there are colonial factors which contributed to the current educational problems of Africa, including the use of foreign languages in education, colonial era marginalization of native languages, and the domination of foreign languages in administration and education.

The argument of this paper is that the history and politics of African languages in terms of suppressing them in favor of foreign languages, and the demarcation of colonial borders, which contributed to the lack of establishing a native language as the national official language in many African countries, which might have been utilized in education and administration, have all contributed to African development problems. These problems, reduced the progress of educational development, which affected the socioeconomic development of African countries. In other words, language problems created education setbacks, and these education setbacks contributed to development obstacles. Many studies regarding to this article explored the importance of mother tongue in education: Analysis of the Influence of Mother Tongue on Students' Performance in English in KCSE in Public Day Secondary Schools in Gatundu District, Kiambu County, Kenya (Melorose, Perroy, & Careas, 2015); The Importance of Mother Tongue-based Schooling for Educational Quality (Benson, 2004): and Mother Tongue-Based

Multilingual Education in the Philippines: Studying Top-Down Policy Implementation from the Bottom Up (Burton, 2013), among others.

### ***Language and Education***

Mother tongue language is important in learning and in creating new ideas and thoughts; and that is because people usually think in their first language or mother language. For instance, the Sapir-Whorf hypothesis asserts that the thoughts and activities of individuals are determined by their language; because people think in their languages. It is difficult for them to grasp realities, such as right/wrong, man/woman, normal/abnormal, among other things, if these realities do not exist in their languages (Johnson & Christensen, 2008). As a result, educators favor that teaching and learning take place in first languages.

### ***The Link between Language of Instruction and Academic Success***

The key connection between language and academic success is accessibility. A student's language, culture, and lived experience tremendously contribute to the students learning and retention ability. According to Gesheker (1980), "Developmental psychologists have found that people absorb information more quickly and more thoroughly when it is presented to them in their mother tongue" Gesheker (as cited in Adam, 1980, p. vii). In addition, education through mother tongue empowers and liberates. Moreover, knowledge is socially constructed and recognized, thus, when it is instructed in mother tongue it can be shared with the rest of the community and it becomes a social matter. Consequently, Maas (2001) maintains that "this implies creating an environment in which the learner knows and reads his or her text. And writes about his or her own experience as well as those of others, thus

allowing people to recognize their own mother tongue as a language of identity, thought, and instruction” Maas (as cited in Ouane & Glanz, 2005, p. 7). Hence, in Africa, it was not possible for the postcolonial African countries to utilize their native languages as medium of instruction in their schools due to the colonial legacy.

In the following section, we will discuss the colonial policies, which created the current education and language problems.

### ***Colonial Education***

Colonial education problems were many, but in this instance, we focus on two factors, which are (a) the language policies which were designed to suppress native languages and promote colonial languages; (b) the quality and quantity of colonial education, which was meant to create a lower level clerical staff, security apparatus, and interpreters, among others, who can speak the language to serve the interest of the colonial administration system.

European colonizers deliberately excluded indigenous knowledge and languages and replaced them with their own languages. For instance, in Somalia, colonial rulers introduced strict definitive language policies, which were intended to marginalize Somali and promote Italian and English. In the process, the colonial powers ignored the Somali language and discouraged its use in any role of the peoples’ lives. English and Italian dominated the mediums of instruction and administration. Somali, however, remained the language of communication and dialogue at the social discourse level (Abdulaziz & Ouane, 2004).

These discriminative colonial policies were accompanied by an equally exclusionary education system, which was designed to serve the colonial interest. Hence, modern education, as colonial powers called it,

was introduced in Africa during the colonial period; however, it was limited to the learning of foreign languages and basic math to serve the needs of the colonial requirement for lower clerical staff and interpreters. Thus, in colonial education, Ayittey (1998) observes that: the colonial government also demanded conformist behavior for the preservation of the status quo and took steps to ensure that the education system served this purpose. While the missionaries were concerned primarily with teaching people to read so that they could absorb the lessons of the Bible, the colonial governments needed only obedient clerks. No large demand for technical skills was envisaged, as the colonies were conceived to be purveyors of raw materials and foodstuffs. (Ayittey, 1998, p.123).

Hence, this was the case in most African countries and these experiences started to negatively impact African education and economic development after independence. Thus, post-colonial education was equally disappointing to many African countries, mainly due to its colonial character.

### ***Post-colonial Education: the Legacy***

One of the faulty characters of the colonial education was its elitist nature - European constructed social hierarchy. As a consequence, when the European educated natives trained to assist and facilitate colonial administrations took over the leadership of their countries after independence, they became the new white ruling class and behaved the same as their former masters (Ayittey, 1998). That was because colonial education was designed for the colonial objective of domination as opposed to freedom, dependence as opposed to independence, and subservience as opposed to equality. Hence, after independence, all these facts proved to be correct. According to Nyerere (1979), “colonial

education induced attitudes of human inequality, and in practice underpinned the domination of the weak by the strong, especially in the economic field” (Nyerere, 1979, p. 18). Another problem of the colonial education legacy was that the majority of the people who were not educated self-consciously internalized and accepted their inferiority to the educated elite.

As a result, the post-colonial education of Africa became an extension of the colonial education due to two main reasons: first, the African educators’ experience was based on that of the colonial education and so all they had to do was to duplicate the colonial education that they knew. Second, the newly independent countries could not afford the financial means, which was required to overhaul their education systems; hence, the continuation of colonial education became the only available option.

### ***Inaccessibility of Education***

Foreign languages dominate education in Sub-Saharan Africa, and this is true whether these African countries are mono-lingual or multi-lingual in their own native lingual setting (Ouane & Glanz, 2005). The same is true in their official *foreign* language. The official *foreign* language character of the African countries was adopted during the colonial rule, after independence almost all of the African countries kept those foreign languages for several reasons.

### ***Language Dependence***

These countries realized after their independence how far these colonial languages are rooted into their sociopolitical and economic systems. That was the case because these languages were being used for decades of colonial rule, thus, all the national expertise and experiences

were recorded or archived in these foreign languages. Moreover, the administration and education systems were all conducted and instructed in foreign languages, and so the common perception was that perhaps it is much easier to pursue the continuation of the status quo rather than transform everything to the native language. This created dependence on the foreign colonial languages.

### ***The New Elite Factor***

The new class which took over the administration of the country from the colonial powers was educated in foreign languages and so it is natural to accept the status quo. In the Somali case, Gesheker (1980) points out how: the parliamentary governments throughout the 1960s failed to agree on a script for Somali, political and commercial power was restricted to Somalis literate in either English or Italian. A communications gap deepened the estrangement between the educated minority and the Somali masses who suspected that the government's non-decision on the language question was very much the decision of a self-sustaining administrative core to continue governing the rest of the population in languages few of them could read, write, or comprehend. (Introduction, p. vii)

The elite continued to stick with the use of foreign languages because that was what gave them their special privileged status and separated them from the majority of the people in terms of resources and power distribution.

### ***The Lingual Inferiority Complex***

Another discouraging factor was that, while the foreign languages like English and French were equipped with a wealth of knowledge,

including scientific and technological terminologies, the local languages lacked this vocabulary due to more than half of a century of domination and degeneration. Thus, Gesheker (1980) points out that “It is widely believed by the western-educated African classes that compared to European languages, African mother tongues are inferior, especially as vehicles for the expression of scientific and technological concepts and as a medium for government and commerce” (Introduction, p. VI). However, this did not stop countries like Tanzania and Somalia from realizing that language and education problems are man-made and therefore they can be reversed.

### ***The Predicament of Native Multilingualism***

The multilingual nature of many African countries discouraged them from using one of their languages as the official language. One of the causes of these many languages could be attributed to the colonial arbitrary borders which merged peoples of different languages and cultures into one country. The leaders of these countries sometimes bluntly indicate that choosing one of their languages could ignite a bloody civil unrest. There is some truth in this, but for once in their existence, people have to realize that languages are part of their national cultural resources and they need to utilize their resources. This needs a one-of-a-kind public education, which the contemporary African leaders could not undertake because they are part of the problem. Today’s African leaders politically survive through the old art of divide and rule. In addition, the social injustices that currently overshadow Africa is partially due to unequal resource distribution that African leaders are mainly responsible for. Apart from that, and all other things being equal,



African leaders could have made the decision to choose between one of their languages, and a foreign language.

### ***Education and Development***

Economic progress depends on many different variables that assist the realization of any developmental achievement goals, and one of the most important of these variables is the human resource capital. Thus, it is the trained and/or educated human capital, which realizes the establishment and utilization of other crucial factors, including capital, infrastructure, and technological know-how, among other things. On this basis, Bloom, Canning and Chan (2006) illustrate the contribution and “broader benefits of an advanced education manifested through entrepreneurship, job creation, good economic and political governance, and the effect of a highly educated cadre of workers in a nation’s health and social fabric” (Bloom, Canning, & Chan, 2006, p. 17). Hence, human capital is fundamental in the establishment and utilization of other resources. Similarly, an educated workforce contributes to the national development in many different ways, directly and indirectly. According to Bloom, Canning and Chan (2006), higher earnings for well-educated individuals raise tax revenues for governments and ease demands on state finances. They also translate into greater consumption, which benefits producers from all educational backgrounds. In a knowledge economy, tertiary education can help economies keep up or catch up with more technologically advanced societies. Higher education graduates are likely to be more aware of and better able to use new technologies. (p. 15). In this illustration, we can see how education is directly related to the socioeconomic development of a country and how education setbacks can translate into economic and developmental obstacles.

## ***The African Educational Development Program and the Tanzanian Experience***

After independence, some African countries realized the importance of education and its significance to development. These countries attempted to find a solution for the high illiteracy rate of their population by conducting National Literacy Campaigns. In 1967, Tanzania started the first literacy campaign in Africa followed by Somalia and Ethiopia in 1973 and 1975, respectively. According to a UNESCO report (1990) of the International Bureau of Education (IBE), Tanzania was the first African country to implement a National Literacy Campaign. In the following section, we will discuss Nyerere's African leadership in mother-tongue based educational development and the outcomes of his education development programs.

### ***The Tanzanian Effort***

President Nyerere was considered to be one of Africa's most revered statesmen and thinkers to emerge from the colonial era (Lusane, 1999). When Julius Nyerere became the President of Tanzania, there were pre-existing conditions that obliged him to find a solution for the problems of his country. Early on in the sixties, Africa was struggling with the colonial legacy of underdevelopment, due to lack of economic and development expertise, minimal education, worn out infrastructure, and lack of capacity building, among other problems. These problems were aggravated by the existence of the Cold War, which divided the world into two camps, which the continent of Africa was not entirely ready for at that time. The creation of the Organization of African Unity (OAU), which was established by the newly independent countries in 1963 rallied the African political voice, but was not able to improve the dilemma of

economic underdevelopment. That was where Nyerere's concept of homegrown development started. According to my interview with Abdul Hamza, Professor of Dar es Salam University, Nyerere believed that colonial education lacked the relevancy and the ability to solve the African problems. Moreover, colonial education was designed to divide the society into classes of elite and non-elite. Thus, Nyerere created new development programs as solutions for Africa's poverty and economic underdevelopment. These programs included the Ujamaa Agricultural Cooperatives and the Adult Literacy Program. The Arusha Declaration, which was signed in the City of Arusha in 1967, was a political stand and a moral platform where a country and its people decided to declare their intent to develop and the strategies to utilize for that development.

### ***Nyerere and the Concept of Education for Development***

The concept of development in relation to education and literacy was characterized by the empirical correlation between illiteracy and underdevelopment. The people are the human resource of any nation and the foundation of development. Thus, to utilize this human resource, a nation has to invest in them first, and education is the first step to empower people. Bholá and Gomez (2008) report that:

President Nyerere of Tanzania had remarked that "Education is Development." While sustainable development is going to involve strategies that are both structural and instructional, the instructional is most important since the ability to understand and deal with structures is in itself a process of education. Again, while designing strategies for joining adult literacy with sustainable development, planners and practitioners should think about a word-to-work transition and carefully plan for post-

literacy activities both instructional and development. (Bhola & Gomez 2008, pp. 61-62).

It was this education for development that African countries were seeking to reform and reclaim as their own by utilizing their national languages as the medium of instruction and administration. Through their native languages, people can understand the value of education as a tool for prosperity and self-reliance.

*Ujamaa* Agricultural Cooperatives, and the National Literacy Campaign, which was based on the concept of literacy for development were in progress. While Nyerere was building his country, he was also travelling around Africa to spread his vision of development in Africa.

### ***The Rural and Adult Literacy Program***

In my interview with Dr. M. Abdullahi Hamza, a professor at the Dare Salaam University, he pointed out that “The Rural Adult Literacy Program was another ambitious program, which Nyerere implemented in Tanzania. In Tanzania, the Ministry of Education, together with the Ministries of Agriculture and other government Ministries was assigned to train government employees and volunteers to carry out the Rural Literacy Program.” Hamza, M. A., Dr. (2011, February 25).

Tanzanian literacy campaign (personal interview). Dr. Hamza indicated that the idea of the literacy campaign was not just to teach people how to write, read, and count, but it was to teach them how to participate in local, regional, and national politics, and at the same time understand the value and importance of production and self-sufficiency.” These educational programs took place in rural areas, especially the *Ujamaa* Cooperative centers and villages. The second leg of the literacy campaign took place in urban centers and focused on children over

fourteen years of age and adults who had not completed their primary education, Abdul told me. Children under fourteen years of age were covered under the universal primary education program.

### ***Achievements***

The Tanzanian development programs did not achieve their intended goals, at least economically. There were mixed reactions in Tanzania when the mass campaigns of rural literacy, Education for All, and *Ujamaa* Cooperatives were completed. For Tanzania and most of the African countries, the initiatives themselves were considered socially and politically successful; these successes also benefited the country because Tanzania positioned itself as a leader among African countries due to its pioneering programs. According to the UNESCO's IEB (International Bureau of Education). The United Republic of Tanzania was perhaps the first African country to give urgent attention to adult literacy. One of the immediate results of educating adults was to make them insist that schooling be provided for their children. The literacy campaign that started in 1971 reduced the 1969 illiteracy rate of 69 percent to 9.6 percent in 1986. In addition to the purely educational results, the demand for newspapers and books has increased; literacy participants have adopted health, nutrition, and balanced diet practices; their employment opportunities have increased; and the nation's political culture has been built (UNESCO, 1990).

In the international community, as Abdul Hamza told me, admitting the success of a socialist government during the Cold War was not easy, but at least nongovernmental international organizations recognized the success of Tanzania's endeavors. That is perhaps why countries like

Somalia decided to implement similar development programs in the 1970s.

### *The Somalia Experience*

In Somalia, the revolutionary government of 1969-1990 in 1972 introduced Somali language orthography, after a long period of confusion and disagreement between the Somali linguists on what script is most suitable to utilize for the Somali language. The main disagreement was specifically between Arabic and Latin scripts. And to consolidate the application of the newly introduced lettering, the government declared two consecutive multi-pronged campaigns, the urban and rural literacy campaigns of 1973 and 1974, respectively. The two main objectives of such literacy campaigns were to make education accessible for the Somali people and to invest on a national development program through education, dubbed Education for Development.

Accordingly, “Two accomplishments with implications for education reform were the establishment of an official script for the Somali language in 1972, and the launching of two national literacy campaigns, urban (1973) and rural (1974). Both sought to overcome the legacy of elitist colonial educational policies” (Cassanelli & Abdikadir, nd).

At the end of the literacy campaign programs, therefore, it was declared to have achieved its two intended objectives of accessibility to education and the advancement of national development. Soon after, Ethiopia launched its category of the literacy campaign in 1974, and so the concept of education for development through literacy campaigns were embraced in Africa.

## ***Conclusion***

To understand the relationship between language and education, we need to reflect the role of mother tongue language in learning. For many years, educators involved themselves to establish the importance of mother-tongue language and its role in education, as opposed to foreign language instruction. In many African countries, including Somalia, the use of foreign languages as medium of instruction continues to this day. Thus, with the knowledge of the importance of mother-tongue language in education, the question is, why are we still utilizing foreign languages in Somalia?

Somalia's problems, in my opinion, are partially rooted in the education setbacks, including the use of foreign languages in education. And historically speaking, Somalia began to use the Somali language as a medium of instruction in schools in 1975, to study elementary to high school and this continued until the destructive civil war of 1991. Hence, in this post-conflict period of our history, Somalia needs to reinvent itself and attempt to re-utilize its language in education. Practically speaking, there are many obstacles impeding the use of Somali language in education, but as history teaches us, we can overcome these impediments as we did earlier.

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*An Exploration of the Frequent Use of Social  
Networking Sites and Severity Attack among  
Undergraduate Students in Somalia*

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***ABSTRACT***

Social networking sites play an important role in our daily life. Most of the people communicate using the online social networks. Besides the advantages in their use, social networking sites have a plethora of potential attacks. The study aimed at gaining an exploration on frequently used and severity attack. Protection Motivation Model was used as a basis to develop and confirm research model and structural equation modeling technique was applied to data analysis and used cross-sectional survey data. A total of 207 usable survey questionnaires was received from students drawn from three universities in Mogadishu, Somalia. The result was drawn based on the perceived severity attack, default security and privacy settings, perceived vulnerability response efficacy and frequently use. Contributions and limitation of the study were discussed.

**KEYWORDS:** Social Networks, Online attacks, Perceived Attack, Vulnerability, Severity Attack, Protection Motivation Model.

## 1. INTRODUCTION

Today's social networking sites' interface attracted the eyes of the users. The simplified interface that social media sites makes them appealing for communication around the world especially among the youngsters. A social networking site is a part of web service for creating a virtual link between users with similar interests, backgrounds, and activities (Rathore, Kumar, Loia, Jeong, & Hyuk, 2017). People use this social media for different reasons such as creating/maintaining a relationship with friends and families, entertainment and seeking information. Social media change the way people receive news and movies instead of buying newspaper and CD's they have Facebook, Twitter, YouTube and its(Huang & Lu, 2017). Besides the purpose and advantages, there are some other risks related these social networking sites such stolen password, spam and spoofing(Hur, Terry, Karatepe, & Lee, 2017).

In addition, there are empirical studies that have examined the information privacy concerns, antecedents and privacy measure use in social networking sites (Mohamed & Ahmad, 2012), understanding online safety behaviors: A protection motivation theory perspective(Tsai et al., 2016), A prediction system of Sybil attack in social network using the deep - regression model (Al-qurishi, Alrubaian, Rahman, & Alamri, 2017), Social network security: issues, challenges, threats and solutions(Rathore et al., 2017), User's information privacy concerns and privacy protection behaviors in social media(Adhikari & Panda, 2018).

However, from a theoretical perspective, studies still highlight a need for more empirical research about how to protect privacy issues in social media. *This study endeavored to identify* the interrelationship of frequent use of social networking sites and severity attack with the perspective of protection motivation theory(Maddux & Rogers, 1983). Specifically, the

set variables were adopted, viz: perceived severity, default security, perceived vulnerability, response efficacy and frequently use. These were meant to help understand the correlation between perceived severity attacks and frequent use of social networking sites.

### **1.1 Media Censorship, Social Network and Studentship in Somalia**

Self-censorship among the mainstream media in Somalia has remained in force. This can be attributed to the role of government and al-Shabaab in enforcing sanctions in case-sensitive coverage, LANDINFO (2016). Gallup (2013) study in 2013 found that majority of Somalis (65.6%) accessed news from mainstream media once per day. It was also noted that 75% of Somalis owned a mobile phone with about 22% using them to access social media sites (Gallup, 2013). Due to the censorship of mainstream media, social media provides an avenue to access to information. Previous research on the role of social media in Somalia and Sudan has focused on how its role in conflict (Lomuria, 2014, Kadoda and Hale, 2015). Student's life without social networking site is almost impossible. The main social networking sites established in the year 2004 like Facebook, this famous social media have rapidly become both basic tools for an interface of social interaction, personal identity, and network building among students (Debatin, Lovejoy, Horn, & Hughes, 2009). Social network sites play a crucial part in our daily life and using it to keep in link with our close friends and make some new friends (McLean, Edwards, & Morris, 2017) The majority of the students use social networking sites with the different approaches such as to communicate, reading news feeds, posting information to their profiles, sharing stories, uploading pictures and videos (Hoffmann, 2012).

Dhaha and Igale (2013) found out that the youths in Somalia used social media for “virtual companionship escape, interpersonal habitual

entertainment, self-description of own country, self-expression, information seeking, and passing time gratifications “. From the Dhaha and Igale (2013) findings, it’s clear that any attack on the social media platforms might be catastrophic. This is incognizant of the fact that terrorism is a global threat and terrorist can use social media for militarization.

## ***2. Theoretical Framework and Hypotheses***

In this section, the researchers explore the theoretical framework and the hypothesis to be tested

### **2.1 Frequent Uses**

In several cases of social media, such as Facebook use, mainly multimedia data are produced and shared. According to a report from(Zephoria Inc, 2017), approximately 300 million photos are uploaded per day on Facebook. Facebook becomes one of the highest average rates of watching and sharing videos after increasing day by day. Currently, around 8 billion videos per day are watched on Facebook, which is twice the total viewed in the year 2015. According to the huge amount of data accessible on Facebook, security, and privacy severity attacks are also incrementing. Cybergangs are able to share malicious information on an SNS by hiding it within multimedia data. Furthermore, individual's crucial information such as identity, username, and location can easily gain by an attacker(Venkatachalam & Anitha, 2017)

### **2.2 Default Privacy Settings**

According to (Hoffmann, 2012) Social networking sites are set up to offer individuals with a means of communicating and cooperating with one another. To join a site, individuals sign up as a member; this method may include ensuring personal information such as an e-mail address or phone number, his or her first name and last name, and/or zip code. Since



social networking sites deliver privacy measures, users have the choices to leave as default setting or to set their privacy, but some users are unaware of this privacy issues on social networking sites will likely to fail victim or harm, individuals who have higher concerns with their information protect their privacy issues(Mohamed & Ahmad, 2012). Since social networking sites play a crucial role in individual's communication and distributing information besides these benefits, there are other troubles in this media, for example, the privacy and security problems. This indicates significant consequences for individuals such as This bring significant consequences for users such as unsuitable sharing of personal information, leakage, and exploitation of personal details using active mining(Kayes & Iamnitchi, 2015).

There are various studies which concern of the security and privacy threats caused by malicious software such as adware, worm, spyware, spam, virus and other phishing attempts outside of the user profile itself. One of the issues of social networking that hasn't been examined is the default security and privacy settings on a user's profile(Hoffmann, 2012). Individual online social networks do not take advantage of the security and privacy controls presented the majority of Facebook and Twitter has default settings(Kayes & Iamnitchi, 2015)

### **2.3 Protection Motivation Theory**

Protection Motivation Theory (PMT) suggests that users to protect himself or herself from risks arises from three major components: perceived vulnerability, perceived severity, and response efficacy(Rogers, 1975). In order to encourage the individuals the model was adjusted to include three other main components: self-efficacy, response costs and rewards associated with risky behavior (Maddux & Rogers, 1983; Rogers, 1975). The model proposes that risks and benefits are fundamental factors to describe how users manage behavior in risky

conditions (Youn, 2005). This theory major emphasizes to health related field (Grindley, Zizzi, & Nasypany, 2008; T. S. Lee, Kilbreath, Sullivan, Refshauge, & Beith, 2007; Milne, Orbell, & Sheeran, 2002; Searle, Norman, Harrad, & Vedhara, 2002). Other researchers were linked the three additional components like self-efficacy, response costs and rewards to adopt an anti-plagiarism system since the model was not tested (Y. Lee, Lee, & Liu, 2007). The majority of the theory identifies health research and information (Y. Lee et al., 2007 a).

The use of PMT in the context of social networking sites however is not apparent (Adhikari & Panda, 2018; Mohamed & Ahmad, 2012). The researchers consider that PMT can significantly explore the use of social media this research perceives of the following variables: vulnerability, response efficacy, frequent, default privacy settings and severity attack. However, the current study proposes that the perceived severity attack on social networks doesn't depend the frequent use.

## **2.4 Perceived Vulnerability**

Regarding (D. Lee, Larose, & Rifon, 2008) Perceived vulnerability is the degree to which individuals trust a threat will occur to him or her. Every new feature in social networking sites conveys many benefits, and other side vulnerabilities and possible dangers like Eavesdropping, Spoofing, Tracking, Denial of Service (DoS) and data corruption manipulation or insertion (Ed, 2013).

## **2.5 Perceived Response Efficacy**

Response efficacy is the belief in the effectiveness of the protections (Tsai et al., 2016). There are some common guidelines to keep prevented from information offenses on social networking sites. First, use long passwords that consist of letters and numbers with unique characters. Second, only let people you actually know and trust to access your profile. Third, be cautious with games and applications. Finally,

check the social networking site's security settings weekly(Hoffmann, 2012). Individuals those trust that preventive action can be taken to keep it up the consequence of losing privacy information through social media is more likely to be concerned with the information privacy(Mohamed & Ahmad, 2012)

## **2.6 Perceived Severity Attack**

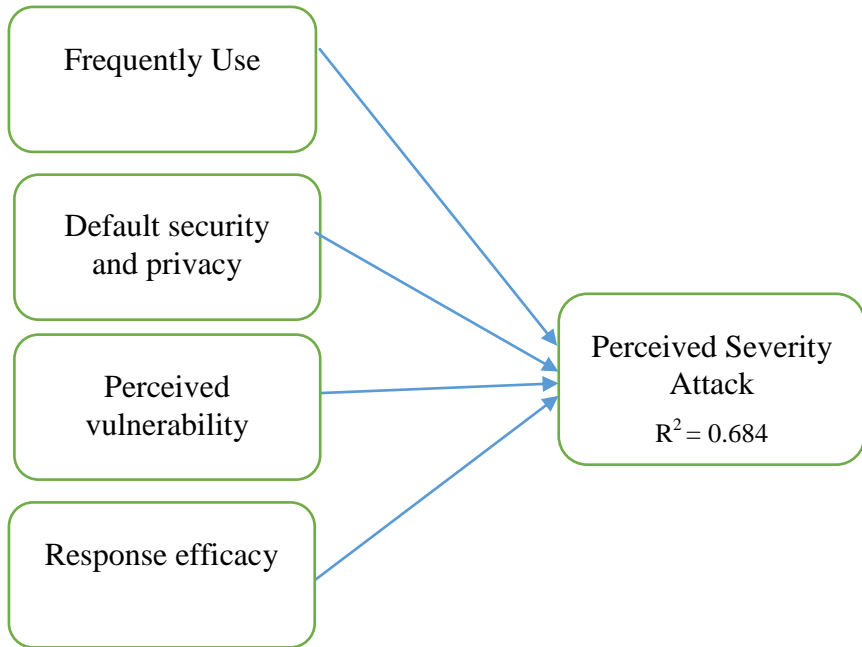
Perceived severity is described as the degree to which user observes that negative consequences caused by a malicious IT will be severe(Liang & Xue, 2010). Individuals who perceive severe consequence as a result of losing information privacy through social media are more likely concerned with information privacy (Mohamed & Ahmad, 2012). Therefore, the research proposes that individuals who perceive severe consequences have higher concerns with their information privacy on social networking sites.

Based on the above theory, the researchers proposed the following hypotheses:

- H1.** The perceived severity attack is negatively related to frequent use by SNSs users.
- H2.** Default security settings are positively related to having fallen victim to severity attack with SNSs users.
- H3.** A perceived vulnerability is positively related to severe attack with SNSs users.
- H4.** Response efficacy is negatively related to severe attack with SNSs users.

## 2.7 Research Model

*Figure 1 Research representation model*



## 3. Methods

### 3.1 Sample and Data Collection Process

The study used to investigate the frequently use and severe attack on social media. The sample consisted of 207 undergraduate students from 3 universities in Mogadishu, the capital city of Somalia. The survey was conducted for eighteen days from March 5 to 22, 2018. An online questionnaire survey was used to collect data for analysis using a combo data collect and items of the questionnaire were rated using a Likert - type scale (strongly disagree, disagree, neutral, agree and strongly agree).

### **3.2 Data Analysis Tool**

The result was analyzed using Amos IBM SPSS and Excel so the researchers tested the following set of variables: perceived severity, default security, perceived vulnerability, and response efficacy and frequently use to help understand the correlation between perceived severity attacks and frequent use of social networking sites.

## **4. Results**

### **4.1 Profile of Response**

A number of 282 survey questions were distributed. A total of 207 usable responses was received as summarized in table1, a 73% response rate. Nulty (2008) reported that show that face-to-face administration results in higher response rates. Therefore, a 73% response rate was acceptable in this study. From the responses, 83.1% were male and female made up 16.9%. The majority of the students, 79.7% were the age between 18 – 24, between 25-34 of 19.8% and 35 – 44 made up 5%. On frequently used social networking site was, Facebook recorded 96.6%, Twitter had 5% and SnapChat recorded 0.5%. According to the number of accounts, the majority of the students, 76.8% had one account, 20.8% have two accounts and the small number of 1.4% have three accounts. 90.3% of the students have more than 2 years and the other remaining have 1 year. 62.3% of the students spend their time on social media chatting with their friends and families, were 23.3% spend between 2 and 4 hours, 9.2% spend between 1 and 2 hours final 5.3% of the student spend less than 1 hour. 64.3% of the respondents spend 4 hours or more on the Facebook reading news, posting and browsing friends' profiles, 25.1% of the respondents spend between 2 and 4 hours, between 1 and 2 hours final spend less than 1 hour.

## 4.2 Profile of the Study

*Table 1 Profile of the study*

Profile	Item	Frequency	Percentage (%)
Gender	Male	172	83.1
	Female	35	16.9
Age	18-24	165	79.7
	25-34	41	19.8
	35-44	1	5
Social Networking sites	Facebook	200	96.6
	Twitter	5	2.5
	SnapChat	1	0.5
Number of Accounts	1	159	76.8
	2	43	20.8
	3	3	1.4
How long have you had a Facebook account	Less than 1 year	6	2.9
	Between 1 and 2years	14	6.8
	More than 2 years	187	90.3
About how much time do you spend on Facebook chatting with friends and families	Less than 1 year	11	5.3
	Between 1 and 2 hours	19	9.2
	Between 2 and 4 hours	48	23.2
	4 hours or more	129	62.3
About how much time do you spend on Facebook reading your news, posting and browsing friends' profiles?	Less than 1 year	11	5.3
	Between 1 and 2 hours	19	9.2
	Between 2 and 4 hours	48	23.2
	4 hours or more	129	62.3

### 4.3 Factor Loading

*Table 2 Factor Loading, SMC, CR, AVE*

Construct	Items	Factor Loadings	SMC	CR	AVE
Frequent use	FU1	.741	0.549	0.835	0.633
	FU2	.860	0.739		
	FU3	.695	0.483		
Default security and privacy	SP1	.957	0.916	0.841	0.578
	SP2	.570	0.325		
	SP3	.740	0.548		
	SP4	.724	0.524		
Perceived vulnerability (PV)	PV1	.603	0.364	0.79	0.575
	PV2	.751	0.564		
	PV3	.894	0.799		
Response efficacy (RE)	RE1	.929	0.863	0.811	0.591
	RE2	.781	0.609		
	RE3	.653	0.426		
Perceived severity attack (PSA)	PSA1	.546	0.298	0.843	0.583
	PSA2	.822	0.676		
	PSA3	.681	0.464		
	PSA4	.946	0.895		

### 4.4 Reliability and Validity

This article was applied using the structural equation modeling technique to identify correlation among construct variables. The researchers identified two types of validity which are convergent and discriminant validity regarding (Brown, 2006) defines convergent validity as internal consistency of set questions or items. It represents the

strong correlation between items that are forecasted to represent a single latent variable. Table 2 indicates the range of factor loadings between 0.546 and 0.957. According to (Byrne & van de Vijver, 2010) factor loadings must be more than 0.5. In convergent validity high average variance extracted (AVE) should be greater than 0.5 (Fornell and David F. Larcker, 1981) above the table 2 indicates the AVE between 0.575 and 0.633. The construct reliability is similar to Cronbach alpha and should be greater than 0.7 (Hair, Black, Babin, & Anderson, 2010). All composite reliability was greater than 0.7 as the above table those are not meeting the criteria was removed from the analysis, in short, the convergent validity was achieved. Discriminant validity was also achieved (Fornell and David F. Larcker, 1981) by calculating the squared average variance extracted (AVE) as the below table 3 indicates.

#### 4.5 Square-root Average Variance Extract

*Table 3 Square-root AVE*

Construct	FU	DS	PV	RE	PSA
Frequent use (FU)	<b>.796</b>				
Default Security (DS)	0.420	<b>.760</b>			
Perceived vulnerability (PV)	0.537	0.345	<b>.683</b>		
Response efficacy (RE)	0.531	0.367	0.409	<b>.769</b>	
Perceived severity attack (PSA)	0.444	0.374	0.377	0.386	<b>.764</b>

#### 4.6 Hypothesis Testing

Hypothesis 1 suggests that there is negative relationship between perceived severity attack and frequently use with SNSs users ( $\beta = .357$ ;  $p < .000$ ) this suggests that hypothesis, not supported and shows that users of social networking sites perceived severity attack with their frequent



use. The findings concur with previous studies by Adhikari and Panda (2018).

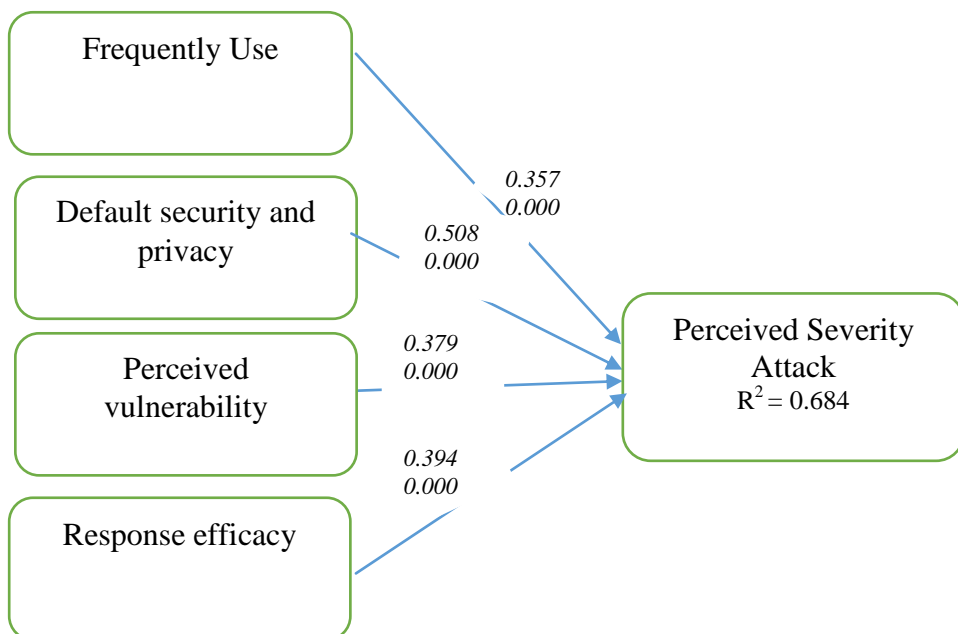
Hypothesis 2 indicates that there is the positive relationship between default security settings on social networking sites and perceived severity attack with SNSs users ( $\beta = .508$ ;  $p < .000$ ). Kayes and Iamnitichi (2015) and (Hoffmann, 2012) findings are supported by this study.

Hypothesis 3 shows that there is positive relationship between perceived vulnerability and perceived severity attack with social networking site's users regarding the beta a probability value ( $\beta = .379$ ;  $p < .000$ ). (Mohamed & Ahmad, 2012) mentioned that there was positive relationship between vulnerability and severity attack on online social media. Thus the two studies had similar findings.

Hypothesis 4 Explores response efficacy has negatively related to the perceived severity attack with social networking site's users ( $\beta = .394$ ;  $p < .000$ ). This supports (Mohamed & Ahmad, 2012) study findings.

**TABLE 4 HYPOTHESES TESTING**

<b>Hypothesis</b>	<b>Finding</b>
H1: Perceived severity is negatively related to frequent use by SNSs users	Not supported
H2: Default security is positively related to severe attack with SNSs users	Supported
H3: Perceived vulnerability is positively related to severe attack with SNSs users.	Supported
H4: Response efficacy is negatively related to severe attack with SNSs users	Supported



**FIGURE 2 RESULT MODEL**

**TABLE 5 GOODNESS-FIT INDICES**

Construct	Recommended value	Value calculated
Chi-square		304.538
Degree of freedom		130
Related Chi-square	<5	1.476
P- value	<0.05	0.001
GFI	>=0.90	0.918
CFI	>=0.90	0.870
Root- mean square error of approximation	<0.08	0.048

Figure 2 and table 4 indicates the satisfactory model fit and confirmatory of the theoretical model for frequent use of social networking sites and severity attack. Specifically, frequently use, default

security and privacy, perceived vulnerability perceived response efficacy variables significantly contribute to the dependent variable perceived severity attack. The chi-square =302.538,  $df = 130$ , related chi-square /  $df =1.48$ , probability value =0.001 and other model fit goodness of fit index (GFI) = 0.92, CFI=0.87 and RMSEA = 0.048. However, the results indicate that the model is fit for the structural equation model.

## **5. Conclusion**

The study shows that frequent use of social media doesn't depend to fail severity attack the only thing wished is to awareness security and privacy setting should change frequently. Awareness is the extremely important role in educating users on do's and don'ts in the social media. Lack of awareness of the user will cause serious damages and loss of data (Yati Yassin and Zahri Yunos, 2006). The researchers have developed the concept of frequent use of social networking sites in the Somalia context. Firstly, the major of the social networking sites users have a default of security and privacy settings (Gross, Acquisti, & Heinz, 2005), so the study indicates that most of the users do not take the advantage security and privacy control available on the social media this causes to fall severity attack. Secondly, the previous studies suggest those who believe an attack will happen to them through social networking sites will be more concerned their security and privacy settings (Mohamed & Ahmad, 2012). In context, this study the perceived vulnerability is positively related to being fallen severity attack on social networking sites. Third, the study identifies that perceived efficacy explore whether users enable their security and privacy measure in-home wireless security (Woon, Tan, & Low, 2005). In the context of this study, response efficacy is negatively related to the severity attack. Finally, the study suggests that the perceived severity attack has no effect using social networking sites frequently, so users believe to have intention and protection. According to (T. S. Lee et al., 2007) individuals should have

the intention to embrace virus protection behavior. Other research indicates to use anti-spyware software(Chenoweth, Minch, & Gattiker, 2009).

## ***6. Research Contributions***

The study makes a number of contributions to theory and practice. First, the user should avoid using the same password to various social networking accounts, no matter how the user frequent use of this social media. Second, in order to protect the severity attack on this social media, the users should not leave their security and privacy as a default, it's extremely better to change. Finally, social networking site's users have different viewpoints on existing severe attack on social media some of them lack of awareness of this attack and other their aware one of the effective way to protect these harms on social media to educate the users and provide more guidance.

## ***7. Limitations and Suggests for Future Research***

There are several limitations to this research, first, the sample size was 207, and only undergraduate students at three universities were included. The population and sample were drawn only higher education, so these findings could not be generalized to the entire institutions. Second, the study has only used the questionnaire to obtain qualitative data. Future research may consider requesting individuals to sit a computer, and take the screenshot on both security and privacy settings using snipping tool later to send as capture through email to the researchers and interviewing social networking sites may provide deeper insights into perceptions of frequent use.

### ***Acknowledgement***

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*The Effect of Non-Governmental Organizations on  
the Delivery of Primary Quality Education in  
Mogadishu, Somalia.*

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**ABSTRACT**

This study is about the effect of Non-Governmental Organizations (NGOs) on the delivery of quality primary education services in Mogadishu, Somalia in the absence of an Effective State Apparatus. The study was motivated by the negative of effects of NGOs on the primary education. The main goal of the study is to find out the effect of NGOs on the delivery of quality primary education services in Mogadishu, Somalia. The study adopted a case study design where the quantitative approach was used. 254 participants were the samples of this. Purposive and simple random sampling techniques were also used to collect data. Questionnaires and documentary reviews were used to collect data. Data were coded and analyzed using the Statistical Package for Social Science (SPSS). As regards the effect of different curricula of primary education in Mogadishu, the findings generally revealed that there is a weak relationship between the different curriculum and the delivery of quality primary education at 31.2%. As regards the effect of the absence of a regulatory agency in the primary education in Mogadishu, the findings revealed that there is a weak relationship between the regulatory agency and the delivery of quality primary education at 22.8%. As regards the effects of different NGOs ideologies on primary education in Mogadishu, the findings revealed there is a weak relationship between the different NGOs ideologies and the delivery of quality primary education at 31.8%.

**Keywords:** Non-Governmental Organizations, Primary Education, Quality, Services, Delivery, Mogadishu.

## ***Introduction***

There was a substantial surge in the numbers and the roles non-governmental organizations (NGOs) play in the last few decades around the world (Sukontamarn, 2005). In the developing countries, NGOs have greatly contributed to the delivery of social goods and services including education services, health services, and rural credit. According to Ulleberg (2009), NGOs became the major provider of public services in nations where the state is not capable of performing its traditional role.

He, furthermore, argued that the fitting example is the Ugandan case, where the education provision is essentially the responsibility of the Ministry of Education and Sports; however, its lack of competence and the weak nature of the country, in general, have opened up the education sector for NGOs' participation. NGOs deliver enormous portions of educational services and help strengthen government's attempts to realize universal primary educational goals.

Again, Tezel Mccarthy (2017) recognizes that when state help is lacking or very fragile in nature, public service delivery might have been adversely affected by conflicts and crisis. In this context, education institutions turn into nearly hopeless in the absence of functional national governments. In this situation, NGOs fulfill the traditional government function of public service delivery.

In addition, As Bennaars et al(1996) pointed out, in sub-Saharan Africa countries, NGOs involve greatly in supporting literacy programs, indigenous schools, health, and specific skill training in order to transform the living circumstances of the local people.

Cassanelli & Abdikadir (2008) pointed out, as the civil war erupted in the early 1990s, the whole educational system of the country was completely ruined. The educational infrastructures were mostly destroyed, instructional equipment and materials were stolen, and many

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teachers, school principals, and their students were displaced and forced to escape from the country by searching a refuge from the neighboring countries.

In the Somali context, Barrow (2004) acknowledges that NGOs play a critical role in the process of the educational development. He further argued that NGOs bridged the gap left by the collapse of the Somali Central Government institutions in the 1990s. Similarly, a study carried out by Williams and Cummings (2015) pointed out that “the vacuum of government service provision, NGOs, and private providers emerged to provide local services. Most utilities, for example, are provided by non-state entities”

To fill the vacuum created by the dysfunctional state institutions and the collapse of the whole, many local and international non-governmental organizations, communities, and private providers have assumed the role and responsibility for the provision of essential primary public services in general and education in particular through direct contracts with donor agencies and mobilization of local communities. These varieties of educational service providers do not observe the traditional educational standards. For instance, the regular educational ladder was violated by service providers. Discussing in this issue, Bennaars et al (1996) highlight that the all different educational umbrellas in the country were not seriously observed the scholastic standards and the primary education ladder, a thing which compromises the quality of the primary education system. In addition, there are no coordination and collaboration among the diverse providers of primary education, but instead, they complete one another to attract students.

As the Inter-Agency Network for Education in Emergencies (2010) emphasizes that a robust educational system is a key role of modern governments are it national, regional, and local levels. Besides the

provision of primary education services, the national government is mandated to formulate and carry out educational policy, produce curricula and standards, institute educational agencies, setting educational priorities, and goals, and following up the progress toward these objectives. By the same token, Waters & Leblanc (2005) assert that “Mass public education is a goal of virtually every government in the world today”. Because education is seen as a primary responsibility of contemporary nation-states. Education brings shared understanding of the nation’s citizens as well as contributing to the economic, social, and political development of the country.

However, Somalia has no longer an Effective Central Government that establishes an educational regulatory framework in the country to guide and direct different providers of primary education service sub-sector as well as other sectors. Nearly, all primary schools in Mogadishu are owned by local NGOs and private individual providers.

Although NGOs, private providers, and communities play a significant role in the provision of primary education in the country in the absence of an effective state apparatus, a number of issues have been raised by educational practitioners and other concerned players in the education sector in the country. These issues include the use of different curricula by the Educational Umbrellas in Somalia, the weakness of the regulatory system of the country, and the variety of ideologies which is not in line with the Somali community’s culture, heritage, and values all of which can adversely affect the quality of education and the outlook of the primary school leavers. In this regard, Warsame (2002) claimed that “the collapse of the education system has also meant the creation of uncoordinated educational initiatives by all zones and regions, local communities, local NGOs, and entrepreneurs “.

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Cassanelli & Abdikadir (2008) demonstrate that there is no any authority structure that "provide oversight, set national educational priorities, or ensure quality control on a national basis". This is in line with Hassan (2013) who asserts that current schools in Somalia use multiple curricula with no common unity and standards. Mostly drawn on from East African states and Arab nations. As Abdulahi (2013) believes "the curricula used by these NGOs are not based on Somali culture, some contain foreign ideologies and no attempt has been made to align them to the needs, values, and culture of the Somalia society". This argument is supported by Saggiomo (2011) who highlighted that "international NGOs, whose funding came from western governments and donors, were obliged to reflect the priorities for the education of their governments and donors".

The Heritage Institute for Policy Studies (2013) argued that poor teaching workforce and the low quality of education system of higher education in Somalia is due to the nonexistence of governing regulatory bodies in the country. The study further added that this will eventually affect the quality of learning the students receive. However, schools run and managed by the private sector and NGOs mainly lack international educational standards, a thing which has a significant impact on the quality of primary education, knowing that primary education is the foundation of the rest of the learning process.

This study assumes when the dimensions of NGOs; a unified curriculum by NGOs schools, the central standard agency, and ideologies of NGOs are effectively used or implemented, then the delivery of primary education services in Mogadishu shall be improved in terms of promoting national identity and Somali cultural heritage, increasing the quality of primary education, producing graduates with Somali cultural outlook and upholding national goals. However, this is may not always be the case due to the intervening variables, namely; the

culture of the non-state actor providers, funding objectives, the weakness of national education policy and origin of the NGOs, and profit-oriented primary education providers which keep on disturbing the above ideal relationships. It means these intervening variables have to be constantly kept under control for the above relationship to thrive. The purpose of this study is to analyze the effects of non-governmental organizations on the delivery of quality primary education services in Mogadishu-Somalia in the absence of an Effective State Apparatus. This paper was guided by four assumptions which

1. **H0:** There is no relationship between NGOs practices and the delivery of quality primary education in Mogadishu.
2. **H0:** There is no relationship between curricula used by NGOs and the delivery of quality on primary education in Mogadishu.
3. **H0:** There is no relationship between the absences of a regulatory agency and the delivery of quality on primary education in Mogadishu.
4. **H0:** There is no relationship between NGOs ideologies and the delivery of quality on primary education in Mogadishu

### ***Methods***

The study used the case study design which is an in-depth investigation of an individual, group, event, community or institution (Bromley 1990). The researcher has chosen this design to others because of its practical orientation and the fact that not all Educational Umbrellas in Mogadishu could be covered. A quantitative approach of data collection method was employed. Data was collected from the administrative staff of FPENS education Umbrella in Mogadishu, 10 primary school teachers, head teachers, and parents. Data were collected using closed-ended-questionnaire which focuses on the dimensions of the

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practices of NGOs; different curricula, the absence of a regulatory body, and ideologies of NGOs. The sample size constituted 254 respondents drawn from the study area and population. A regression model was used to test the hypothesis of the study and find out whether there is a relationship between NGOs practices and quality of primary education delivery by using Statistical Package for Social Science (SPSS). Both simple random and purposive sampling was employed.

***Results and Discussions***

The first hypothesis of the paper was that there **is no relationship between NGOs practices and the delivery of quality primary education in Mogadishu**. To verify this hypothesis, the study analyzed the data using SPSS and the following products were presented as observed below:

***Table 1 Model Summary***

Model	R	R Square	Adjusted R Square	Std. An error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.374 <sup>a</sup>	.140	.130	.51148	.140	13.589	3	250	.000
a. Predictors: (Constant), Ideology, Regulatory, Curriculum									
b. Dependent Variable: delivering primary education									

According to the above table, there is a low relationship between the absence of a regulatory agency, the different curriculum, and the NGOs ideologies and the delivery of quality primary education at 37.4%. The remainder of 62.6% may be attributed to other variables such as inadequate supervision and uncertainty of the time within the Somali community. The effect of the absence of a regulatory agency, the different curriculum and the NGOs ideologies on the delivery of quality

primary education in Mogadishu is 14% of the sample. When generalized to the population, this effect is 13%. However, the significance of the absence of a regulatory agency, the different curriculum and the NGOs ideologies on the delivery of quality primary education is very high at 100%. The above results dictate that the null hypothesis is rejected and the alternate hypothesis is accepted that is; there is a significant relationship between NGOs practices and the delivery of quality primary education in Mogadishu.

This model provides significant results for the educational planners in Somali national government and Mogadishu local authorities as it scientifically puts in place a basis for predicting a number of things. It can be used for instance to predict how much resources may be put at the disposal of establishing a regulatory body vis-à-vis other needs such as restoring educational infrastructure, personnel provision etc. To improve primary education service delivery in Mogadishu. It can also be used to predict how much involvement the NGOs and other private service providers can be allowed in the provision of the primary education services to the Mogadishu community.

Basing on this model, too, we can predict the influence of foreign ideologies of NGOs in the curriculum needs of Mogadishu. It also tells us that although the effect of the absence of a regulatory body is low both at the sample and population levels, the researcher said absence is significant meaning that it has to be given attention to as a way of establishing it and also making it effective to guide and direct the sector. This is in line with the general practice of education service provision around the world. Regulatory bodies are the guarantors of the national objectives of any education system, in terms of national identity, Somali cultural heritage, quality of primary education, producing of graduates with Somali cultural viewpoint and preserving national interests/goals.



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**The second hypotheses, there is no relationship between different curricula used by NGOs and the delivery of quality primary education in Mogadishu.**

In an attempt to verify whether there is a relationship between different curricula used by NGOs and the delivery of quality primary education in Mogadishu, the researcher analyzed data by use of SPSS and the following products were presented as observed below and the Findings are represented in the following tables and subsequent discussions.

**Table 2 Model Summary**

Model	R	R Square	Adjusted R Square	Std. An error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.312 <sup>a</sup>	.098	.094	.52192	.098	27.257	1	252	.000
a. Predictors: (Constant), Curriculum									
b. Dependent Variable: delivery of primary education									

According to the above table 2, there is a weak relationship between the different curriculum and the delivery of quality primary education at 31.2%. The other remaining of 68.8% may be attributed to other factors such as the provision of scholastic materials and infrastructure. The effect of curriculum on the delivery of quality primary education is 9.8% at the level of the sample. When generalized to the population, the effect is 9.8%. However, the significance of the curriculum on the delivery of quality primary education is very high at 100%. The results in the above table indicate that null hypothesis be rejected and the alternate hypothesis be accepted and that is; there is a weak relationship between the different curriculum and the delivery of quality primary education. Because the

value of significance is less than 0.05 the correlation is statistically significant.

**The third hypotheses of this paper is there is no relationship between the absence of a regulatory agency and the delivery of quality primary education in Mogadishu.**

In an attempt to verify whether there is the relationship between absences of a regulatory agency and the delivery of quality primary education in Mogadishu, the researcher analyzed data by use of SPSS and the following products were presented as observed below:

**Table 3 Model Summary**

Model	R	R Square	Adjusted R Square	Std. An error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.228 <sup>a</sup>	.052	.048	.53497	.052	13.794	1	252	.000
a. Predictors: (Constant), Regulatory									
b. Dependent Variable: delivery of primary education									

As witnessed in the table above, there is a weak relationship between the regulatory agency and the delivery of quality primary education at 22.8%. The remainder of 77.2.8% may be explained by other factors such as inadequate enforcement of NGOs internal regulations to ensure the quality of primary education and flexibility of their regulations concerning quality education. The effect of a regulatory agency on the delivery of quality primary education is 5.2% on the sample. When generalized to the population, this effect is 4.8%. However, the significance of a regulatory agency on the delivery of quality primary education is very at 100%. The results in the above table indicate that null hypothesis be rejected and the alternate hypothesis be accepted and

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that is; there is a weak relationship between a regulatory agency and the delivery of quality primary education.

This model provides significant results for the educational planners in the Mogadishu local authorities as it scientifically puts in place a basis for predicting a number of things. It can be used for instance to predict how much resources may be put at the disposal of establishing a regulatory body vis-à-vis other needs such as infrastructure personnel provision etc. To improve primary education service delivery in Mogadishu. It can also be used to predict how much involvement the NGOs can be allowed in the provision of the primary education services to the Mogadishu community.

Basing on this model it tells us that although the effect of the absence of a regulatory body/agency is low both at the sample and population levels, the said absence is significant meaning that it has to be given attention to as a way of establishing it and also making it effective. This is in line with the general practice of education service provision around the world. Regulatory bodies are the guarantors of the national objectives of any education system, in terms of national identity & Somali cultural heritage, quality of primary education, producing of graduates with Somali cultural outlook and upholding national interests/goals.

**The last hypothesis of the study is there is no relationship between NGOs ideologies and the delivery of quality primary education in Mogadishu.**

In an attempt to verify whether there is a relationship between NGOs ideologies and the delivery of quality primary education in Mogadishu, the researcher analyzed data by use of SPSS and the following products were presented as observed below:

*Table 4 Model Summary*

Model	R	R Square	Adjusted R Square	Std. An error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.318 <sup>a</sup>	.101	.098	.52088	.101	28.375	1	252	.000
a. Predictors: (Constant), Ideology									
b. Dependent Variable: delivery of primary education									

As witnessed in the table above, there is a weak relationship between the different NGOs ideologies and the delivery of quality primary education at 31.8%. The remainder of 68.2% may be because of other variables such as insufficient sensitivity of NGOs managers to the local Somali ideology and lack of willingness to correct the educational vision to suit Somali needs. The effect of the different NGOs ideologies on the delivery of quality primary education is 10.1% on the sample. When generalized to the population, this effect is 9.8%. However; the significance of the different NGOs ideologies and the delivery of quality primary education are very high at 100%. The results in the above table indicate that null hypothesis be rejected and the alternate hypothesis be accepted and that is; there is a weak relationship between the different NGOs ideologies and the delivery of quality primary education.

Based on the above model we can predict the influence of foreign ideologies of NGOs in the delivery of quality primary education. It also tells us that although the effect of ideologies of NGOs is low both at the sample and population levels, the researcher said ideologies of NGOs is the significant meaning that it has to be given attention to as a way of attempting to align such ideologies to the Somali cultural values. It can also be used to predict how much involvement the NGOs can be allowed

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in the provision of the primary education services to the Mogadishu community.

***Recommendations***

Based on the results and discussions, the study recommends: The Somali national government should urgently establish functional and effective oversight agencies in the primary education sub-sector as well as the other educational institutions to act as the guiding framework for all external as well as internal players in primary education in Mogadishu. The Central government should forge a curriculum which reflects the current and future needs and aspiration of the Somali society. Mogadishu local authorities should take the lead in the supervision and guidance of the primary education sub-sector under its purview

The Central Government should cautiously work together with existing educational associations and umbrellas. Umbrellas should themselves comply with the government's educational guidelines and policies when implementing educational programs in the country. The Somali Federal Government should establish an educational commission to execute, and review the quality, standards, and develop policies that meet the intentional, national and local objectives of the primary schools.

The Mogadishu local authorities should establish a regulatory body to oversee educational umbrellas' provision of the primary education services to the Mogadishu community in order to ensure that their modus operandi is reflecting the interests and values of all Somali people and not impose foreign ideologies on the Somali society.

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***An Experimental Study on: Recycling of Demolished  
Concrete in Mogadishu City***

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***Abstract***

In Somalia, appropriate in imitation of the booming on real zeminary business, many mean upward push constructions are demolished for substitute by incredibly high rise building, also due in conformity with the corrosion over embodied structures, deep old structures are essential in accordance with shatter and substitute by using new buildings. The demand for virgin aggregate for construction can be reduced by recycling of demolished concrete as course in new construction work. Therefore, this study was carried out to check the possibility of using demolished concrete as coarse aggregate for new constructions. Concrete blocks from 10 building sites were collected and crushed into coarse aggregate which is defined as recycled aggregate. The recycled aggregates were investigated for unit weight, absorption capacity, and compressive strength. The results were compared with virgin aggregate. The wear value (abrasion value) of recycled aggregates is higher than the normal aggregates due to the presences of adhering mortar portion with the recycled aggregates. The absorption of recycled aggregates is also higher compared to the normal aggregates. For the same W/C, the strength and Young's modulus of recycled aggregate concrete are lower than the same (particularly W/C= 0.55). The

workability of recycled aggregate concrete is lower than the corresponding normal aggregate concrete. If the W/C is reduced compared to the normal aggregate concrete, recycled aggregate concrete gives higher strength compared to the same of normal aggregate concrete made with a higher W/C.

**Keywords:** Recycling, Concrete, Recycled Aggregates, Demolished Concrete, Compressive Strength

## **1. Introduction**

Concrete demolition waste has now become a source of aggregates for new concrete production (Lokuge et al, 2013). It is estimated that around 180 million tons per year or 480 kg/person/year of Construction and Demolition (Yaqub et al., 2006). Recycled aggregates could come from demolished buildings, airport runways, bridge supports, and even Concrete roadbeds (Nikola et al., 2015).

This research mainly emphasizes the determination of the optimum strength of concrete in fresh and hardened states using varying aggregate sizes. Therefore, this research is focused on the effectiveness of using treated or recycled aggregates as a replacement for common aggregates to produce a concrete structure as there is a lack of research done in regards to the properties of treated recycled aggregates

### ***Objectives:***

#### **The main objectives of this study are:**

- To investigate the properties of recycled fine (specific gravity and absorption capacity) and coarse aggregate (specific gravity, unit weight, wear, and absorption).
- To compare the properties of recycled fine aggregate with virgin fine aggregate
- To investigate the properties (compressive strength) both in recycled and virgin.

## **2. Literature Review**

### **Recycled Aggregates**

Rapid industrial development causes serious problems all over the world such as the depletion of natural aggregates and creates an enormous amount of waste material from construction and demolition

activities (Shahidan S, et al., 2011). One way to reduce this problem is to utilize recycled concrete aggregates in the production of concrete.

The use of RCA for the production of concrete involves breaking, removing, and crushing existing Concrete into a material with specified size and quality (Shahidan S, et al., 2016). Recycling concrete is important because it helps to promote sustainable development by protecting natural resources and reducing the disposal of demolition waste from old concrete. Recycled aggregates normally have higher water absorption and lower specific gravity (. The density of recycled aggregates used is lower than the density of normal aggregates. The porosity of recycled aggregates is also much higher than those of natural aggregates (Dundee). After some Mechanical processes, it can be used as aggregates in concrete mixing. The demolished concrete structures are crushed and sieved according to its required size (Khatib, 2005). Table 1 shows the physical properties of recycled aggregate and Fig. 1. Shows the recycled aggregates.



**Fig 2.1. Recycle Aggregate**

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Recycled aggregates typically are of poor quality compared with natural aggregates due to lower stiffness caused by crushing of waste concrete and higher water absorption capacity given by old cement paste attached to the surface of recycled aggregates (Keun-Hyeok Yank et al, 2008). The wear (abrasion value) is high for recycled aggregate compared to the virgin aggregate due to the adhered mortar with the recycled aggregate (Zega, C.J et al.,2010). The specific gravity of recycled aggregate is lower than the natural/virgin aggregate (Alan, D.B, 1977). Unit weight of recycled aggregate is lower because of their lower specific gravity (Zega, C.J et al., 2010). The absorption capacity is high for recycled aggregate compared to the virgin aggregate due to the presence of adhering mortar with aggregate (Alan, D.B, 1977).

A brief review of literature related to the properties of recycled aggregate and recycling of demolished concrete was made. Most of the reviewed investigations were carried out on the recycled aggregate originally made with stone aggregates.

The research results are summarized in the following subsections.

### **Definition of Recycled Aggregate**

The multiple uses of a product represent another way to conserve natural resources and avoid waste. This process is usually termed as recycling. Recycled concrete contains some previously hardened concrete in the form of aggregates particularly coarse aggregate.

At the present, the amount of global demolished concrete is estimated at 2~3 billion tons per year (Torrington, et al. 2002). The amount of global requirement, of course aggregate for making concrete is estimated at 9.3 billion tons as per the year 2000 (Mehta, 2002). Therefore. Through complete recycling, a total of 30% of course aggregate can be saved which is a huge saving of natural resource. In the next ten years, the amount of demolished concrete is estimated to be 3 to 5 times of the

present amount which can be estimated at 7.5 to 12.5 billion tons (Torrington, et al. 2002). Sixty to seventy percent of demolished concrete is used as a sub-base aggregate for road construction (Yanagibashi, et al, 2002)

### **Recycling of Demolished Concrete in Somalia**

The volume of the demolished concrete is increasing rapidly in Somalia. The main causes of the increasing volume of demolished concrete in Somalia are as follows:

- ✓ Aging of structures
- ✓ Early deterioration
- ✓ Replacement of low-rise building by relatively high-rise buildings
- ✓ Demolition of illegal construction

### **Workability of Recycled Aggregate Concrete**

Different results have been found in terms of workability of recycled aggregate concrete. Some works found that the use of crushed concrete as aggregate imposed no problems with respect to workability (Alan, 1977). Some found when recycled aggregate was used as their coarse fraction and natural sand as the fines in a concrete mix than an increase in free water of 8% was needed to achieve the same workability as that of natural aggregate concrete (Ravindrarajah, R. 1985). It has been also reported that workability is increased considerably when recycled aggregate was used (Yamato et al., 1988). Another showed that the use of recycled aggregate as a partial replacement of natural aggregate leads to slightly increased considerably when recycled.

Some studies suggested that recycled aggregates should be pre-wetted or saturated with water to prevent a rapid decrease in concrete workability (Hansen TC, 1985). A study demonstrated that the initial slump of a concrete mixture depends on the initial free water content

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while the slump loss of the mixture with time depends on the initial moisture state of the aggregates. It has also reported that for using recycled aggregate in saturated surface-dried (SSD) state, the high water content inside the aggregate particles may result in the bleeding during casting (Poon CS, et al., 2004).

### **Compressive Strength of Recycled Aggregate Concrete**

The compressive strength of recycled aggregate concrete is equal to or higher than that of conventional concrete if the same or a lower W/C ratio is used (Hansen TC, 1985). It has also been reported that no significant strength reduction has appeared in concrete with less than 30% of aggregate replaced by recycling coarse aggregate (Khatib, J.M, 2005). The compressive strength of concrete using recycled coarse aggregate with lower absorption is similar to that of the control specimens (Keun-. Et al. 2008).

### **Durability**

The durability of recycled aggregate concrete is the same as the normal aggregate concrete against carbonation, freeze-thaw resistance, and sulfate resistance (W. K. Fung, 2005)

### **Why is Recycling Necessary?**

Concrete consumption in the world is estimated at two tons per capita per year (equivalent to 12 billion tons) (Mehta, 2002). To make this huge volume of concrete, 1.5 billion tons of cement, 9.3 billion tons of aggregate, 1.2 billion tons of water are necessary. Also, about 1.5 billion tons of steel are necessary. Generally, aggregates are collected by cutting mountains or breaking river gravels or boulders, or by breaking clay bricks. A significant amount of natural resource can be saved if the demolished concrete is recycled for new constructions. At present, the amount of global demolished concrete is estimated at 2~3 billion tons

(Torrington, 2002). Sixty to seventy percent of demolished concrete is used as sub-base aggregates for road construction (Yanagibashi et al., 2002). By recycling of demolished concrete, 30% of normal aggregates can be saved. It is also estimated that in the next ten years, the amount of demolished concrete will be increased to 7.5~12.5 billion tons (Torrington, 2002).

### ***Recycled Coarse Aggregate***

#### **Properties of Recycled Coarse Aggregate**

- The specific gravity of recycled coarse aggregate will be 5% to 10% lower than that of the virgin aggregates in old concrete. This is due to the existence of a large amount of old mortar and cement paste adhering to RC. Typical values of RCA range between 2 and 2.5 in the SSD condition.
- The water absorption of recycled coarse aggregates (RCA) is much higher than that of the virgin aggregates in old concrete due to the attachment of mortar in RCA. Absorption values typically range from 6% to 20% of coarse aggregates
- The internal friction between the recycled aggregate is also higher due to the higher surface roughness of the recycled aggregate

#### **Properties of Concrete Made with Recycled Coarse Aggregate**

When a crushed concrete aggregate used as the coarse fraction, then the concrete mixes becomes slightly harsher and less workable than the normal aggregate mixes (M. Mulheron, 1988). ]. The uses of recycled aggregate as coarse fraction slightly increase in the slump and compaction factor and high degree of bleeding. A study demonstrates that the initial slump of a concrete mixture depends on the initial moisture state of the aggregate. For use recycled aggregate in saturated-



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dried (SSD) state, the high water control inside the aggregate particles may result in bleeding during casting.

The compressive strength of recycled aggregate concrete is equal or higher than of normal aggregate concrete if the same or a lower W/C ratio is used, it has been reported that no significant strength reduction has appeared in concrete with less than 30% of aggregate replaced by recycled coarse aggregate. Many studies show that 4% to 40% drop in the compressive strength of recycled coarse aggregate (T. Ikea, S, et al.1988).

**Advantages of Using Recycled Coarse Aggregate:**

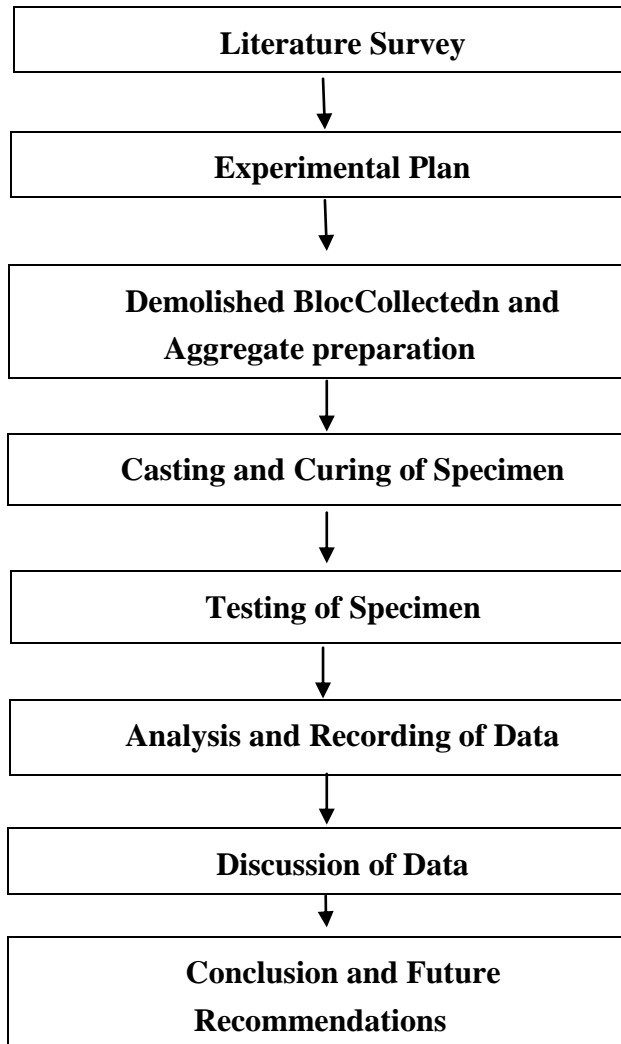
- ✓ Save energy when recycling is done on site.
- ✓ To save natural resources.
- ✓ RCA that originated as concrete with rounded aggregate yields a new product with particles having fractured angular shapes for increased paste bond.
- ✓ RCA, when used in the base and sub-base material, performs better than the virgin aggregate.
- ✓ Using RCA in the Detroit metropolitan region is more advantageous than in rural areas since sources of old concrete are readily available and virgin aggregate sources are not as plentiful.
- ✓ Substitution of virgin aggregate by RCA can provide a reduction in the final cost of the project.
- ✓ Saving the cost of disposal of demolished concrete.
- ✓ Create additional business opportunities.

**3. Research Methodology**

In an attempt to study the strength of recycled concrete, a thorough survey of the available literature was carried out. In this chapter, the

whole experimental method of recycling of coarse aggregate has been summarized. It includes the way of a collection of aggregate, preparation of aggregate and other materials, investigation of aggregate, and mix design of investigating cases.

The flow diagram of the methodology is shown in the following section:



*Fig. 3.1 Structure of research methods*

*in Mogadishu City*

### **Investigation of Recycled Aggregates Collected from Different Sites**

In this section, experimental work conducted in this research was explained the demolished concrete block was collected from demolished building as Shown in **Fig.3.2**



***Fig. 3.2 Building under Demolition***

Demolished concrete blocks from different demolished building sites were collected. The collected blocks manually crushed into coarse aggregate (recycled aggregate). The grading of the aggregates was controlled as per ASTM C 33-93. The properties of the recycled aggregates, such as unit weight, specific gravity, absorption capacity, etc., were evaluated

## *Material Properties*

### **Recycled Aggregates**

Demolished concrete blocks were collected from the structural members of the demolished buildings. The collected concrete samples were broken into pieces manually in three particular sizes as 25 mm to 20 mm, 20 mm to 10 mm, and 10 mm to 5 mm. After breaking into pieces, the aggregates were sieved to control standard grading. The aggregates were also tested for absorption capacity, specific gravity, and unit weight. The specific gravity and absorption capacity are determined as per ASTM C128, unit weight as per ASTM C29.

Saturated surface dried recycled coarse aggregate was used for concrete casting. The property of recycled coarse aggregate is shown in **Table 3.1**

**Table:3.1 Recycled Coarse Aggregate Material Properties**

<b>Test Name</b>	<b>Value</b>
Unit Weight (kg/m <sup>3</sup> )	1094.74
Specific Gravity	2.019
Absorption Capacity (%)	18
Wear (%)	47

### **Sand**

The sand used for making concrete was washed properly and then dried. SSD condition of sand was made one day before mixing concrete. The FM of sand used in this investigation was controlled at 2.6. Saturated surface dry sand was used in mixing concrete.

**Mixing with Water**

Normal tap water was used as mixing water. The temperature of the mixing water was about 25±5°C

**Cement**

Ordinary Portland cement (OPC) was used.

**Mixture Proportion of Concrete – Weight Basis**

The unit contents of ingredients of concrete, such as water, cement, coarse aggregate and fine aggregate can find out to solve equation (2.1)

$$\frac{A}{G_{AY_w}} + \frac{S}{G_{SY_w}} + \frac{C}{G_w\gamma_w} + \frac{Air(\%)}{100} = 1 \quad \dots\dots\dots (3.1)$$

For solving the above equation, the following relationships are used:

- (1) Sand to total aggregate volume ratio

$$(2) \frac{\frac{S}{G_{SY_S}}}{\frac{A}{G_{AY_A}} + \frac{S}{G_{SY_S}}} = 0.44 \quad \dots\dots\dots (3.2)$$

Here, sand to total aggregate volume ratio is assumed to be 0.44.

- (3) Water to cement ratio

$$W/C = 0.55 \text{ and } 0.45$$

- (4) The unit content of cement

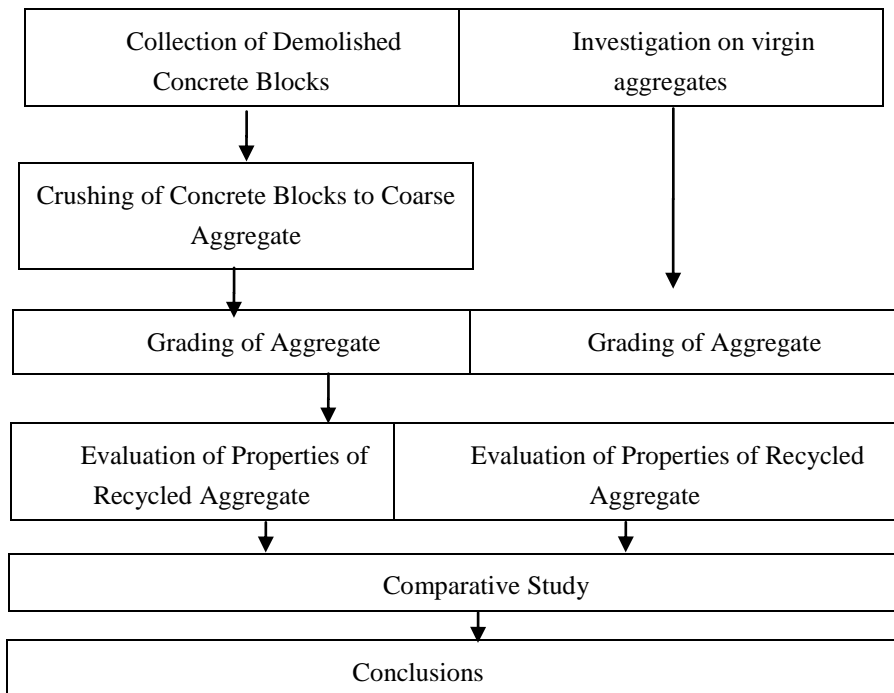
$$C = 340 \text{ kg/m}^3$$

Mix design of the concrete in different cases in weight basis is shown in the **Table: 3.2.**

**Table: 3.2 Details of concrete mixes for 1 m<sup>3</sup> concrete**

Mix	Mix ID	W/C	Cement (Kg/m <sup>3</sup> )	FA (Kg/m <sup>3</sup> )	CA (Kg/m <sup>3</sup> )	Water (Kg/m <sup>3</sup> )	Admixture (L)
M1	100% SAND	0.55	340	781.721	772.59	187	
M2	50% SAND 50% RFA	0.55	340	691.523	772.59	187	
M3	100% RFA	0.55	340	607.04	772.59	187	
M4	100% SAND	0.45	340	820.617	811.034	153	
M5	50% SAND 50% RFA	0.45	340	725.93	811.034	153	
M6	100% RFA	0.45	340	637.24	811.03	153	

The flow of investigation is shown in **Fig.3.3** the total investigation was divided into two parallel groups as follows:

**Fig. 3.3 Flow of Investigation**

#### 4. Results and Discussion

In this chapter, the experimental results related to the properties of fresh concrete and harden concrete made with 100% recycled coarse aggregate, recycled fine aggregate, and sand etc, are summarized and compared. Cube concrete samples were made with W/C ratio 0.45 and 0.55 and investigated for compressive strength at 7, 14 and 28 days

##### *Properties of Concrete Made with*

##### **Absorption Capacity**

Absorption test of the recycling coarse aggregates was done according to the ASTM standard requirements of specification C127. Results of absorption capacity of Coarse are summarized in table-4.1.

**Table 4.1: Absorption Capacity of Coarse Aggregates**

Absorption Capacity	19.58%
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##### **Abrasion Value**

Abrasion test of the coarse aggregates was done according to the ASTM standard requirements of specification C127. Results of the Abrasion capacity of coarse aggregate are summarized in the table shown below-

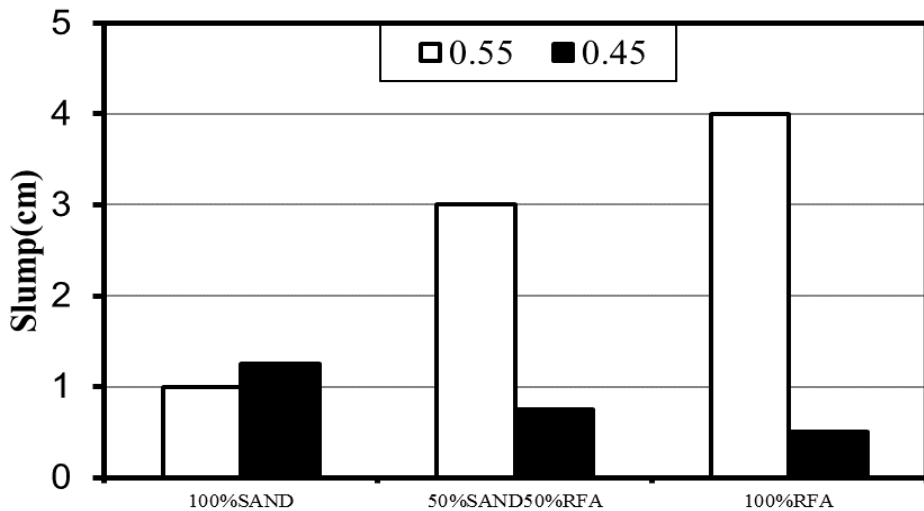
**Table 4.2: Abrasion Value of Coarse Aggregates**

Abrasion Value	26.17%
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## Workability

### Slump

The slump values are plotted in **Fig. 4.1** for concrete containing 0%, 50%, and 100% recycled fine aggregate. The Slump varies from 1 to 4 cm for  $W/C=0.55$  and 0.5 to 1.25 cm for  $W/C=0.45$ . The slump was higher 100% RCA 100% RFA in concrete at  $W/C=0.55$ . The slump at  $W/C=0.55$  is higher than  $W/C=0.45$



**Fig.4.1 Effect of Recycled Aggregate on Slump of Concrete**

The workability of concrete (measured by slump) is known in recycled aggregate concrete made with  $W/C=0.55$ . More than 5cm slump is obtained for recycled aggregate concrete with  $W/C=0.55$ , but in some cases, a very low slump is also observed. The average slump of recycled aggregate It is found that for  $W/C=0.55$ , there is no big difference in the slump for recycled concrete and virgin aggregate concrete.



## Compressive Strength of Concrete

The compressive strength of concrete is shown in fig-4.2 and 4.3. The average strength of the recycled aggregate concrete is 2800 psi for  $w/c=0.55$ . Recycled aggregate concrete at 7, 14, and 28 days are shown in Figures 4.1 and 4.2. For the same  $w/cm$ , the strength of recycled aggregate concrete is about 10~20% lower than that of normal aggregate concrete. If the  $w/cm$  is reduced to 0.45, the strength of the concrete becomes similar to or higher than that of normal aggregate concrete made with  $w/cm = 0.55$ . It is easily understood that a concrete strength of 3000 – 4000 psi can be obtained by using recycled aggregate concrete. The cement content of all concrete was set at 340 kg/m<sup>3</sup>. The strength of recycled aggregate concrete with higher cement content was also investigated.

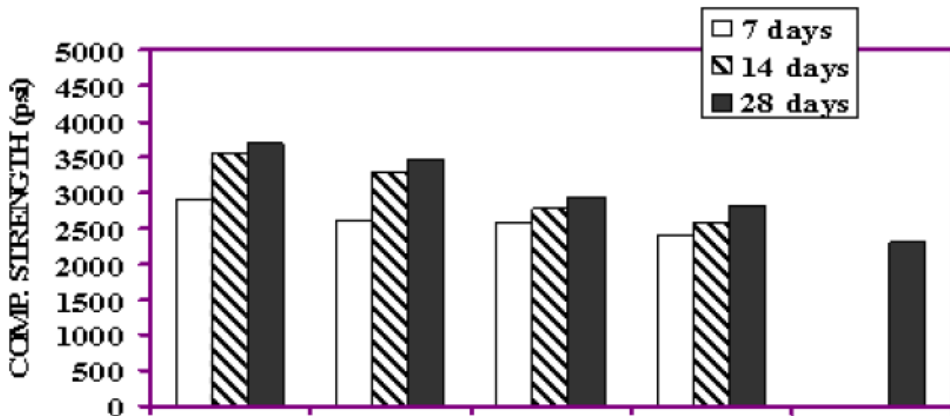


Figure 4.2: Compressive strength of concrete ( $w/cm = 0.45$ ).

## 5. *Conclusions and Recommendations*

The researcher concludes the following key points of recycling of demolished concrete: Conclusions: Recycling of demolished concrete as coarse Aggregate from the scope of this investigation and experimental results summarized. The following conclusions are drawn:

- Compared to the normal aggregate, the recycled aggregates show better performance with respect to abrasion and absorption capacity.
- The workability of recycled aggregate concrete is lower than the workability of the normal aggregate concrete, but it can be improved by an application of coating over the recycled aggregate before using as coarse aggregate. For same W/ C, the recycled aggregates give lower strength compared to the same with normal aggregates. If W/C is reduced (from 0.55 to 0.45), the strength of concrete is increased to the level of normal aggregate concrete at a higher W/C.
- The average compressive strength of recycled aggregate concrete is found at 25.5 Mpa (3700 psi) and 20.70 Mpa (3000 psi) for W/C =0.45 and 0.55 respectively
- Recycling of demolished concrete is possible for concrete in the strength range 3,000-4,000 psi
- Specific gravity is lower and absorption capacity is higher of recycled fine aggregate than the natural fine aggregate

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*An Exploration of the Factors Influencing  
Migration of Health Care Workers among  
Mogadishu Hospitals*

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***Abstract***

Emigration is an attitudinal shift of people over distances and in larger groups for better employment and better living environment. The movement of people from one place to another has formed today's political, social and economic domain and continues to be a major influence in a society. The aim of the study was to determine the risk factors for emigration among healthcare workers in Mogadishu, Somalia. A structured self-administered questionnaire was used to collect the data in a sample of one hundred respondents.

The research findings highlighted that highest number of the participants in this study were young females and the majority of them were nurses by profession and most of them have considered leaving the country to work elsewhere in the world. They argued that socioeconomic, political, technical and professional issues were the main drivers of their migration.

To curb the emigration of health care workers, this study proposes the following: paying realistic wages to the health care workers; facilitating

opportunities for their development; supporting schemes to enable them acquire basic social amenities, as well as the government, should recognize that a good health sector is an essential aspect for economic growth and subsequently a justifiable national development goal.

**Keywords:** *Risk factor, Emigration, Somalia, Mogadishu, Hospital, Health Care Worker.*

## ***Introduction***

Migration is an umbrella term under which both “immigrate” and “emigrate” fall. First, immigration is to enter a foreign country, leaving a past home for the purpose of finding a place to establish residence and to take up employment, either temporarily or permanently; second, emigration is to leave one’s home country for the purpose of looking for another to live in (National Geographic Society, 2005). Emigration can be understood from many perspectives. Emigration of healthcare staffs is the voluntary leaving of workers from one location to another in search of different working conditions (Martineau, Decker, and Bundred, 2004). Lowell and Findlay (2001) also defined it as the permanent leaving of skilled human capital from one country to the other in search of better incomes of one's knowledge, skills, and qualifications.

The World Bank (2000) described the migration from developing to developed countries as one of the main factors influencing the view of the 21<sup>st</sup> century due to the looseness of the best and brightest professionals as migration provides the only means to escape poverty or other forms of hardships at home. Despite the international movement of skilled professionals is still relatively small, its social and economic consequence exceeds its numerical significance. Therefore, human resources are important for the economic development of any country and past experiences have shown that a country has to retain the highest number of skilled staff if development is to succeed. Wadda (2000) addressed that human capital makes the most important asset and resource in determining a sustainable economic development in all its areas. Furthermore, in developmental aspects, there is an understanding

that sustainable economic development cannot happen without good human capital.

In 2006, the World Health Organization reported that approximately more than 4.3 million healthcare workers are migrating from their home countries; therefore there was a scarcity of health personnel facing the entire world. Low-income countries were particularly affected by these shortages; 57 countries were in a serious shortage and 36 of those were sub-Saharan African countries. The movement of people from one place to another has formed today's political, social and economic domain and continues to be a major influence on a society (OECD, 2010). Chikanda (2004) noted that there are two reasons why this condition is not good for most developing countries. Firstly, those who move to the other places are the main resources that a country has because the human is the scarcest resources in these developing countries. Secondly, the education of these persons has been taking a prolonged time, high costly and greatly subsidized by the country they were living in before they emigrate. Edokat (2000) argued that such movement to foreign countries is high-priced to developing countries as they deliver postsecondary education by paying high funded rates. Furthermore, the migration of skilled labor to developed countries is also causing skilled labor shortages in developing countries.

Like most other developing countries, Somalia is facing a human resource crisis in the health sector; many of its health professionals, such as doctors and nurses, are migrating to developed countries to seek a better standard of living and quality of life (OECD, 2010). The emigration of health care personnel is an ongoing phenomenon that has an effect on the quality and quantity of the healthcare workforce while supporting the domestic economy through remittances. However, no



study has attempted to establish the extent of health care worker migration from the country. Given this, it is necessary to develop a study that attempts to focus on the key risk factors for emigration among health care workers to develop brain drain-responsive policies to prevent them to migrate.

### ***Theoretical Framework***

African governments are concerned about the mass departure of skilled workers in various occupations to other regions of the developed world (Campbell, 2000). The current study is hinged on Lee's Theory and the Relative Deprivation Theory.

#### ***Lee's Theory of Migration.***

According to Mariam and Sheth (2011), this theory identifies two factors determining migration, i.e. Push and pull factors. Push factors are conditions that can drive people to leave their domicile; they are forceful and relate to the country from which a person migrates. A few examples of push factors are unemployment or underemployment in the home state; fewer opportunities locally; "primitive" living conditions; desertification; famine or drought; persecution - political or religious; poor medical care; loss of wealth; and natural disasters. Pull factors are exactly the opposite of push factors; they are factors that attract people to a certain location. Examples of these pull factors are job opportunities; better-living conditions; freedom - political and religious; enjoyment; education; better medical care; and security. To migrate, people need to perceive the destination place to be attractive that they feel pulled towards it.

### ***Relative Deprivation Theory.***

According to Jennissen (2007), relative deprivation theory states that awareness of the income difference between neighbors or other households in the migrant-sending community is an important factor in migration. The propensity to migrate is higher in areas that have a high level of economic inequality. There are two phases of migration for a worker: during the first, they invest in human capital formation, and then next, they try to capitalize on their investments. In this way, successful migrants may use their new capital to provide for better schooling for their children and better homes for their families. The relative deprivation theory of migration can determine the sphere of influence of Diasporas by identifying that the local healthcare workers see Diasporas who may be in the same profession earn a better income, better jobs, better privilege and better prestige. Therefore, the inequitable distribution of health care workers' vacancies contributes to the malfunction and a shortage of health services by increasing the magnitude of migration of skilled health care workers from the country.

### ***Methods***

#### **Study Design and Study Population.**

A descriptive cross-sectional study was conducted in Mogadishu, Somali, from December 2016 to April 2017. A sample of participants was selected from the target population and the questionnaire administered was obtained from them at that particular time (Kothari, 2008).

Mogadishu has about twenty-five (25) hospitals and the population data suffers from a lack of any recent census on staffing numbers in those

hospitals, and existing estimates are inconsistent, but according to investigations, for my reference from expert information on the likely staffing figures in the hospitals; it estimated that a twenty (20) health care workers are working in each hospital.

### **Sampling Procedure and Sample Size.**

It is not easy to obtain a sampling frame because the target population is distributed over a large geographical area. The selection of the study unit was a cluster sampling method as the study target to the group of the population. The sampling units were included all the main hospitals in Mogadishu. At first, five (5) hospitals were selected for the study using a simple random sampling. Then, the convenience sampling of participants from each hospital was included in this study. A total of a one hundred (100) healthcare workers were selected for the present study.

### **Data Collection Method and Data Collection Instrument.**

The study used a quantitative method to achieve the study objectives. The quantitative research method is a formal, objective and systematic process in which numerical data is used to obtain information about the world, usually under conditions of considerable control (Burns and Grove 2007). It is used when data analysis relies heavily on statistical analysis tools (Stommel and Wills 2004). The data was collected by a structured self-administered questionnaire.

### **Data Analysis.**

The collected data was analyzed using SPSS 16 computer software package appropriately; the percentage was used as a statistical test. Data cleaning was performed to check for accuracy, consistencies, missed values and variables. Any error was identified and corrected. The

regression model was applied to determine relationships between the variables.

### **Limitations of the Study.**

Sampling selection, for instance, was affected by lack of data on human resources or employee in the selected hospitals. Hence the research had relied on expert information from key personnel on the likely staffing figures in the hospitals that were investigated. This compromises the quality of the sample as it opens the process to human error.

Data were collected using a self-administered questionnaire. One limitation of this technique is that participants may overestimate or underestimate their responses. The best explanation was given to the respondents to secure that they have understood the questions.

Since a descriptive cross-sectional study design was used, which expresses the occurrence of a certain character in the sampled population at one point in time; longitudinal studies would provide the best assessment. For a limited time, longitudinal study was not feasible.

Therefore, it can be observed that a number of limitations were experienced during the study. Whilst it has been admitted that some of these problems were affecting the quality of data, due care was taken to minimize their impact on the final results.

### **Ethical Considerations.**

The benefit of the study was explained to all of the participants. Then a written consent was obtained from them before recruitment. Participation of the respondents in the study was completely voluntary as they were not being convinced to participate through an offer of material

items or money. The opinions and other private information of respondents were protected. The anonymity of the respondents was ensured and the researcher's management of private information shared by the respondents was confidential.

## **Results**

### ***Overview of the Study Participants***

One hundred questionnaires were distributed to health care personnel working in five hospitals. Only 93 complete questionnaires were obtained and were used in the data analysis. In Table 1, fifty-eight of the participants were aged between 20 and 32 years representing (62.4%), formed the majority, and most of them (67.7%) were females. Furthermore, (47.3%) were singles, According to their occupation, nurses encompass the largest group revealed in the study almost (60.2%) of the respondents. In terms of educational level, the participants showed high levels of education with about (62.4%) having attained a minimum academic qualification of a bachelor's degree. The study also discovered that most of the respondents (81.7%) have considered leaving the country to work elsewhere in the world. The most likely destination of the respondents was the United Kingdom (27.6%).

**Table 1: Overview of the Study Participants**

<i>Age Group</i>	<b>Frequency</b>	<b>Percent</b>
20 – 32 years	58	62.4
33 – 45 years	26	28.0
>45 years	9	9.7
<b>Total</b>	93	100.0

<i>Gender</i>	<b>Frequency</b>	<b>Percent</b>
Female	63	67.7
Male	30	32.3
<b>Total</b>	93	100.0
<i>Marital Status</i>	<b>Frequency</b>	<b>Percent</b>
Single	44	47.3
Married	31	33.3
Divorced	12	12.9
Widowed	6	6.5
<b>Total</b>	93	100.0
<i>Occupation</i>	<b>Frequency</b>	<b>Percent</b>
Nurse	56	60.2
Doctor	15	16.1
Midwife	8	8.6
Pharmacist	4	4.3
Lab Technician	10	10.8
<b>Total</b>	93	100.0
<i>Academic Level</i>	<b>Frequency</b>	<b>Percent</b>
Undergraduate Diploma	18	19.4
Bachelor Degree	58	62.4
Master Degree	14	15.1
Doctorate	3	3.2
<b>Total</b>	93	100.0

<i>Migration Intention</i>	<b>Frequency</b>	<b>Percent</b>
Yes	76	81.7
No	17	18.3
<b>Total</b>	93	100.0
<i>Destination Country</i>	<b>Frequency</b>	<b>Percent</b>
Canada	4	5.3
Norway	5	6.6
Sweden	14	18.4
UK	21	27.6
USA	13	17.1
Turkey	19	25.0
<b>Total</b>	76	100.0

### *Risk factors for Health Care Worker Emigration*

There were twelve (12) questions asked of the respondents to identify the most important reasons for wanting to migrate from Somalia (Table 2).

**Table 2: Risk factors for Health Care Worker Emigration**

<b>Variable</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Total</b>
<i>I</i>	0 (0%)	12 (12.9%)	14 (15.1%)	29 (31.2%)	38 (40.9%)	93 (100%)
<i>Poor Social Profession Value</i>	0 (0%)	6 (6.5%)	15 (16.1%)	23 (24.7%)	49 (52.7%)	93 (100%)
<i>Low Wages and Salaries</i>	0 (0%)	6 (6.5%)	12 (12.9%)	21 (22.6%)	45 (58.1%)	93 (100%)

Variable	1	2	3	4	5	Total
<i>High Unemployment</i>	0 (0%)	5 (5.4%)	13 (14%)	31 (33.3%)	44 (47.3%)	93 (100%)
<i>Violence and Crime</i>	0 (0%)	9 (9.7%)	14 (15.1%)	23 (24.7%)	47 (50.5%)	93 (100%)
<i>Political Unrest</i>	0 (0%)	0 (0%)	18 (19.4%)	19 (20.4%)	56 (60.2%)	93 (100%)
<i>Professional Devaluation</i>	0 (0%)	2 (2.2%)	18 (19.4%)	33 (35.5%)	40 (43%)	93 (100%)
<i>Lack of Technical Support</i>	0 (0%)	0 (0%)	23 (24.7)	31 (33.3%)	39 (41.9%)	93 (100%)
<i>Unacceptable Environment</i>	0 (0%)	4 (4.3%)	22 (23.7)	24 (25.8%)	43 (46.2)	93 (100%)
<i>Low Morale of Professionals</i>	0 (0%)	3 (3.2%)	17 (18.3)	15 (16.1%)	58 (62.4)	93 (100%)
<i>Lack of Promotion</i>	0 (0%)	0 (0%)	18 (19.4%)	27 (29%)	48 (51.6%)	93 (100%)
<i>High Workload</i>	0 (0%)	0 (0%)	18 (19.4%)	25 (26.9%)	50 (53.8%)	93 (100%)

Key: (1– Very Low Extent; 2– Low Extent; 3 – Neutral; 4 – Large Extent; and 5 – Very Large

### *Analysis and Discussion*

To my knowledge, this study is the first to explore the factors contributing to the migration of health care workers from Mogadishu, Somalia. The number of healthcare workers in Mogadishu hospitals was perceived to be inadequate, a perception that is confirmed by existing evidence. Migration is a universal phenomenon and individuals have the



right to choose their place of work. Zurn, Poz, and Stilwell (2004) stated that migration is an individual, spontaneous and voluntary act that is motivated by the perceived net gain of migrating. The 2006 World Health Report highlighted the critical issue of global health worker crises and the WHO formed the Global Health Workforce Alliance (Tung, 2008). In January 2009, a 'Global Code of Practice' was adopted by the executive board of the WHO to address the migration of health care workers (Agwu and Llewelyn, 2009). The intention of migration will lead to the shortage of skilled healthcare workers, which in turn will considerably increase the workloads of those who chose not to emigrate.

The study established that young aged healthcare staffs are the largest group of individuals intending to emigrate because labor policies should ensure that the migration of a young worker becomes an opportunity for the economic and social development (ILO, 2013). It is also highlighted that the nurses are more health care workers who intend to emigrate, constituting the most of the entire health workforce. Habermann and Stagge (2009) discussed that nurse migration is a phenomenon that has a long tradition. Florence Nightingale, known as one of the founding mothers of vocational nursing, spent time in Germany to train at the then famous nursing institution in Kaiserswerth. With the expansion of modern medical services, migration of medical staff became a more permanent phenomenon. However, it needs to be pointed out that, the nursing profession gets poor value in our country and this is why they are mostly emigrating from the country as well as there are high nurse vacancy rates in all regions of the industrialized world and constitute a priority concern (ICN 2004). The nurses are more vulnerable than doctors did, but all worry about the lack of legal protection of employees against the assaults.

Economically developed nations have recruited large numbers of overseas healthcare workers to fill domestic shortages. The United Kingdom has the greatest density of the health professionals because the UK has continued to actively recruit health care workers from overseas to work in locations or clinical specialties unfilled by domestic employees and to fill training posts (Pond and McPake, 2006). A better technology and information systems stimulated them to intend moving to the UK as well as living standards (including the welfare system) are better in the UK compared to other destination countries (Sapkota, van Edwin and Simkhada, 2014).

In this study, there was significant correlation between family needs, low wages, high unemployment, crime and violence, political unrest, poor social profession value, professional devaluation, lack of professional/technical support, unacceptable working environment, low morale of skilled professionals, lack of promotion, lack of self-improvement and high workload and migration intention (Table 3). The established regression equation was:  $Y = 3.531 + 0.046X_1 + 0.035X_2 + 0.053X_3 + 0.044X_4 + 0.043X_5 + 0.067X_6 + 0.044X_7 + 0.053X_8 + 0.035X_9 + 0.032X_{10} + 0.044X_{11} + 0.057X_{12}$ . It was revealed that holding family needs, low wages, high unemployment, crime and violence, political unrest, poor social profession value, professional devaluation, lack of professional/technical support, unacceptable working environment, low morale of skilled professionals, lack of promotion, lack of self-improvement and high workload, to a constant zero, the migration intention would be at 3.531. All the variables were significant as their significant value was less than ( $p < 0.05$ ).

Table 3: Analytical Presentation

Model	B	T	Sig.
(Constant)	3.531	56.047	0.001
<i>Family Needs</i>	0.046	3.538	0.001
<i>Poor Social Profession Value</i>	0.035	2.500	0.017
<i>Low Wages and Salaries</i>	0.053	3.313	0.001
<i>High Unemployment</i>	0.044	2.588	0.012
<i>Violence and Crime</i>	0.043	3.071	0.004
<i>Political Unrest</i>	0.067	3.350	0.001
<i>Professional Devaluation</i>	0.044	2.933	0.005
<i>Lack of Professional/Technical Support</i>	0.053	3.313	0.001
<i>Unacceptable Working Environment</i>	0.035	2.692	0.010
<i>Low Morale of Skilled Professionals</i>	0.032	2.462	0.016
<i>Lack of Promotion and Self-improvement</i>	0.044	2.316	0.023
<i>High Workload</i>	0.057	3.000	0.003

This has painted a clear picture of the risk factors for migration of health professionals from Mogadishu, Somalia. Without question, socioeconomic factors have exerted the greatest influence on the migration decisions of the health professionals. Lack of resources to maintain their family and social status were an important factor for Somali health care workers as they believe that there is an enormous difference in pay and living standards between the destination country and the origin country. Many healthcare workers from developing countries emigrate to improve living conditions (ILO, 2006). This is in line with the general decline in the country's economic conditions since

the civil war took place in the 1990s. Political factors have also gained greater prominence. Health care workers found themselves vulnerable in the workplace, due to a lack of law and order (Sapkota *et al.*, 2014). This saw many professionals fleeing the country for their safety and that of their family. Still, other health professionals are migrating because of professional and technical factors. They found themselves helpless to accomplish their jobs effectively due to lack of incentives, deteriorating health care institutions and logistic problems (*ibid*). Most of these factors are related to the poor economic conditions prevailing in the country (e.g. General decline of health care services in the country).

These results are in agreement with the results of Chikanda (2011) who cited that healthcare workers want to emigrate due to the desire to receive better remuneration in the intended country of destination, the high levels of crime and violence in their home country, heavy workload, insufficient opportunities for promotion and self-improvement, the desire to find better living conditions, general decline in the health services of the country, poor management of health services in home country, the need to gain experience abroad and family-related reasons.

These results also agreed with the study conducted by Bleeker (2006) in Guyana, who showed that health care workers intend to migrate from their country due to finding a better career and earning opportunities, professional development opportunities and educational certifications, political instability and crime, economic stagnation, poor remuneration, job insecurity, poor working conditions and family related matters.

These results are in agreement with the results of Sapkota *et al.*, (2014) who clarified that the major risk factors for migration of health workers from their country included: low pay and conditions, political

instability, poor workplace security, lack of recognition, unemployment, corruption, and lack of skill development opportunities. Moreover, 'peer-group influence' and psychosocial factors were important issues for health workers migrating to the developed countries such as the UK.

### ***Conclusion and Recommendations***

The study looked into the major risk factors for emigration of health care workers from Mogadishu-Somalia and it has shown that most of the health professionals in this study have considered leaving the country to work in other parts of the world. The emigration of skilled professionals from the country is likely to significantly reduce the population of skilled labor in the country. Thus, the loss of the economically active skilled professionals to other countries represents a serious loss to Somalia. This negatively impacts on health service delivery, because it can lead the country's health institutions to become understaffed and operate with skeleton staffs, which are reeling under their heavy workloads. In fact, the emigration of health professionals can be viewed as a major issue which is responsible for the decline in the quantity and quality of health care services offered by the health sector. Socioeconomic and political factors, as well as technical and professional drivers, were cited as the major reasons for the migration of health care workers from the country.

Based on the findings of the study the following recommendations are made:

- ❖ Paying realistic wages to the health care workers to retain skilled health care workers in the country for the benefit of the main users of health systems.

- ❖ Facilitating opportunities for staff development, e.g., Supporting the establishment and operation of post-graduate medical college (for all health professionals).
- ❖ Improving service schemes; including supporting schemes to enable professionals to acquire basic social amenities like subsidizing housing.
- ❖ Addressing the brain drain from health institutions should be one of the government's major goals. It needs to be recognized that a good health sector is an essential aspect of economic growth and subsequently a sustainable development because it certifies the availability of a healthy workforce.

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*The Alternative Basic Education (ABE) in Light of  
Somalia Experience*

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***Abstract***

This study aims to explore concept and goal of the accelerated education programmes (AEP) or (ABE), rationale, basic principles, target beneficiaries, implementation and roles of Stakeholders and monitoring and evaluation of ABE program. The author followed in this paper descriptive method. The results of the study showed that the ABE programme has been very successful in meeting its achievements in Somalia. Local partners including communities, INGOs, and the Ministry of education have played an important role throughout the ABE programme.

**Keywords:** Alternative Basic Education, Somalia, Experience.

## ***Introduction***

The outbreak of civil war in 1988 and the following collapse of the central state in 1991 severely disturbed all public social services in Somalia. The education system in Somalia was totally demolished, destroying the infrastructure and the disruption of educational services. Many students and teachers fled from the schools to their home-clan areas and became an Internal Displacement People (IDPs) or refugee camps abroad. Meanwhile, school buildings were being destroyed and School premises were turned into accommodation for the internally displaced people fleeing from the war (Abdi, 1998), educational material and equipment were being looted and teachers and administrators were not being paid. It is estimated that more than 80% of the educated elite left the country in the period since the conflict began (Lindley, 2008). This extended period of insecurity and instability has robbed a generation of young Somali men and women the chance to attend formal education. Somalia now suffers from one of the lowest literacy rates in the world (Cummings and van Tonningen, 2003).

There are approximately 263 million children and youth out of school globally today (UNESCO-UIS (2016) Conflict, poverty, and other forms of marginalisation often prevent children from entering into school in the first place, or force them to drop out of school earlier than they should. The most vulnerable and marginalised – often displaced children and young people, excombatants, girls and children with disabilities – are most likely to find it difficult to access and complete their education.

For over 28 years, the INGOs and UN Agencies has supported out of school children and youth to regain access to schooling by supporting Alternative Basic Education (ABE) programming. Such programming

has been and continues to be implemented across Somali regions in which INGOs and UN Agencies is responding to humanitarian and early recovery situations.

### ***1. Concept and Goal of Accelerated Education Programmes***

**(ABE)** Lacking a precise meaning, the term “alternative education” describes different approaches to teaching and learning other than state-provided mainstream education, usually in the form of public or private schools with a special, often innovative curriculum and a flexible programme of study which is based to a large extent on the individual student’s interests and needs (Raywid, 1988; Koetzsch, 1997; Aron, 2003; Carnie 2003).

An accelerated education programmes (AEP) are flexible age-appropriate programmes that promote access to education in an accelerated time-frame for disadvantaged groups, over-age out-of-school children and youth who missed out or had their education interrupted due to poverty, violence, conflict, and crisis. The goal of AEPs are to provide these learners with equivalent certified competencies as in the formal system, in an accelerated timeframe, with learners transitioning to mainstream education at some intermediary point, or completing an entire primary cycle within the programme (This definition is taken from the (Accelerated Education definition by the Inter Agency Accelerated Education Working Group (AEWG), October 2017 INEE EiE Term Bank (<http://toolkit.ineesite.org/term-bank/en/terms/>)).

Alternative Basic Education is one variety of Non-Formal Education (NFE). According to UNESCO (1997), NFE is defined as “any organized and sustained educational activity with a specific purpose and provided outside the formal education system”. Similarly, Alternative Basic

Education (ABE) program in Somalia is an educational program that addresses the needs of out of school children through condensed and integrated curricula, flexible time table, cost-effective use of resources and high community participation aimed at improving access, quality of education and attrition.

Education For All (EFA) is a global movement led by UNESCO (United Nation Educational, Scientific and Cultural Organization), aiming to meet the learning needs of all children, youth and adults by 2015 "The EFA movement". (UNESCO Retrieved 11, Sep 2010.). Alternative Basic Education (ABEs) programs/ projects are among those committed to the EFA goal. The key focuses are on access, retention, equity, quality, relevance and internal and external efficiency within the education system in Somalia.

ABE programs/ projects are designed to enable the Ministry of Education and other education actors to establish proper mechanism in the implementation of Alternative Basic Education (ABE) and its linkage with formal education system. The purpose is to ensure and make them complementary to each other in order to achieve the Education for All (EFA) and MDGs.

There are several terms used to name the provision of alternative education. Alternative Basic Education (ABE) is also known as non-formal basic education (NFBE) and in the UNICEF surveys it is referred to as Primary Alternative Education. The regular ABE program is an accelerated curriculum, completing primary education in 4 years instead of 8 years. **It should be noted and clear to everyone;** that the ABE basically uses the formal curriculum but condensed and integrated to fit the given time.

## ***2.Rationale for Alternative Basic Education (Abe) Program***

This program is envisaged to solve low levels of access and participation in Somalia for children who cannot access formal education in the form it is currently provided. Specifically the following reasons justify its importance: (Somalia Humanitarian Situation Report UNICEF REPORTING PERIOD: 1-31 MARCH 2018).

- Over 3 million children, out of 4.9 million in country, are estimated to be out of school
- School distance is limiting access to education. Schools are far-wide apart, some cases not reachable by young children, as well as dispersed settlements.
- Due to the scarce resource available for education, it is difficult to establish formal schools in every part of the country, which is under the process of economic and social recovery.
- The Ministry of education is working to address regional and other forms of disparities in the provision of education. Thus, this is a complementary program to increase access as planned
- It is meant to decrease attrition and maximize retention as it is a flexible, cost effective and easily managed by the community.
- It contributes to the relevance of education to the lives of the children as it relies on local resources and issues as inputs to the instructional process.

Due to the enormity of the problems associated with formal primary schools there is a need for expansion and adoption of an ABE program as a complementary form of education to permit learners *to catch up, keep*

up and get ahead in education. Thus, ABE is one of the methods that would be used to reach the maximum number of out of school children in Somalia.

### ***3. Basic Principles of Alternative Basic Education (ABE) Program***

The basic principles of the ABE program are the following:-

**a. Participation:** community, parents and students shall be involved in a meaningful manner. All stakeholders participate in site selection, planning, implementation, monitoring and evaluation of the ABE program. "Participation facilitates the identification of education issues particular to the local context and ways to address them. In this way, community participation in assessment, planning, implementation, management and monitoring helps to ensure that education responses are appropriate and effective" (Inter-Agency for Education in Emergencies, 2010).

**b. Flexibility:** "Flexible learning programs have a curriculum that is purposeful, relevant, enjoyable and individualized. This means the content of learning is meaningful for students. Project-based learning and personalized learning plans are common" (<http://theconversation.com/flexible-learning-helps-students-with-disadvantages-finish-school-31299>). The program is designed to include all out of school children by adjusting the time table, the curriculum and methods of teaching to the peculiar needs/problems of students and parents. The views of parents and learners are inputs in determining the nature of the program.

**c. Non- discrimination:** "Community members participate actively, transparently and without discrimination in analysis, planning, design,



implementation, monitoring and evaluation of education responses”(Minimum & Handbook, n.d.).

Emphasis is paid to equal opportunities for all citizens and particularly to the disadvantaged and vulnerable groups in society.

**d. Empowerment:** Education should focus people as directors of the development process. Thus, education shall focus to enhance the capability of rights holders to understand their obligations and claim their rights – the process of active citizenship. Special attention should be paid to the education of the girl child. “Every child has a right to equal educational opportunities. Women constitute more than 60% of the world’s population which ought to place them as pacesetters in education. Sadly, in some countries, girl-child education is neglected due to cultural beliefs. Women are seen as only relevant in the kitchen and for procreationpurpose”(https://www.empowerwomen.org/en/community/discussions/2016/11/role-of-education-in-women-empowerment).

**F .Accessibility:** “Learning environments are secure and safe, and promote the protection and the psychosocial well-being of learners, teachers and other education personnel” (Minimum & Handbook, n.d.).

The focus shall be given to enhancing educational opportunity through reducing the distance from home to school, minimizing gender bias, improving the quality of education, and framing flexible time table of schooling.

**g. Linkage to formal schools** – There is a need to ensure transfer of learners from ABE schools to Formal Basic Education. This gives an opportunity for learners to progress from one level to another and from one mode to another with ease and open up opportunities for learners to

progress to higher classes. “This alternative basic education model has been officially recognised by the MoEs in Somalia”(UNICEF, 2013).

#### ***4.Target Beneficiaries of Alternative Basic Education (ABE)***

Alternative Basic Education Alternative or Accelerated Basic Education (ABE) has been widely used in Somalia for many years. Initially, it was developed by international NGOs as a ‘second-chance’ model of education for children aged 8-14 years who, because of displacement, had missed out on the opportunity to join a formal primary school. In all three regions of Somalia this model is now used to extend quality education to children from vulnerable households whose resilience has been eroded by conflict and disaster- related as well as economic shocks”(UNICEF, 2013).

### ***5. Alternative Basic Education (ABE) Program Implementation***

#### **5.1 ABECentre Establishment and Facilities**

Schools can play an important role in bringing about behavioral changes and promoting better health. Improved hygiene practices are essential if transmission routes of water- and sanitation-related diseases are to be cut. Diseases such as diarrhea, parasitic worm infections and skin and eye diseases need to be tackled by making improvements to water and sanitation facilities. These improvements in facilities must go hand in hand with hygiene behavior change and practice, if the transmission of disease is to be prevented. (UNICEF, 2013)

#### **5.2. Teacher Recruitment, Training, and Certification in the ABE**

“Recruiting and supporting teachers to deliver a programming In establishing and expanding AE provision globally, the importance of ensuring an adequate supply of teachers, and other personnel and

ensuring that they are well supported and trained has been tantamount to the effectiveness of ABE's programs. In line with INEE Minimum Standards (Domains 3 and 4), it is endeavored to ensure that (1) the recruitment and selection process for teachers is done in a transparent way and as much as possible, harmonize with the current practices of government and/or other educational partners; and (2) that teachers and other educational personnel receive periodic, contextualised and needs-focused training to deliver the AE curriculum and provide an educational experience that is protective and of quality" (Shah, 2015)

### **5.3. Curriculum of Alternative Basic Education (ABE)**

"Somalia, the ABE model is now used to extend quality education to children from vulnerable households whose resilience has been eroded by conflict and disaster-related as well as economic shocks. Currently there are three different variations on these programs in Somaliland South Central and Puntland. In Somaliland and South Central, the 8-yearly formal primary curriculum is condensed into a 5,5-year ABE program, respectively while in Puntland 4 years of formal lower primary education is condensed into a 3-year ABE program. This alternative basic education model has been officially recognised by the MoEs in **Somalia**. (UNICEF, 2013)

## ***6. Roles of Stakeholders in Alternative Basic Education (ABE) Provision***

### **6.1. Ministry of Education**

The roles of the Ministry shall include:

"Education authorities prioritize continuity and recovery of quality education, including free and includes access to schooling. The national

authority's duty is to respect, protect and fulfil the right to education, according to international human rights instruments. National education laws and policies should ensure continuity of education for all. Safety of new and rebuilt schools. Analysis of the context. Information sharing and information systems. Disaster preparedness frameworks. Non discrimination"(Inter-Agency for Education in Emergencies, 2010)

### **6.2. International Non-Governmental Organizations (INGOS)**

"INGO involvement is crucial, given the objective of a government capable of delivering its own quality, equitable education services (SC, 2006). Ascertaining the role of INGOs is important, and to avoid repetition and duplication of efforts, interventions should 'complement one another, with 16 NGOs, donors, communities and government, perhaps taking on different aspects, but all working towards the same overall goal' (INEE, 2009, p33). Therefore, where governments have some capacity and willingness, INGO programs should be a) coordinated with the context and other education stakeholders, b) run in partnership with the state and c) undertaken with the view of long term, sustainable development that strengthens accountability without devolving responsibility (OECD, 2008; INEE, 2009). INGOs must consider the political context, and the potential for existing government systems to mitigate or exacerbate fragility (INEE, 2009).

### **6.3. Local Non-Governmental Organizations**

"Local Partnerships Engaging local partners was considered crucial to INGO engagement, if you are not able to get the local actors engaged and on board, I don't see a lot of interventions going anywhere" (UNESCO Chair, Interview, 16/07/09).

#### **1.4. Community Education Committees**

“Roles and responsibilities of community education committee members should be clearly defined and may include: - meeting regularly to address issues of concern, keeping records of meetings and decisions, mobilizing community financial and in-kind contributions, determining appropriate approaches sensitive to age and culture to ensure that educational programs respect the needs and rights of learners. Examples include flexible school calendars and age-appropriate curricula that reflect the community context, communicating with the community and local and national education authorities to promote good relationships between community members and decision-makers outside the community, ensuring that those responsible for ensuring access and quality of education are accountable, monitoring education provision to help ensure quality of teaching and learning, collecting and monitoring disaggregated information on who is and who is not participating in learning opportunities, promoting security from attack and strengthening the security of staff and students going to and from school, ensuring that disaster risk reduction is included in education provision and ensuring appropriate psychosocial support”(INEE, 2010).

#### ***7. Monitoring and Evaluation of ABE Program***

“The Alternative Basic Education program is systematically monitored through a framework in which project relevance, timeliness, budget execution, quality of monitoring and evaluation are reviewed and monitored on a regular basis. Project performance and progress towards results are jointly monitored and evaluated, involving district education officers and key achievements documented. A participatory end of project evaluation has also been planned to measure and determine the

results achieved. Children as well as adults will be consulted. Workshops will be held to share out information gathered in these reports to the participants. Information will be utilized to inform potential scaling up activities with other development partners and as a lesson learned for other stakeholders” (<https://educationinnovations.org/program/alternative-provision-basic-education>).

### ***Conclusion***

The ABE program has been very successful in meeting its achievements. Local partners, including communities, INGOs, and the Ministry of education have played an important role throughout the ABE programme. ABE provides a culturally appropriate curriculum that is relevant to the needs of the learners. The ‘flexible’ design of the programme was appropriate because it allowed children to learn when it was convenient for them.

### ***Recommendations***

- Enhance the scope of involvement of the Community Education Committee (CECs) in supervision of schools.
- Ministry of Education (MoE) should be more involved at proposal development stage.
- Support holistic development of ABE beneficiaries and community at large.
- Build capacity of teachers and create a more enabling environment.
- Enhance capacity for regular monitoring.

- Improve curricular to include community relevant vocational skills and functional literacy program for parents and community members.
- Improvement of the physical learning environment.
- Increase access opportunities, transitioning and completion.
- Enhance documentation and establish a supporting data base

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