

Spatial Distribution of Schools and Development of Education in the Sub Zone of Adi-Keih and Senafe of Zoba Dehub, Eritrea

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Abstract

As a basic and crucial human right, education serves as the basis for all other human rights. In addition to fostering individual autonomy and self-determination, education is essential for the expansion of the global economy and society as a whole. In Eritrea's national strategy and larger framework for development, socioeconomic progress, and poverty reduction, education is a significant component. Children of warriors, orphans, refugees, and other groups previously barred from educational possibilities in Eritrea have access to a wide range of educational programs and institutions. 76.6 percent of adults in Eritrea are literate according to the UNESCO Institute for Statistics in 2018, with the literacy rate for youth (15-24 years) standing at 93.3 percent. This research is based on the use of both the primary and secondary sources of data. The study deals with the spatial distribution of schools and development of education in the sub-zone of Adi-keih and Senafe of Zoba Dehub. In this study all level of school education from kindergarten to high school level in both the sub-zones have been analyzed. This research has found out that the most intervening obstacles of education in these sub zones are school-home distance, topography and lack of modern educational facilities.

Keywords: Adi-Keih, Education, Eritrea, Schools, Senafe

INTRODUCTION

As per the United Nations Educational, Scientific, and Cultural Organization (UNESCO), education is a basic right that underpins all other rights. An education is a need for everyone, and it plays an important role in promoting economic growth and societal progress. It is estimated that millions of people throughout the globe are still unable to attend school because of financial hardships. Eritrea, a young country with little income, has made education a priority in its national strategy and larger framework for development, socio-economic growth, and poverty reduction. Despite the country's numerous issues, especially those related to

education, significant progress has been made in a very short period of time, which should not be undervalued. Eritrea's education system, like most of the rest of Eritrea's coverage in general, tends to be short on context, deficient in context or beset by other flaws (TesfaNews, 2015).

Eritrea has taken steps to guarantee that all of the country's ethnolinguistic groups may get an education. Eritrea's primary enrolment rates have increased from around 80% to 90% in recent years, thanks largely to the country's investment in education, which currently accounts for 8-10% of total national spending. Gender disparities in schooling and adult literacy have also decreased significantly. Eritrea's youths have a higher literacy rate than its adults, indicating that the country's efforts to improve the availability and quality of basic education programs have mostly been effective and should be maintained and expanded (TesfaNews, 2015).

With typical age limitations ranging from 4 years in preschool to 17 years while finishing secondary school, the Eritrean education system is broken down into pre-school, elementary, middle, and secondary levels (MoE, 2016). Pre-primary and elementary school students use their mother languages (MT)² as their main language of teaching, whereas secondary school students use English as their major language of instruction. The policy of the Ministry of Education states that MT should be taught in middle and high schools (MoE, 2011).

Eritrea's Gash Barka Region (GBR) has 33,200 square kilometers of land and a sparse population of 748 thousand people, making it the largest and most diversified region in the country. It borders Sudan and Ethiopia (MoE GBR branch, 2017). There are a total of 429 institutions of higher learning, ranging from kindergarten through high school (MoE GBR, 2017).

There is no doubt that education is essential growth and development. In the wake of gaining independence, many developing nations, notably those in Africa, have been on a quest for social and economic progress. Education is critical for Africa, since development is required if the region is to rise out of poverty (Bloom, Canning, and Chan 2006).

For every country's educational advancement, adequate financial resources are a need. Thus, the expenditures in education are justified by the economic development, poverty reduction, and social welfare that education contributes to Eritrea. Labor is the primary asset of the impoverished, and education immediately improves its productivity (World Bank 2003; Government of Eritrea 2003). Total national spending on education is estimated to be between 8-10%, according to the Education Sector Development Plan (Ministry Education ESDP 2013). Finances for education in Eritrea are like blood to the human body, and so educational investment is one of the most essential economic activities that may have a significant impact on a country's economic growth (Rena 2002). There is a strong notion that the Eritrean government can improve the physical, human, and institutional capabilities of the system by investing significant sums of money on educational development.

However, it is universally known that government grants alone cannot be enough to fund schools. The government of Eritrea is not exception to this scenario. Though the government did not inherit any debt, its capacity to generate cash is severely hampered by the wrecked

economy and the overwhelming poverty of the people. This implies that the requisite cash must be collected by the combination of government funding, in-kind donations from the people and aid from national and international NGOs (Ministry of Education 2006). To minimize government expenditure in education and to share the cost with stake holders, decentralization has been in operation as a mechanism to share expenditure with in the country since the proclamation of Decree No. 86 in 1996 (Ministry Education 2006). Developing an efficient, effective, and sustainable educational system is one of the most important goals of decentralizing educational governance and administration.

According to Education Sector Development Plan (MoE, ESDP 2013), Approximately 8-10% of the entire national budget is spent on education by the government. However, it could not reach all schools sufficiently. It requires additional fund from community and should be managed on complimentary basis.

It has been difficult for Eritrea's government to extend and give equal access to educational opportunities. An increasing number of youngsters are failing to acquire fundamental skills, according to the most recent Monitoring and Learning Achievement (MLA III) research, which has been conducted on an annual basis (MoE, 2017). In addition, Naib (2014) documented the widening gap between rural and urban secondary school students in terms of educational attainment and pointed out that the country's efforts to provide equal access to quality education are failing miserably. According to Harber, similar patterns have been seen in emerging nations (2014). In developing nations, a greater proportion of children are being "silently excluded" from educational opportunities because of the broadened definition of access to schooling, which includes consistent attendance, advancement at the proper age, and meeting government established achievement standards (Lewin and Little, 2011 as cited in Harber, 2014). Reports about schooling in underdeveloped countries that are gloomy are based on evaluation frameworks that have previously been criticized for their concentration on areas of education that can be measured simply (Alexander, 2015).

The quality arguments in education have been centered on what and how students learn, rather than just giving access to education (Alexander, 2015; Westbrook et al., 2013). Teachers' "daily observable influence on their pupils is what great education looks like," according to this emphasis on the micro processes of learning (Westbrook et al., 2013). Many implementation obstacles have been faced while implementing innovations in the teaching and learning process (TLP), such as the learner-centered pedagogy (LCP). Limited experience in teacher education programs (Vavrus et al., 2011), as well as conceptual and practical difficulties in interpreting LCP recommendations in varied school environments (Nykiel-Herbert, 2004), are among the no-table barriers for implementation.

In order to properly address school issues and instances, we need to understand the importance of context in educational practice (Cohen, Manion & Morrison, 2018,). Furthermore, teachers' professional behaviour, which is influenced by the setting in which they work, has a significant effect on the lives of students (Munje, 2018). The relevance of schooling must be ensured in difficult school settings, such as rural schools, by identifying educational problems, such as a

lack of resources and the cultural, economic and political diversity of the local population (Iftçi & Cin, 2017).

A vital aspect of school and educational growth is transforming obstacles into opportunities by participating in intramural processes. For this process, it is crucial that both instructors and students be involved. Teachers and SLs cannot simply be expected to "deliver" information and a prescribed curriculum in the age of globalization, digitalization, obvious disparities and disadvantages, and growing disinterest in education (Harber, 2014). It's essential that they are reflective practitioners (Zeichner & Ndimande, 2008) and adaptive experts (Anthony, Hunter, Hunter, 2015) capable of bridging the gap between diverse students' needs, the realities of the classroom, and the demands of the curriculum through flexible teaching methods that are both responsive and communicative (Westbrook et al., 2013).

The importance of education in the economic, social, and cultural development has always been recognized by providing appropriate education a society reaches fulfillment of individual's capacity and values. The necessary preparation for productive work in the economic process is obtained through the development of well educational system of a country. From that point of view, education a top priority for the fulfillment of individuals and national goals.

An educational strategy in Eritrea has placed national growth at the top of the priority list, which requires the creation of a new generation of educated young with a disciplined mind and skill rather than raw graduates. Human resource self-reliance has not yet been reached, despite the government's efforts in this area. (Fikrejesus Amahazion, TesfaNews, 2015).

OBJECTIVES OF THE STUDY

This study has manifold objectives. The main objectives of the study are as follows:

- To identify the factors affecting the spatial distribution of schools in the study area.
- To assess and understand how are the distribution of schools before and after the liberation of the country.
- Government educational policy investigation and availability of educational facilities to promote effective knowledge.
- To examine the problems and recommend policy measures which are related to the spatial distribution of schools and development of education in the study area.

MATERIALS AND METHODS

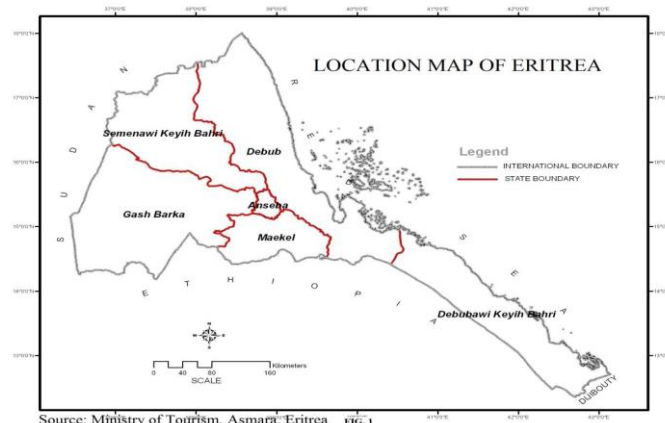
This research focuses on detailed analysis of the spatial distribution of schools and enrolment of students in different places of Adi-Keih and Senafe sub-zones. As very less researches have been done on this topic, so there is an extreme dearth of references. In this study a combination of both the primary and secondary sources of data have been used. Interviews were conducted to gather primary data from key informants and school officials concerned through questionnaire and direct interviews. Secondary data have been obtained from various sources i.e. books, journals, government documents, research reports and web browsing. The information gathered from various respective sources have been scrutinized, verified, and set

up systematically under appropriate headings and data are arranged under the headings of Columns and rows in a systematic manner. The obtained data have been displayed by various statistical representation to increase the aesthesis of the study.

THE STUDY AREA

Eritrea is a small country strategically located on the north-east coast of Africa. It stretches along the Red-Sea. Eritrea is divided in to six administrative regions (Zobas) and each region has sub-regions (sub –Zobas). Zoba Debub is one of the six administrative zones of Eritrea with 12 sub-administrative zones. This Zoba is located in the southern part of the country and sprawls between 14° 25' to 15° 15' North and 38° 15' to 39° 40' East. It is bounded by Zoba Maekel in the north, Gash-Barka to the west, Zoba Semenawi Keih Bahri to the east (Fig.1). This Zoba consists of 231 villages and 8 major towns. The size of population accounts about 762, 432 with 175,030 families. But this study is concentrating on two sub Zobas of Debub regions i.e. Adi-keih and Senafe. The total area of the country covers 124,330 km², with an estimated population of thirty-five million. 86 percent of the total population lives in rural area and the remaining 14% in urban centers. Eritrea has nine different ethnic groups i.e. Nara, Kunama, Bilen, Saho, Afar, Hidareb (Bidawyeet), Tigre, Tigrigna, and Rashaida with different languages, culture, customs and traditions.

Figure 1: Map of Eritrea showing all the six Zoba including Zoba Debub



Eritrean economy is basically agrarian in nature where an overwhelming population directly or indirectly depends on farming and herding. The economic activities of the country are based on agriculture and industrial products. Asmara the capital city is the main center of manufacturing and processed goods, which includes construction materials, leather products, processed food, salt etc. In addition to this, the country is blessed to have sufficient petroleum reserve in the red sea which is believed to be the corner stone to the economic development of the country in the near future, (world book encyclopedia-1994:314).

EDUCATIONAL BACKGROUND OF ERITREA: AN OVERVIEW

Education in Eritrea was introduced by different religious institutions and colonial power. In pre-colonial era, Eritrean education was dominated by the orthodox church and Islamic religious institutions. Education was fully dominated by religion.

During colonial era, in Eritrea different educational systems were imposed. It was varied from one to another. Formal education was established during the Italian rule (1882-1941) particularly in 1989 in Asmara and other towns. The new schools built during the Italian period were serving the cause of Italian settlers in Eritrea. There were only five government schools for Eritrean and 25 secondary schools were built to accommodate Italians. The subjects which taught were Italian including, rudimentary arithmetic, elementary hygiene and Italian history. By law the highest level of education was fourth grade.

Education in the British period (1941-1951), there was a dramatic increase in the number of schools i.e. from 5 to 28. The British reinforced religious and tribal divisions by segregating schools on religious lines. The Muslim schools taught in Arabic and the Christian schools in Tigrigna. Separate schools were opened for boys and girls, which created and thus strengthened sexual differences. The school system was divided in to two major categories. A primary level of four years and a middle level of the same length. At the middle level boarding was provided for students coming from distant areas. Adult education was also in the major towns, while local teachers gave courses in reading and writing provided in their respective villages.

During the federation period (1952-1962): when Eritrea was annexed with Ethiopia by force, the previous educational development declined in such a way that Hailesellassie`s regime intentionally burned all the books written in Tigrigna and Arabic with a sinister aim of eradication the Eritrean culture and identity. Thus, the Ethiopian national language, Amharic was imposed as a sole official language as well as a medium of instruction in the place of Tigrigna and Arabic. As a result, the majorities of Eritrean children have not received much and better education. In the same way the curriculum was revised to reflect the Ethiopian (mainly the ruling class Amhara) culture, value, and political ambitions. At this time the school system was divided in to three different levels;

- Primary level (grade 1-4)
- Middle level (grade 5-8)
- Secondary level (grade 9-12)

Education under the Eritrean People Liberation Front(EPLF): During EPLF, they implemented free and universal primary education. In 1978 the EPLF opened the revolution school providing education for the first three grades of the educational system. The school offered education for elementary, middle, and secondary level in the mid-1980s. It was operated as a boarding school and had approximately 2500 students and 400 members of teaching staff in 1988. The curriculum at all levels of education appeared to have a broad based and balance in cooperating subjects like Arabic, science, art, civics, English, geography, history, mathematics, and physical education.

Education after the liberation (1991-onwards), after 30 years of war, which was ended in 1991, the process of rebuilding of education was again initiated. The development of educational system continued after the independence. Both the quality and quantity of education in terms of schools, students and teachers was increased. Every child has got the right to education. As a result, the majority of Eritrean children have received the early education. Similarly, the

enrolment of students increased dramatically from time to time. The educational system primarily recognized on bases of three levels of general education.

- Elementary level (grades 1-5)
- Middle level (grades 6-7)
- Secondary level (grades 8-11)

However, this educational system was changed in the academic year of 2003-2004 as;

- Elementary level (grades 1-5)
- Middle level (grades 6-8)
- Secondary level (grades 9-12)

The Structure of Educational System at Sub-Zone Level: Adi-Keih and Senafe

The educational systems in these two sub-zobas are closely related with National Education System (NES), since it implements and achieve policies drafted and drawn at national level. Thus, changes in the structure of education system to meet priorities in policy of development of resources allocation affects these sub-zobas directly. However, difference in situation, relative to one another, such as socio-economic, basic facilities, and infrastructure imposes great forces up on various sub-zobas to develop autonomous strategy to pursue national policy and minimize educational gap. As such, these sub-zobas have a structure of educational system which is designed in such a way that it provides equal opportunities to all people. Thus, the educational system implemented in these sub-zobas is the three band structure, which consists of basic education, secondary education and higher education, allowing for a combination of formal and non-formal provision and movement between them.

In fact, these sub-zobas are not made of one ethnic group. They need to provide school which teaches in their mother language. In these sub-zobas Tigigna and Saho are the two ethnic groups. As such most of the elementary school provides education in their mother language to these two ethnic groups. But, this is not compulsory it depends on the choice of the student, whether he/she is willing to leave his mother language and learn in another. Mother language medium of instruction is only up to fifth grade, after that it is English language and that is compulsory for all.

So far as the academies are concerned, inseparable from national education system, it is student centered. This kind of system made students to involve and work hard. Thus, they involve in teaching and learning processes like teachers. However, this cannot be implemented equally in all areas especially in schools which have no library. Thus, students have no chance to refer and read further materials.

In every school student are assigned to classes according to their age. Children of the same age are always assigned in one arranged classes. Thus, the arrangement of classes goes on increasing according to the age of students.

RESULT AND DISCUSSION

Distribution of Schools in Adi-Keih Sub-Zone

Adi-keih is one of the sub-zobas in Zoba Debub. It consists about 58,000 populations. This sub-zone is the most elevated areas of the country. It also has attractive historical sites like Tokondae and Kohaito. The population is made up of two ethnic groups, namely Saho and Tigrigna. Both ethnic groups are settled together in some areas particularly in urban area and living separately in some rural areas.

The spatial distribution of elementary schools in this sub-zone is not uniform. Elementary schools are unevenly distributed in all administrative areas of the sub-zone but middle and secondary schools are evenly distributed and constructed in limited areas. Most of the students suffers a lot to attend the middle and secondary schools. Generally speaking, there are 23 school schools in Adi-keih sub zone comprising elementary, middle, and secondary schools. In addition, this sub zone consists five kindergarten and eight community kindergartens. All the schools well progressed after independence. Due to distinct policy of the government toward education by the principle which says “every child has the right to education” the schools of all levels have been distributed in remote areas. But before independence all the schools were distributed only in the town and villages which are not very far from the town.

The schools of Adi-keih sub-zone is categorized in to two; government and non-government/private schools. The government schools are managed and offered by the central office of the government toward education (Ministry of Education) and non-government schools are financed by missionaries.

Table 1: Number of Schools in Adi-Keih Sub-Zone in Terms of Ownership.

Schools	Pre-Schools			Elementar y	Elem / mid	Middl e	Secondar y	Elem / Mid/ sec	Tota l
	K G	CC G	Tota l						
Govern ment	2	9	11	14	4	1	1	2	33
Non-go vernmen t	2	-	2	-	1	-	-	-	3
Total	4	9	13	14	5	1	1	2	36

Source: MOE, Annual Summary 2016-2017 sub-zone Adi-keih.

Most of the schools which are in the town of Adi-keih are distributed from north to south direction. The western part of the sub-zone ranks second. The schools which found in the eastern escarpment are established based on their importance and services for low number of students comparing to others.

Almost all administrative areas are characterized with elementary schools. Some of the elementary schools are upgraded in to middle level. Few numbers of schools in administrative areas namely Safira and Egla are upgraded in to secondary schools. In this sub-zone, Garbanaba administrative area is associated without any educational system. In Adi-kanta and Mai-lien areas there is one Saho elementary school which gives its education by Saho language, but the

largest population living in Adi-kanta administrative area is Tigrigna. Those people are not associated with any school. Hence, every child is walking for long distance to get education. On the other hand, the villages like Surwa-Emom which found in the eastern side of Safira administrative area comprising large number of people, but there is no any elementary level of education. Thus, the problems which mentioned are seriously hampered and damaged the availability of education in these areas.

The schools which are found in Adi-keih sub-zone are being constructed in both the temporarily and permanent buildings. Most temporarily schools constitute elementary level and permanent schools are middle and secondary levels.

Table 2: Number of Schools and their Corresponding Type of Buildings.

S. No.	Type of building	Pre-school			Elementary	Middle	Secondary	Total
		KG	CCG	Total				
1	Building	4	4	8	15	8	3	34
2	Das	-	-	-	3	-	-	3
3	Make shift	-	1	1	-	-	-	1
4	Hidmo	-	1	1	2	-	-	3
5	Rent	-	1	1	-	-	-	1
6	Gebela	-	2	2	-	-	-	2
7	Tslal gereb	-	-	-	1	-	-	1
8	other	-	-	-	-	-	-	-
	Total	4	9	13	21	8	3	45

Source: MOE, Annual Summary 2016-2017 sub-zone Adi-keih.

Establishment of Schools in Adi-Keih Sub-Zone Before Independence

The concept of establishment of schools in this sub-zone refers to the spatial pattern in which the schools are established in different parts of the sub-Zoba. Before independence as the country was under colonialism, it was natural to have less number of schools and students. The schools were less in terms of quality and quantity especially at middle and secondary levels. The educational system was given by Amharic which is an official language of Ethiopia. At the time there was one kindergarten. Eleven elementary schools, one middle and one secondary school.

Table 3: The Schools Constructed Before Independence.

S. No.	School Name	School level	Date of establishment	Owner
1	Kidsti- Hana	Kindergarten and Elementary	1926	Mission
2	Adi-keih	Elementary	1/9/1941	Government
3	Adi-keih	Middle and Secondary	1/9/1947	Government

4	Awuhine	Elementary	1958	Government
5	Igila	Elementary	10/9/1967	Government
6	Emba kuakuat	Elementary	1/11/1972	Government
7	Maelewya	Elementary	1/1/1981	Government
8	Safira	Elementary	1/4/1982	Government
9	Tokondae	Elementary	21/9/1984	Government
10	Firkins selamin	Elementary	1/9/1985	Government
11	Meam mehaza	Elementary	28/1/1986	Government
12	Selemawit	Elementary	1/9/1986	Government

Source: MOE, Zoba Debub branch, 2017.

Establishment of Schools in Adi-Keih Sub-Zone after Independence

After a new era of independent Eritrea dawned on May, 24,1991 the government of the state of Eritrea have ever since been doing its level best to open the gate of educational opportunities to all citizens believing that education is not a luxury but a fundamental right which all nationals are entitled to. Thus, remote areas which had evidently been marginalized from education during the successive colonial era perceived the arrival of a new era, a new horizon and a new perspective.

Further more intensive promotional campaign as regards the use of education has been under way even in the remotest corners of the nation besides the investment being made to establish educational and vocational institution everywhere. Deep rooted in the days of the armed struggle, such unyielding commitment of education would definitely enable nationals throughout the country become self-directed and play their due role in the all-round national development drive. Huge expenditure has been invested in construction of schools in all regions of the country, and thus, students from the remotest parts have been joining the highest learning institutions.

From such point of view new schools have been established and some of the existed schools were upgraded to higher levels in Adi-keih sub-Zoba.

Table 4: Pre-Schools Developed after Liberation.

S. No.	School Name	School level	Owner
1	Sinit	Kindergarten	Private
2	Tekondae	Kindergarten	Mission
3	Maelewya	Kindergarten	Government
4	Awuhine	Kindergarten	Government
5	Adi-wegera	Community care givers (CCG)	Government
6	Mendefera(Arete)	Community care givers (CCG)	Government
7	Hawatsu	Community care givers (CCG)	Government
8	Ziban-zigib	Community care givers (CCG)	Government
9	Tegeren	Community care givers (CCG)	Government
10	Igila	Community care givers (CCG)	Government

11	Safira	Community care givers (CCG)	Government
12	Adi-keih	Community care givers (CCG)	Government

Source: MOE, Zoba Debub Branch 2017.

Table 5: Other New Schools Established from the Inception of Independence.

S.N	School name	School level	Ownership	Date of Establishment
1	Adi-leji	Elementary	Government	10/10/1993
2	Alnesur	Elementary	Government	11/11/1993
3	Der`a	Elementary	Government	01/09/1994
4	Karibosa	elementary	Government	01/09/1997
5	deki-zeriesenay	Elementary	Government	01/01/1997
6	Abi- grat	Elementary	Government	01/01/1997
7	Graret	Elementary	Government	01/09/1997
8	hawatsu	Elementary	Government	02/09/1998
9	Demhina	Elementary	Government	15/09/1999
10	Mai-li`en	Elementary	Government	01/09/2002
11	Masagulezula	Elementary	Government	22/09/2003

Source: MOE, Zoba Debub Branch 2017.

It is important to mention that some schools which were established before and after independence upgraded to the preceding grades. Schools like Deki-zeriesenay, Der`a, Hawatsu, Imba- kuakuat, Kidisti Hana and Meam-mahaza were upgraded to junior level of education. Similarly, schools such as Adi-keih, Safira and Igila were progressed to middle and secondary level respectively.

Distribution of Schools in Senafe Sub-Zone

Senafe is a sub-zone of Zoba Debub which is located in the south- east part of the county. This sub-zone comprises about 76,000 populations. Physiographically, it is found at the most elevated highlands of the country. The sub-zone is popularly known by its highest number of mountains like Emba Soira (i.e. 3018 AMSL) and historical places such as Belew-Kelew and Metera. Tigrigna and Saho are the two ethnic groups in the sub-zone of Senafe. Both ethnic groups are residing together in some area particularly in the town and living separately in rural areas.

All administrative areas are associated with elementary schools except Bihat. This is because of having short distance with Mezba administrative area. On the other hand, in some areas based on their significance, two elementary schools are constructed in single administrative area. However, middle and secondary schools are an evenly constructed but only in limited areas. Most of the students are critically suffering to meet the middle and secondary schools. In Senafe sub-zone there are 41 schools altogether levels comprise elementary, middle and secondary schools. Besides, it consists five kindergarten and five community kindergartens. Majority of the schools are progressed and upgraded especially after independence. But before independence all the schools were distributed solely in the town and villages which are not very far from the town.

The distribution of schools in Senafe sub-zone is isolated in to governmental and non-governmental schools which are financed by the government and missionaries respectively.

Table 6: Number of Schools in Senafe Sub-Zone in Terms of Ownership.

Schools	Pre-school			Elementary	Elem/Middle	Middle	Middle/secondary	Secondary	Elem/mid/sec	Total
	KG	CCG	Total							
Government	3	7	10	20	7	1	2	1	1	42
Non-government	3	-	3	-	-	-	-	-	-	3
Total	6	7	13	20	7	1	2	1	1	45

Source: MOE, Annual summary 2016-2017 Senafe sub-zone.

Most of the schools which are found in sub-zone Senafe are located south east and north east from the main town. But less number of schools are found north west and south west direction.

In Senafe sub-zone, the distribution of schools are uneven in relation to population density. Large number of students drops to attend the middle and secondary level. This is because of long distance from their residence. Similarly, some students leave to attend their education for different reasons such as marriage, cross country, pastoralist way of life etc. As a result, the educational system is seriously damaged, hampered and backward.

In this sub-zone, both type of schools is found i.e. permanent and temporary. Permanent schools are common buildings whereas the temporary schools are prepared for immediate solutions for problems arising in school building. Most temporary schools are of elementary levels.

Table 7: Number of Schools and their Associated Buildings.

S. No.	Type of building	Pre-school			Elementary	Middle	Secondary	Total
		KG	CCG	Total				
1	Building	6	-	6	19	9	4	38
2	Das	-	-	-	-	-	-	-
3	Make shift	-	1	1	2	1	-	4
4	Hidmo	-	6	6	5	--	-	11
5	Rent	-	-	-	-	-	-	-
6	Gebela	-	-	-	-	-	-	-

7	Tsilal gereb	-	-	-	-	-	-	-
8	other	-	-	-	-	-	-	--
	total	6	7	13	26	10	4	53

Source: MOE, Annual summary of 2016-2017 Senafe sub-zone.

Establishment of Schools in Senafe Sub-Zone Before Independence

The idea of establishment of schools in this sub-zone refers to the spatial pattern where the schools are constructed in different parts of the sub-zone. Before independence there were less number of schools at elementary and middle levels and there were no secondary school the students were migrated to Adi-keih and other places to continue their secondary level of education. As such, large number of students was deprived to complete their education. Similar to Adi-keih the educational system was given by Amharic which is official language of Ethiopia.

At that time, there were two Kindergarten, twelve elementary and 2 middle schools.

Table 8: The Schools Established Before Independence

S. No.	School Name	School level	Date of Establishment	Owner
1	Kidsti mariam	Pre-school	-	Mission
2	Comboni	Pre-school	-	Mission
3	Zigfet	Elementary	1/9/1941	Government
4	Menokuseito	Elementary and middle	1/9/1942	Government
5	Senafe	Elementary	1/9/1947	Government
6	Imbasias	Elementary	1/9/1952	Government
7	Awet (medere)	Elementary	1/9/1954	Government
8	Ruwiet	Elementary	1957	Government
9	Mako	Elementary	1/9/1961	Government
10	Kesueat	Elementary	5/12/1963	Government
11	Mezba	Elementary	12/9/1972	Government
12	Merbed	Elementary	6/8/1976	Government
13	Mai-tera	Elementary	1/1/1985	Government
14	Tisha	Elementary and middle	1/9/1988	Government

Source: MOE, Zoba Dehub branch, 2017.

Establishment of Schools in Senafe Sub-Zone after Independence

Even though education in Eritrea badly affected by the colonial powers particularly due to the devastating effect of thirty years' war and now the government of Eritrea is making a serious effort to provide education to every citizen in rural as well as in the urban areas. The government of Eritrea has adopted policies to extend educational opportunities freely and equally to all citizen and to attend all levels of education to set up pre-school kindergartens and

to provide governmental and non-governmental schools. As such, distribution of schools which were in the towns has developed to remote areas. The participation of students was increased in all levels of education. In Senafe sub-zone, the educational system was changed from Amharic to Tigrigna and Saho at elementary level. As this time there are six kindergartens and five CCGs in the pre-school level.

Table 9: The Pre-Schools Constructed after Independence.

S.N	School Name	School level	Owner
1	Comboni	Kindergarten(KG)	Mission
2	Kdus yosief	Kindergarten(KG)	Mission
3	Kidsti mariam(menokuseito)	Kindergarten(KG)	Mission
4	Imbasias	Kindergarten(KG)	Government
5	Chequaro(adi-hisho)	Kindergarten(KG)	Government
6	Metera	Kindergarten(KG)	Government
7	Kokbay	CCG	Government
8	Bihat	CCG	Government
9	Zukolo	CCG	Government
10	Sirha	CCG	Government
11	Medere	CCG	Government

Source: MOE, Zoba Debub branch, 2017.

From the early days of independence new schools have been established in different areas and some existing schools were upgraded to the continuing levels. At the moment there provide good opportunity of education for larger number of students and now they are traveling relatively short distance comparing to eve of independence. However, as the topographical structure of the region is characterized by ups and downs.

The construction of schools is uneven which do not accommodate all children at equal distance from their home. As a result, it creates great hindrance for the equidistance in the spatial distribution of schools.

Table 10: The Schools Established and Upgraded after Independence.

S. No.	School Name	Grades	Date of Establishment	Owner	Upgraded to junior	Upgraded to Secondary
1	Golo	1-11	1/11/1992	Government	1/9/1999	1999
2	Indadashim	1-5	1992	Government	1/9/1999	1999
3	Mengedi ifri	1-5	1/9/1993	Government	1/9/1999	1999
4	Simret	1-5	1/1/1993	Government	1/9/1999	1999
5	Kokeito	1-5	1/1/1993	Government	1/9/1999	1999
6	Senafe	6-11	1/9/1994	Government	1994	1994
7	Nedwe	1-5	1/9/1994	Government	1994	1994
8	Imbasias	6-11	1/9/1994	Government	1994	Sep2008

9	Hames	1-5	1/9/1996	Government	1994	1994
10	Nar`e	1-5	1/9/1998	Government	1994	1994
11	Geredaf	1-5	15/9/1998	Government	1994	1994
12	Ahiz	1-5	25/9/1998	Government	1994	1994
13	Shumezana	6-8	1/9/1999	Government	1/9/1999	1994
14	Assed	1-5	1/9/1999	Government	1/9/1999	1994
15	Ambesetegeleba	1-5	10/9/2001	Government	1/9/1999	1994
16	Mezba	6-11	16/9/2002	Government	16/9/2002	Sept2008
17	Agara	1-5	26/9/2004	Government	16/9/2002	Sept 2008
18	Kesheat	6-8	18/9/2005	Government	18/9/2005	Sept 2008
19	Lahio	1-8	1/1/2007	Government	1/1/2007	Sept 2008
20	Mai-tera	6-8	Sep 2008	Government	Sep2008	Sept 2008
21	natsinet	1-5	9/2/2010	Government	1994	Sept 2008

Source: MOE, Zoba Dehub branch schools 2016/2017.

The above table displays the number of schools increased from the early independence. This implies that the enrolment of students at all levels dramatically increased to full fill the existing schools, but majority of the schools are facing serious shortage of educational facilities such as laboratory etc.

Enrolment of Students in Adi-Keih and Senafe Sub -Zone

From the beginning of 1991/1992 academic year the enrolment of students at all levels of education has been steadily increasing. This means that the increasing of students was positively correlates with distribution of schools at different areas. This had marked a great development in the national educational activities.

In Adi-Keih sub-zone, the enrolment of students at all levels of schools is repeatedly increasing since independence. In general, the total students enrolled in all levels of education of this sub zone in the year 2014/2015 were 17,548. Out of these 9533 (54.3%) were males and the remaining 8015 (45.7%) were females.

Similarly, the enrolment of students in the academic year 2016/2017 was 16749. Out of this 8926 (53.3%) were males and 7823 (46.7%) were females. This is apparent as the enrolment in all levels of schools has been decreased by 2.33% in three years.

Table 11: The Enrolment of Students in Two Academic Years in Adi-Keih Sub-Zone.

Schools	Enrolment 2014/2015 academic year			Enrolment 2016/2017 academic year		
	Male	Female	Total	Male	Female	Total
Kindergarten	N/A	N/A	N/A	546	486	1032
Elementary	4666	3990	8656	4320	3687	8007
Middle	2623	2254	4877	2503	2292	4795
Secondary	1852	1437	3289	1557	1358	2915
Grand total	9141	7681	16822	8380	7337	15717

Source: MOE: Sub-zone Adi-keih branch

The above table reveals that the enrolment of students in previous and current academic years, displays the participation or registration of students according to their corresponding levels of education. The available data shows that there was decline in enrolment of students at elementary, middle as well as secondary levels. But due to non-availability of data in pre-school, the researcher is unable to compare the enrolment of students. The reduction of students which had seen in both sexes was for different reasons. The most obvious reason is the traveling for long distance and poor economic background especially for secondary students.

Very similar to Adi-keih sub-zone, the enrolment of students increased dramatically in Senafe sub-zone since independence. The total students enrolled increased from time to time. This shows that there is an even relationship between number of students and distribution of schools. But according to some informants in the early 1990`s educational academic year the enrolment of students increased at all levels and it reduced after the war with Ethiopia for obvious reasons. This is because of large number of population have been displaced from their native place to some other safe places, such as Mai-Habar. As a result, the educational activities hampered toward back and still the same factor is affecting the enrolment.

Table 12: The Enrolment of Students in Two Academic Years in Senafe Sub-Zone

Schools	Enrolment 2014/2015 academic year			Enrolment 2016/2017 academic year		
	Male	Female	Total	Male	Female	Total
Kindergarten	N/A	N/A	N/A	474	474	948
Elementary	6287	5747	12034	5370	4859	10229
Middle	3750	3299	7049	3493	3438	6931
Secondary	1749	1175	2924	1395	1166	2561
grand total	11786	10221	22007	10732	9937	20669

Source: MOE, sub-zone Senafe branch

The above table depicts that 2014/2015 academic year had higher number of enrolment of students than 2016/2017 academic year. Due to non-availability of data in previous years the researcher is unable to compare the enrolment of children in the pre-school. According to the available statistics the enrolment of students had reduced in basic and secondary education. The reduction can be seen especially at basic and secondary education. The reduction is seen in both sexes and is decreasing for many reasons.

The amount of reduction varies from one region to another region. The main factor that leads to the difference in the enrolment is the distribution of schools, as large number of students travelling for long distance to meet the nearby schools. As a result, they forced to drop their classes. Thus, it needs great effort for increasing the number of students by constructing new schools.

CONCLUSIONS AND RECOMMENDATIONS

As we discussed above, 80% of the population in Senafe and Adi-Keih sub-zones is economically based on agriculture. The rest 20% are engaging in trade, nomadic activities and government office works. It is important to mention that both the farming and nomadic activities are some of the main hindrance for the educational process.

According to this study, there is positive correlation between the administrative areas and the availabilities of elementary schools, but there is an even distribution of middle and secondary schools. Thus, large numbers of students are suffering to meet nearby schools.

During colonial period these sub-zones had inadequate number of schools and there was failure of parents to enroll their children in the existed schools as a result the educational process at that time was highly deprived. After independence, the number of schools increased drastically. As Eritrean government did a great effort to minimize the gap between the urban and rural areas in the spatial distribution of schools.

The educational activities of these sub-zones are highly guided by National Educational Policy (NEP). Since that time the ministry of education announced the student centered curriculum, simultaneously these sub-zones adopted this policy in their system. This system encouraged students to participate in all educational activities and improved their capacity.

Now the enrolment of students is somewhat satisfactory. But there is inverse relationship in the number of students with the increasing level of education. According to the available data the current number of students decreased in comparison to the previous years. The enrolment and performance of girls in this sub-zone is increasing from time to time.

The educational process in Adi-keih and Senafe sub-zones is not free from certain challenges. The most intervening obstacles which are preventing the progress of education may be cited as school-home distance, topography and lack of educational facilities.

Eventually, we hope that the establishment of Adi-Keih College of Arts and Social sciences in this sub-zone will encourage the students to take the educational responsibility of the country on their shoulder to a great extent to develop the education of Eritrea like other developing countries of the world.

In the administrative area of Adi-Kanta especially in Mai-Laen there is one elementary school of Saho, but majority of the people living in this administrative area is Tigriana ethnic group. Therefore, children who are Tigriana speakers are facing problems of long home-school distance to get education.

In the eastern part of Safira administrative street particularly villages of Sarwa, Emo`m there is large number of people. In spite of this number there is no school. So it is better to keep an eye view in that area.

In Demhina area students are travelling six hours from Demhina to Safira to attend their middle level education. There is an urgent need to notice this problem by constructing junior school in

cooperation of northern red -sea region and Adi-keih sub zone so as to prevent students who are leaving school.

There should be a fast decision in administrative area of Garbanaba to implement the plan which was designed some years before. This plan is not yet implemented due to topographical inconvenience.

In Senafe sub-zone particularly in administrative areas of Rokoito, Lahio, Nedwe, Maitara, Golo, Talhanarie, Dogogolo, Amstegeleba, Mai-godufe and Keshiat there is serious shortage of students due to long home-school distance and economic problems etc.

Keeping the above mentioned problems in mind, it is recommended that in these sub-zones some pre-conditions should be taken. There should be a case study on these problems that may help to register children in their right school age. It is better to establish feeder-schools under study. Strong awareness campaign among the people of these sub-zones is needed to send their children to school. So that the teachers should share their knowledge of at least major subjects with the remote students. There is a dire need of providing adequate educational facilities such as text books, toilets, water supply, construction of libraries and classes so as to develop and demonstrate effective educational process.

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