

An Assessment on Viability of the Modalities for Provision of Primary
Education to the Children of Pastoralists in Afar Region of Ethiopia

Ahmed Ebrahim Worku

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By

Ahmed Ebrahim Worku

We hereby certify that this Dissertation submitted by Ahmed Ebrahim Worku confirms to acceptable standards, and as such is fully adequate in scope and quality. It is therefore approved as the fulfillment of the Dissertation requirements for the degree of Doctor of Philosophy in Educational Policy and Leadership.

Examining Committee

Dr. Belete Kebede Mebratu, Associate Professor, Medaille College, USA,
External examiner and Chairperson

Dr. Ambissa Kenea, Associate Professor, Addis Ababa University, Internal examiner

Professor Tuomas Takala, University of Tampere, Finland, External Supervisor

Ayalew Shibeshi, Associate professor, Addis Ababa University, Internal supervisor

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Abbreviations

AABE:	Alternative Approach to Basic Education
ABE:	Alternative Basic Education
ABEK:	Alternative Basic Education for Karamojang
ABET:	Alternative Basic Education for Turkana
ADEA:	Association for the Development of Education in Africa
BOFED	Bureau of Finance and Economic Development
BRAC:	Bangladesh Rural Advancement Committee
CAMPE:	Campaign for Popular Education
CMC:	Center Management Committee
COBET:	Complementary Basic Education in Tanzania
DF:	Development Fund
DPFSB:	Disaster Prevention and Food Security Bureau
EC:	Ethiopian Calendar
ETP:	Education and Training Policy
EFA	Education for All
FGD:	Focus Group Discussion
FDGE:	Federal Democratic Government of Ethiopia
FDRE :	Federal Democratic Republic of Ethiopia
GER:	Gross Enrollment Ratio
GEQAEA:	General Education Quality Assurance and Examinations Agency
GFRN:	Government of Federal Republic of Nigeria
GPI:	Gender Parity Index
IRI:	Interactive Radio Institution
KETA	Kelem Education and Training Association
MDG:	Millennium Development Goal
MoE:	Ministry of Education
MNKOAL:	Ministry of State for the Development of Northern Kenya and Other Arid Lands
NER:	Net Enrollment Rate
NGO:	Non-Government Organization

NOE:	National Organization for Examinations
NIR:	Net Intake Rate
ODL:	Open and Distance Learning
OSC:	Out of School Children
PFE:	Pastoralist Forum Ethiopia
IIEP:	International Institute for Educational Planning
IIRR	International Institute of Rural Reconstruction
RBA:	Rights Based Approach
REB:	Region Education Bureau
SDG:	Sustainable Development Goal
SNNPR	Southern Nations, Nationalities and People Region
SPSS:	Statistical Package for Social Science
UNDP:	United Nations Development Program
UNESCO:	United Nations Educational, Scientific and Cultural Organization
UNICEF:	United Nations Children's Fund
UPE:	Universal Primary Education
USA:	United States of America
USAID:	United States Agency for International Development
WEO:	Woreda Education Office

Abstract

The purpose of the study was to assess the viability of the modalities to provision of primary education for the children of pastoralists in Afar National Regional State. It was assessed alongside the strategies and standards designed to promote education in pastoral areas of Ethiopia. To this end, the study examined the relevancy of Alternative Modalities, their implementations and effectiveness. Mixed methods research approach with concurrent embedded design was employed. Using stratified, purposeful, random and snowball-sampling techniques, a total of 58 learning centers, schools and offices were used as data sources. 291 individuals have been involved in the study. The data were collected using questionnaires, interview, focus group discussion and document analysis. Qualitative data were analyzed with comparative and content analysis techniques. Quantitative data were analyzed with mean, percentages, t-tests, One-Way Analysis of Variance, and Kruskal-Wallis tests. The study unveiled mobility, child labor, drought, poverty, and funding problems were the main challenges to use the formal school system. Some of the existing strategies and input standards of alternative modalities were found wanting; due attention was not given for alternative modalities. Alternative Basic Education found to be successful to get enrolled the target areas' children and maintained gender parity but could not retain those enrolled and maintain quality. The Region lacks implementation capacity to make the modalities effective. In short, the modalities were not found to be viable to promote quality education for all pastoral children. Suggestions were forwarded to improve some of the strategies and standards, to redesign the management structures, to develop strategies to secure competent teachers if Sustainable development goal four is needed to meet by 2030. Otherwise, the pastoral children will remain disadvantaged.

Key words: alternative modality, relevant, viability, pastoralist, challenge, strategy, standard

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Chapter One: Introduction

1.1. Background of the Study

The main purpose of this study was to assess the viability of alternative modalities of education meant to provide primary education for children of Afar pastoralists. Thus, as backstage to the subject under study, it is important to begin with snapshot description of its geo-social context, the historical background of alternative modalities of education and the educational context of Ethiopia.

The pastoralists in Ethiopia inhabit the low lands part of the country with arid and semi-arid areas, which consist of 61-65% of the country's land mass (Ayalew, Damtew, Berhanu and Hailemariam, 2002). The inhabitants comprise 14 percent of the country's population interspersed in more than 133 woredas in seven National Regional States. Nine regional states made the federal government of Ethiopia. The Ethiopian Somali ethnic group is the largest of all followed by Afar and then by Borena. These add up to 87 percent of the total pastoralist population. The other pastoral communities in Southern Nations, Nationalities and people Region [SNNPR] (South Omo and Bench-Maji Zones), Benishangul-Gumuz, Dire Dawa and Gambella make up the total remainder (Pastoral Forum Education [PFE], International Institute for Education Planning [IIRR] & development Fund [DF], 2010).

The Afar National Regional State is one of the nine national regional states in the federal democratic republic of Ethiopia. It is located in the northeastern part of the country between 39° 34' and 42° 28' East Longitude and 8° 49' and 14° 30' North Latitude. It is the fourth largest region of the country with an estimated area of 95,955 sq km (Afar Bureau of Finance and Economic Development [BoFED], 2009). The Afar ethnic people occupy the northern part of the African Rift Valley situated in contiguous geographical regions of Ethiopia, Djibouti and Eritrea (Kasim,

1982). This study has dealt with the Ethiopian Afar pastoralist children found in Afar National Regional state. According to Mohamed (2004), the Afar pastoralist community in Ethiopia is one of the 29 ethnic groups belonging to the Cushitic and Nilotic language families.

The climate of the region is arid and semi-arid. It is one of the hottest inhabited places on earth, in which the average annual temperature ranges from 23°C to 33°C with temperatures exceeding 50°C in some places. The mean annual rainfall is less than 300 mm (Afar BoFED, 2009, Ayalew et.al, 2002). These climatic conditions make the educational provision challenging in the region.

According to Afar Disaster Prevention and Food Security Bureau [DPFSB] (2006) livelihood study of the region, in the rural part of the region, there are three groups of people: transhumant pastoralist, agro pastoralist and sedentary crop producers. These groups reside in eight livelihood zones. Of the total population, 86.6% resides in rural areas (Federal Democratic Republic Government of Ethiopia [FDRGE] Population Census Commission, 2008). Of the total population, around 88 % are transhumant pastoralist whilst 11% are agro-pastoralist. The remaining is crop producer (Afar DPFSB, 2006). The eight livelihood are Asale pastoral, Asale Ago-pastoral, Teru pastoral, Elidaar pastoral, Awsa-Gewane agro- pastoral, Aramis-Adaar pastoral, Nemelefan - Baadu pastoral, and Cheno sedentary crop producer, Argoba ethnic group, livelihood zones(see Annex II).

Though there are differences in intensity and duration, the compiled report of studies in the education of nomadic population in Africa (Ezeomah,1997) revealed that nomadic population including pastoralists mode of life in Africa is characterized by moving from place to place and dispersed in different areas in search of means of livelihood. PFE, IIRRC, &DF (2010) study also corroborated the case in Ethiopia. According to these studies, the occurrence of this mode of life is not because of backwardness or their ignorance, rather the scarcity of resources and harsh

climatic conditions in their areas forced pastoralists to do so. This signifies to design suitable educational program to their ways of life.

In Afar, the main economic mainstay of pastoralists is animals. Cattle, sheep, goats and camel are their main livestock. Their method of management is predominantly subsistence pastoralism. In transhumant pastoral areas wealth is determined by livestock holdings, whereas in agro-pastoralists areas both **land** and livestock determine wealth status (Afar. DPFSB, 2006). Both transhumant and agro-pastoralists sell livestock mainly to obtain other foodstuff and household items essential for their subsistence. They tend to keep diversified livestock such as cattle, camel, sheep, goat in large numbers, to feed family members, for social investment, and to recover unexpected heavy stock losses. As a result, they use labor extensively for animal herding (Kassa, 2001; Afar DPFSB, 2006). Of course, agro-pastoralists too sell their products for the same purpose. In general, because of the hostility of the natural environment, traditional production system and other reasons, the economy level of the regions is the lowest in the country. Oxford Poverty and Human Development Initiative (2013) revealed that the Afar region population were found in severe poverty (79.7%) second to Ethiopia Somali national regional state.

Based on the 2007 national census projection (FDRGE Population Census Commission, 2008), the population size of the Afar national regional state in 2013 was estimated to be 1,584,184(44.2% Female). It is inhabited by 1.9 percentage of the total Ethiopian population with a growth rate of 2.2% per year of which 86.6 % resides in rural areas. The ethnic group accounted for 90.03% of the total population of the regional state. Of the population, 26.94 % are primary school age children (age7-14).

Thus, for such large portion of the country's population, designing alternative modalities suitable to pastoralists modes of life is crucial for three pivotal reasons. One, education is one of

the fundamental human rights (Tomasevski, 2004), two, education is a key instrument for private and societal development (Psacharopoulos & Woodhall, 1985), three, ineptness of the formal mode of delivery, meant to sedentary people, to pastoralists is an established truism (Kratli, 2001).

However, notwithstanding the country is known by its huge population of pastoralists in Africa and peculiar ways of life of pastoralists from urban and sedentary people of the country, no explicit pastoral education policy and strategies appeared in the education policy of the country until 2000 (Ministry of Education [MoE], 2005; MoE cited in Anis, 2008).

When the current regime came to power in 1991, the Ethiopian education system was suffering from multifaceted problems. The main problems were related to the issues of relevance, access, equity and quality (TGE, 1994). According to FDRGE its gross enrolment rate at primary (below 22%) had been one among the lowest in the world. Of these, large number of students dropped out and relapse to illiteracy. In addition, there were severe regional differences in access to primary education. The quality of education was poor characterized by schools with inadequate quantity.

In the light of those educational problems, provision of basic education for all was enshrined in the 1994 Education and Training Policy [ETP] (Transitional Government of Ethiopia [TGE, 1994]). This goal has been pursued by the country for the last two decades to be achieved through implementation of successive four ESDPs. In 1997, ESDP I (1997/98 to 2001/02) was launched as part of a twenty-year education sector indicative plan. ESDP II (2002/03-2004/2005) has been made to align with the five-year term of the government plan and UPE goals. The long-range goal of the ESDPs thus was tuned to achieve universal primary enrollment by the year 2015 and to meet the objectives of the national development plans by

producing required workforce for the country development therein improving access, quality, equity and efficiency of the system at all levels (MoE, 2005).

Although universal access to basic education found unfulfilled pledge in Ethiopia, during the four ESDPs planning periods, prominent achievements were recorded in accessing the educational service for primary school age children. The primary education Net Enrollment Ration [NER] boosted up from NER 24.9 in 1996/7 (MOE,2001) to 95.5 in 2012/13 (MoE,2013a). Therein, gender parity in primary education improved though did not reach parity as envisaged by ESDPs. Moreover, the Annual Education Statistic Abstract shows that the disparity among regions has improved although the two pastoralists regions, Afar and Ethiopian Somali Regions, remained far behind the rest of the country.

Concerning efficiency, the survival rate to grade 5, who complete the first cycle of primary education, showed very slight improvement. It increased from 46 in 1996/97 to 50.7 for 2010/11 with an irregular trend. However, the low level of quality of education remained as one of the most significant challenges the country could not traverse. As Woodhead, Ames, Vennam, Workmen & Streuli (2009) disclosed, in Ethiopia, the basic education completers were found not to meet the minimum learning competency set for the level. The achievement of grade 8 students, on 2nd and 3rd national learning assessments, undertaken in 2004 and 2008 respectively, were by far less than the 50% achievement from what they have learned, prescribed by the ETP. Furthermore, the three national learning assessments showed no progress, instead the students' achievement scores continually declining down (national Organization for Examination [NOE], 2004; General Education Quality Assurance and Education Agency [GEQAEA], 2008). This can be explained as one of the indications of the status of low level of quality education in the country.

Nevertheless, in achieving those recorded results, a number of policy and strategic measures were taken. These include demand side measures such as fee abolition in general primary and secondary education, a shift from unilingual instruction (Amharic) to mother tongues instruction, school feeding programs and, decentralization of education management to region and progressively lower administrative level. Supply-side measures include construction of schools and deploying teachers in remote areas, furnishing school facilities and materials, introducing alternative modalities for disadvantaged groups including pastoralist areas.

Alternative modalities to formal conventional mode education delivery came into existence as remedies for the incapability of the formal school mode of delivery to satisfy the learning needs of disadvantaged children, youth and adults. In the 1960s, worldwide, millions had been found either had no access to formal schooling or had been found dropped out due to variety of reasons including ways of life, work commitment of learners and academic and financial reasons. To that effect, internationally, policy discourse paid attention to remedy the drawbacks of formal education mode of delivery. In 1970s, United Nations Children's Fund [UNICEF and World Bank sponsored studies with the intention to develop practical policy and operational guidance. As a result, the design of alternative approach to formal education was embraced (Thompson, 2001). The main alternation from conventional approach can be school type, instructional time arrangement, teaching strategy, curriculum, teaching force deployment or any combination of these depending on the circumstances of target population.

Alternative modalities to conventional formal school are available in both developed and developing countries for different target groups. For example, in the USA, as Almeida, Cecilia, and Steinberg (2009) noted, alternative education policy was introduced for dropouts from formal education systems that were not thriving in a traditional high school setting. In Bangladesh, alternative modalities were organized by NGOs such as Campaign for Popular

Education [CAMPE] and Bangladesh Rural Advancement Committee [BRAC] to address urban working and street children, poor rural children, and drop out students who cannot access formal schooling for various reasons (UNICEF, 2009).

Specific attention to education of nomadic group was given in the 1990 WDEFA and greater policy visibility was increasingly growing since 2000. Of course, prior to Education for All [EFA], many countries had tried to respond the challenges for nomadic groups in different ways. For example, the Iran tent mobile schools in 1924, the Mongolia residential schools in 1970s, the initiation of Nigerian Nomadic Education Program in 1982 are cited among the pioneer endeavors. However, the responses to challenges of nomadic groups were patchy (Dyer, 2015). To redress the educational needs of nomadic groups effectively, those endeavors gave impetus to analyzing the challenges thoroughly and adopting pertinent modalities accordingly among possible alternatives.

In Asia and Africa, Where nomadic people are largely found (Shagbark, Bello and Umar, 2013), alternative of various modes were put in place by government and Non Government Organizations (NGOs). For example, Bede mobile school in Bangladesh and Van Gujjous literacy program in northern India, Tibet Community School in China, and private community boarding school of India and Government literacy by Mongolia and Iran tribal school ,discussed above were some alternative modalities meant established for nomadic groups. In Africa, where nomadic populations constitute six percent of the total population found in at least 20 countries (Malinga, 2009), alternative education modes of deliveries were put in place in Kenya, Nigeria, Tanzania, Sudan, Botswana, Ghana, Ethiopia Uganda and others. The modalities in use are known with different names of schools such as *shepherd school in Kenya*, *mobile school in Somalia*, *madrassa in Sudan*, *alternative basic education center in Ethiopia*, *complementary*

basic education center in Tanzania targeting largely children and youth aged between 6 and 18 years (Thompson, 2001;Kratli,2001;Hoppers, 2006).

The 1980 Harare Conference, the 1986 Zimbabwe specialist meeting organized by Common Wealth Secretariat and the 1990 Jomtien WDEFA and the 2000 Dakar EFA conference, among others, contributed to the persistence of alternative modalities in Africa. The 1960 Addis Ababa Conference discussed on ways to achieve Universal Primary Education [UPE] by 1980. However, because of unmet pledge of that conference, after 20 years, the Harare Conference deliberated on multifarious problems, which had bedeviled the development of education in Africa and proposed number of strategies including alternative forms of education. The Common Wealth Secretariat also organized specialist meeting in Zimbabwe in 1986 and proposed equivalence education courses leading equivalence qualification through corresponding program, alternative forms of post-primary education. The 1990 Jomtien World Declaration on Education for All also gave attention to devising alternative ways of providing education for disadvantaged children (Thompson, 2001).

In Ethiopia, up to 2000 the government and different NGOs have provided education for pastoralist areas using various modalities. However, the strategies were patchy. To this effect, following the policy study that was conducted in 2000 by MoE on ‘Alternative Routes to Basic Education’ in view of achieving Universal Primary Education [UPE] by 2015, alternative basic education was pronounced as one of the major strategies in ESDP II. Furthermore, the study conducted in 2002 by International Institute for Educational Planning [IIEP]/UNESCO on ‘Nomadic Education in East Africa’ was also another impetus for the expansion of this approach (MoE, 2005). The major alternative modes of deliveries opted to institute in pastoralist areas are ABE in Fixed Center and Mobile School, Para-boarding School, Open and Distance Learning [ODL], and Hostel (MoE, 2008b).

The ABE approach in Ethiopia is closely akin to what Hoppers (2006) called ‘Para-formal basic education’. Hoppers has described Para-formal educations as “those programs of formal education that are implemented by non-formal means” (p.61). Similarly, ABE program in Ethiopia has integrated three basic educational issues: Basic education, formal education and non-formal education. On its formal dimension, it uses similar curricula to that of the formal education. On its non-formal dimension, it has flexible time table to fit the life style of the learners. Its purpose is to provide basic education program of the country for those who have no access otherwise (Befekadu, 2006; Ayalew, et.al, 2007; Anis, 2008).

The ABE for sedentary people and that for pastoralists have distinct characters. ABE for sedentary people is characterized by low-cost fixed school, flexible learning time, teaching in the local language and recruitment of facilitators from the community to respond the problems of child labor and cost. Whereas, as pin pointed above ABE for pastoralists, include Fixed Alternative Basic Education Center [FABE], Mobile school boarding school, ODL to suit the peculiar livelihoods of pastoralists (MoE, 2008b).

In the midst of the importance of introducing modalities, the effectiveness of the alternative modalities in many countries showed mixed results mainly ascribed to the inappropriateness of design and /or implementation problems. For example, the boarding schools of Maasai of Kenya failed for its lack of clear objective, oscillating between contradictory policies (Heron, 1983), whereas in 1973 Mongolia achieved 100% literacy using boarding school for warm and friendly school environment (Kratli, 2001). Mobile school in Nigeria failed in 1980s for using non-nomadic teacher and lack of effective administration (Ezeomah cited in Carr-Hill and Peart, 2005), whereas in Somalia, in 1974-75, the government succeeded to teach literacy for mobile people using Quran model (Kratli, 2001). The out of school program in Samburu district (Kenya) and Alternative Basic Education for Karamojang [ABEK] in Uganda, Complementary basic

Education for Tanzania [COBET] succeeded to en route for formal system for using flexibility approach (Kratli, 2001.Hoppers, 2006).

Thus, to ensure the viability of the modalities, it is important to fine-tune the designs of alternative modalities to particular pastoralists' local situations. In Ethiopia, the federal arrangement of the provision of educational services gives a leeway for national regional states for adaptation of policies, programs and strategies to local conditions. Added to this, the modes of delivery introduced in Ethiopia in general in Afar in particular are new and have innovative prospects. Therefore, to ensure the viability or adequacy of these modalities to the education of all pastoralist children in Afar, it requires periodic evaluation and refinement of the design accordingly. By doing so, the modalities can withstand and au fait with the change of time and contexts.

1.2. Statement of the Problem

Despite the efforts of the national and regional governments to provide equitable quality primary education for all, the participation of pastoral children in Ethiopia in general and in Afar in particular lags behind the national average. Even though the MoE as well as Afar Region Education Bureau [REB] education statistics annual abstracts did not specifically record quantitative data pertaining to pastoralist groups, MoE (2008b) conceded that the educational participation of pastoralist areas in Ethiopia had never been as desired to be. Hence, in to avert that situation, alternative modalities were introduced. To make the modalities effective, strategies had been designed as guides on how to institute them in pastoralist areas (MoE.2008b); input standards were set to maintain their equivalency to the formal program(MoE, 2011a) and implementation guidelines have been prepared for ease of the management of the modalities for implementers(MoE, 2004, 2010).

Accordingly, a numbers of mobile schools, village learning centers and boarding schools have been established in Afar with the assumption they are viable options to bridge the gap of participation between pastoralist and non- pastoralist areas of the country in a bid to achieve Millennium Development Goals [MDGs] of education by 2015.

When the alternative approaches had been launched as a pilot 12 years ago by the MoE, many implementers including myself perceived that the designs of the modalities were viable means for the provision of education for pastoralist children. However, to date, though the deadline for the realization of MDGs is past these time, the under participation of the region has continued. The MoE Education Statistics Annual Abstract (MoE, 2013) depicted that the primary education participation of Afar could not go over 32.1 in Net Intake Ratio(NIR NIR, admission at age seven) and 41.5 in Net Enrollment [NER, rate of enrollment in primary education school age ,age7-14] while the national average was 95.5 NER for the same year. . This is the lowest of all other regions. Despite efforts made to boost the low educational participation of pastoral children, they are still underserved in a bid to achieve UPE by 2015 and disparities between the region and the other regions still persist. Thus, the challenge in providing education for pastoral children in the region is not halted.

Amidst of the low status of educational provision of the region in general, the data were not adequate to infer the effectiveness of the alterative modalities for the data were not disaggregated by formal and alternative modalities. Furthermore, internal efficiency data of the abstract did not capture the ABE data at all. Thus, it is worthy of study to single out the effectiveness of the alternative modalities from the formal mode of delivery towards achieving MDGs and regional targets. Added to this, contrary to what had been expected to be, in recent years, in Afar Region, alternative modalities, supposedly that go well with life styles of pastoralists, were found either closed down or dwindling rather than thriving and expanding.

For example, although the 2008 Afar UPE plan (2008/09 to 2015/16) had put the targets to increase the number fixed ABE centers and mobile schools (Afar REB, 2008), the Afar REB database shows that number of fixed ABE centers decreased from 440 centers in 2011/12 to 353 in 2014/15. All the mobile ABE schools that had been established by government were also found closed. In similar vein, except Samara Girls' Boarding School, four boarding schools under REB ceased admitting students. To the contrary, other new boarding schools were found opened by WEOs.

Supposedly, the trends of decreasing and terminating of the schools were attributed to problems of relevance (design problem) and/or implementation of the modalities. Thus, to figure out the underlining problem/s and thereby to ensure viability of the existing modality school/learning centers, it requires to examine the relevance of the designs and implementation of the modalities.

In the face of the problems, examining or evaluating the viability of alternative modalities for pastoral children in Ethiopia has received less attention by academic researchers in the country. To my search on the list of the Ethiopian Journal of Education (33 volumes up to 30013) and Flambeau (16 Volumes up to 2009) published by IER at AAU, and electronic materials uploaded at AAU websites and other universities in Ethiopia, no study dealt on educational provision of pastoral children in Ethiopia.

In fact, there are published and unpublished studies uploaded in websites, shelved master theses in IER library, and archived in MoE, UNICEF Ethiopia, and Afar REB offices. Yet, the materials hardly emphasized on relevance of the existing alternative modalities in Ethiopia. There are also master theses and PhD dissertations conducted by Ethiopian and abroad universities' students and other studies sponsored by many organizations. However, mainly the materials have focused on status of primary education provision, problems/challenges in

providing education for pastoralist areas and ABE implementation in Ethiopia and in Afar as well. Having surveyed those studies, the following eight selected studies, which are found to be more related to this study, were reviewed as a backdrop of this study.

A study conducted by Ayalew, Damtew, Berhanu and Hailemariam (2002), which was a part of an African regional study consisting of six east African countries(Djibouti, Ethiopia, Eritrea, Kenya, and Uganda),disclosed that no specific policy and arrangements made for the education of pastoralists in Ethiopia. Nevertheless, after the study, the MoE has developed pastoral education strategy, which is the focus of this study, specifically for pastoralist areas. Afterwards, standards, guidelines, manuals were prepared by the same for the implementation of the strategy.

Befekadu (2006) in his study for Italian cooperation reviewed how Alternative basic education in Afar, Oromia, Somali and Tigray national regional states had been implemented. However, his study was limited to fixed ABE implementation practices. Anis (2008) in her study, *“Education for Pastoralists: flexible Approaches Workable Models”* for Pact Ethiopia though described the mode of deliveries used in pastoral areas of the country exhaustively using qualitative study method, the focus was on the implementation of the modalities. The major difference of this study from Anis (2008) is that it did examine the relevance of the modalities in Afar context and their effectiveness.

Coming to studies focused on Afar, Ziyn (2009) for his PhD study at Adhara University, India, Fasil (2009) and Yasin (2011) for their Master Theses at Addis Ababa University examined the status of participation of pastoral Afar children in the primary schools of the region and the major challenges facing pastoralist children o education. None of them singled out the effectiveness and relevance of the alternative modalities to pastoral children. Rather they emphasized on overall participation of the region including urban, sedentary and large

commercial farm areas. Nonetheless, their suggestion centered on introducing diverse intervention strategies, on which this study opted to examine. Similarly, Samara University (2009) has undertaken a study on the situation of primary education in Afar National Regional State. The focus of the study was on the extent of coverage, quality, internal efficiency, and gender disparity of primary education in region in general, both pastoralist and non-pastoralist, without singling out the pastoralist children which is the subject of this study. Furthermore, the study did not deal with policy and strategy issues. Hence, the viability of the existing alternative modalities was not addressed by those studies directly, be it in the context of the region or the country.

Anwar (2010) in his master thesis study at Addis Ababa University dealt with the contributions of alternative basic education to primary education. However, he did not examine the contribution of other alternative modalities, mobile and boarding, being implemented at the time of his study. Further, his finding on attainment effect was based on the total enrollment of the centers. This does not show the effectiveness of the centers for failing to compute net enrollment ratio.

In general, the following three major reasons have initiated me to undertake this study. One, in Afar National Regional State, although the educational participation was found to be low, the contribution of the alternative modalities in rate of participation was not singled out from that of formal mode of delivery for absence of data disaggregated by modalities. Without such data, it is not possible to infer whether the modalities were effective or not. Thus, it is essential to explore the effectiveness of the alternative modalities.

Two, surprisingly, alternative modalities schools which are supposed to be suitable for pastoralists' ways of life, were found closed down and decreasing rather than thriving and expanding. Thus, as a worker in the region's education sector for nearly two decades, such state

of education in the region pressed me to ask what unaddressed problems are there in the strategy duly and how it may be addressed to alleviate it. The problems are structural that surrounds the design of the modalities and/or implementation. Kotter, Schelesinger and Sathe (1979) underscored that if certain problems recur in an organization; the problem is structural, not caused by an idiosyncratic individual, group, or environmental event.

Three, irrespective of those problems and the significance of the alternative modalities for pastoral children, studies conducted after the introduction of modalities in the region did hardly deal with the design of the modalities. Their emphases were on the problems of formal school system or implementation of fixed ABE for pastoralists. Thus, it is justifiable to study how the existing alternative modalities were designed and implemented. This is because unless the design and implementation problems are investigated and acted accordingly, introducing alternative modalities alone cannot be a viable solution to redress the challenges of disadvantaged pastoral children to education.

1.3. Objective

The main objective of the study was to assess the viability¹ of the alternative modalities for Provision of Primary Education to the Children of Pastoralists in Afar Region of Ethiopia. . The viability of the alternative modalities was assessed alongside the strategies and standards designed to promote primary education in pastoral areas of Ethiopia. In order to ensure the viability of the mode of delivery, three interrelated questions need to get answer. The first important question is effectiveness of the modality. Then comes to our mind factors contribute to the effectiveness / ineffectiveness of the modality, namely, Design and implementation. This is because to say the modalities are viable means. The design need to be relevant to the context of

¹ see the definition in section 1.8

the target area. Then, the relevant design must be seen implemented as designed. If so the relevancy of the design is confirmed. Furthermore, the intermediary implementers need to have the implementation capacity to continue its effectiveness; otherwise, the effectiveness is momentary. Thus, to ensure the viability, this study examined the interplays of design, implementation and outputs of the modalities as measure of effectiveness. It mainly focused on assessing the relevance of the designs on key educational issues, how the designs were implemented in the modalities and exploring their effectiveness.

The rationale of dealing with the effectiveness and implementation is to explain the interplays of designs, implementation and outputs of the modalities. As MoE (2008) stipulated alternative mode of deliveries introduced “to ensure increment in the rate of enrollment and equity and eventually realize the education for all and millennium development of education goal” (p.10). Thus,

1.4. Research Questions

In line with above objectives, the study sought to answer the following research questions. Subsidiary questions were set for ease of data collection and analysis.

1. What are the major challenges for education of children of pastoralists with conventional formal mode of delivery in Afar National Regional State?

1.1. What are the major challenges, prevalent in Afar, for children of pastoralists (at point of reception) to access primary education with conventional formal mode of delivery?

1.2. What are the major challenges, prevalent in Afar, for education providers (at point of delivery) to provide learning opportunity for children of pastoralists with conventional formal mode of delivery?

2. What designs of the Alternative Modalities, developed by MoE, are relevant to provide learning opportunity to education for children of pastoralists in Afar National Regional State?

The overarching purpose of this basic question is to assess whether the designs of the modalities are relevant to the challenges raised above and the objectives set by MoE that caused to the institution of modalities. Thus, it needs to examine the suitability of the strategies of the modalities in a position to overcome those identified challenges and its feasibility for implementation. Then, examining, the acceptability of input standards, prescribed by the MoE, for quality education. In doing so, the following subsidiary basic questions were addressed.

2.1. What characterize the suitability of the strategies of the alternative modalities, devised by MoE, in responding the challenges to provide learning opportunity to primary education for children of pastoralists in Afar?

2.2. What characterize the acceptability of the input standards of education, set by MoE for schools of alternative modalities, to provide quality-learning opportunity for children of pastoralists in the light of maintaining the quality objectives set in pastoral areas' education strategy?

2.3. What strategies are put in place, as viable design, to provide learning opportunity to secondary education for the children of pastoralists in Afar?

3. How are the modalities, opted by MoE as viable mode of deliveries for provision of education for children pastoralists, being implemented in Afar?

The concern of this research question is to ensure whether the intermediary implementers have exerted requisite effort to put into effect the pastoral education strategies developed by MoE thereby whether education inputs are made available, accessible, and acceptable to the children of pastoralists. It also assessed the strategic management capacity of the region in order to predict the viability of the modalities.

- 3.1. What characterize the strategic management practice of the Afar region to modalities?
- 3.2. What designs of the modalities, in key education issues, are implemented as they were designed?
- 3.3. Are essential education inputs fulfilled in the learning centers/ schools of modalities as required (available, accessible and acceptable) to the education of children of Afar pastoralists?
4. How effective are the learning centers/ schools of modalities towards achieving the objectives of pastoralist areas' education strategies in Afar?
 - 4.1. How do major constituents² of education (community, implementers) in Afar perceive the effectiveness of the schools/ the modalities?
 - 4.2. What are the contributions of the schools/learning centers of the modalities to the improvement of the participation rates of pastoral children towards achieving UPE (attainment effect)?
 - 4.3. What are the contributions of schools/ learning centers of the alternative modalities to the improvement of equity participation of pastoralist children towards meeting the equity targets of the region (parity in gender, parity in ethnicity participation) in achieving UPE(equity effect)?
- 3.3. How capable are the ABE center students in pursuing their education in 2nd cycle primary/ school as judged by their teachers (achievement effect)?
- 3.4. What is the status of boarding school students' achievement in regional primary school leaving certificate examination (achievement effect)?

² The major constituents of education include parents, teachers, students, experts and managers of education in REB and WEOs.

1.5. Significance of the study

This study is expected to have the following significance categorized under three major areas:

1.5.1. Policy Significances.

The study has reviewed social and natural context of the pastoral education strategies aligning with broader education policies and strategies. Thus, the study may pin down an important feedback for policy makers, for example, the challenges encountered in the practice of the devised strategies. Thus, the findings may help the policy makers at MoE and regional state level rethink on the design of the modalities of provision of education and act accordingly.

1.5.2. Academic Significance.

Study on the relevance of alternative modalities to pastoral education in Ethiopia is scanty. Therefore, this study may contribute to shed some insights in to the existing literature. It may enlighten academicians and policy makers interested in pastoral education by indicating at what conditions for what objective a modality may succeed and at what objective the same modality may fail to succeed and other related issues. The study primarily may help as a resource material for future researchers.

1.5.3. Awareness Significance.

The study may give insights on the implementation problems of the mode of deliveries. Planners at the region and woreda levels may rethink the way they develop their plan to produce cogent and viable plan that can enhance the educational participation of pastoralist groups. Moreover, REB, Woreda Education Offices [WEOs] and school level implementers such as process owners, supervisors, and learning center heads may take corrective measures on their practice to enhance the effectiveness of the alternative modalities. It may also help to raise

awareness of pastoralist communities ‘representatives on the importance of alternative modalities to provision of quality education equivalent to that of formal school.

1.6. Conceptual Framework

The study draws on the ‘rights Based Frame Work to Provision of Education’ that lends a lens through which to view the study. Rights Based Approach [RBA] to Educational provision emphasizes on the ethical inclusion of all people without discrimination. It gives equal commitment to both process and outcomes (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2007). Non-RBAs, whereas, focuses on fulfilling people’s immediate needs and tend to view achievement of tangible goals as sufficient evidence (Crawford, 2007).

UNESCO (Tomasevski, 2004) developed the Rights based framework to serve as a reference tool for policy-makers and practitioners in education to translate the globally accepted human right standards into guidelines of national education strategies. It explains why education is recognized as fundamental human right and directs policy makers to adopt compatible approach for marginalized groups including pastoralists.

To human rights, by default there are two groups: right holders who deserve quality education and duty bearers who have the obligation to providing and supporting education services. Governments hold the primary responsibilities and are accountable to the holders of those rights for their implementation. In this respect, governments have three kinds of obligations: *fulfilling*, *respecting* and *protecting* the right of children to education (UNESCO, 2007). Therefore, governments have to formulate policy and devise strategies that guide implementers to realize such policy goals.

Although Ethiopia did not explicitly enshrined education as right in the 1995 constitution, the current working constitution, the 1994 education policy and the accompanying policy instruments, and the international commitments, the country signed, such as MDGs, show its

commitment to respect the right of education for all children of the country. The 1994 Education and Training Policy (article 2.1.1) set objective to provide basic education for all within 20 years. The 1995 Constitution of the FDRE (article), that gives guarantee the right of all citizens to get equal access to public social services, has also enhanced the right to equal opportunity for citizens to education services.

According to RBA, policy instruments have to underpin on three basic principles of the right of access to education. a) The provision of education throughout all stages of childhood and beyond, b) The provision of learning opportunities (sufficient and accessible school places), and c) equality of opportunity to quality. In this approach, it is not acceptable to discriminate between groups of children on quality provision for scarcity of resources (UNESCO, 2007). UNESCO clearly stated, “Whenever possible, efforts need to be made increase the budgetary allocation to ensure there is access to quality education for all children “(p. 23). This implies that as government has a prime responsibility to address the right holders, it has to set goals consistent to international educational conventions and devise strategy to overcome the challenges that hinder meeting the intended goals. Thus, if the proposed strategy has no impact to solve the problems of right holders (pastoral children in our case) in consideration to challenges of duty bearers too, it should be refined. However, the question is how do we judge whether a strategy is relevant or not? The Association of Business Executives and Business Training (2008) adopted three criteria of assessing strategy i.e. suitability, acceptability and feasibility.

Suitability: Refers to the extent to which a proposed strategy fits the situation as identified by a strategic analysis, and how well it would address the problems, sustain, or improve, the existing situation. Heron (1983), for example, noted that if educational objectives are characterized by non- educational objective or lack of overall understanding of the contexts of pastoralists, it results in poor interest of the pastoral children.

Acceptability: In addition to the suitability of the strategy, it is also necessary to consider the opinions of stakeholders including the target communities, sponsors and other stakeholders. Fowler (2000) pinpointed that if central office advocates a new policy or strategy, they need to make sure the grass-root implementers (such as teachers) and target population (pastoralists) understand and accept them. Fullan (2007) has reminded us that beneficiaries accept new programs and show enthusiasm when the program addresses their felt needs. Beneficiaries accept programs if the provision is quality and relevant. To that end, government has the obligation to set minimum quality standards for education

Feasibility: suitability and acceptability alone are not enough to make effective strategy rather the ease to operability is essential. According to Baum and Tolbert (1985), feasibility assessment need to answer whether a proposed intervention is technically sound (availability of needed input technology and the experience to use them), administratively workable, availability of adequate demand, institutionally viable (well adapted to existing or potential administrative abilities), financially viable, compatible to custom and traditions of the beneficiaries. The scope of the study hinges on the nature of the program: How much is already known about it and the extents of innovativeness or repetitiveness determine the scope of the study. However, financial feasibility is imperative to look at.

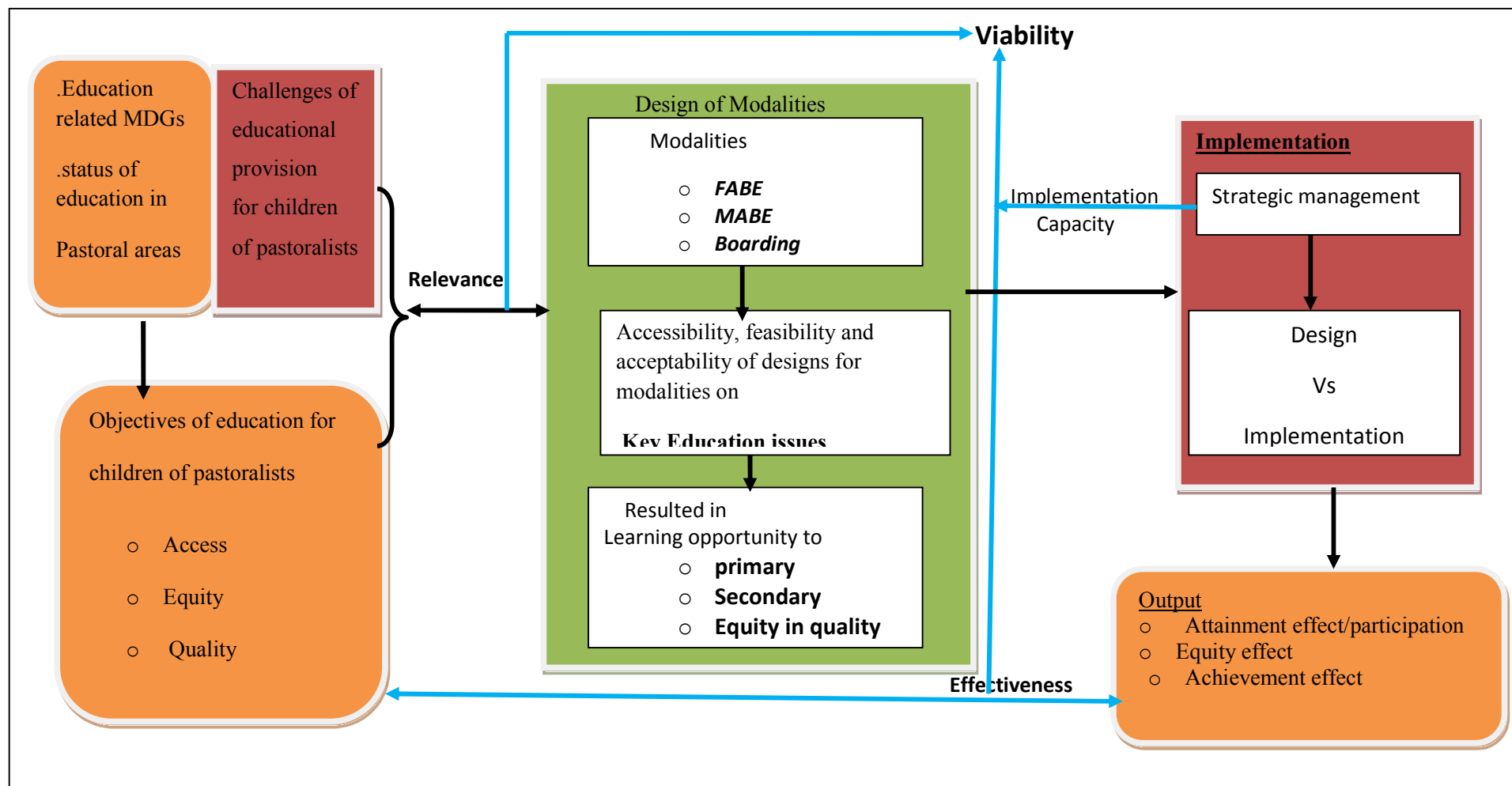
Formulating relevant strategy by itself is not sufficient to address the right of children unless implemented properly. As per the RBA, in implementing the strategies, governments have obligations to make education *available, accessible, acceptable* in quality and relevance, and *adaptable* to the needs of the target communities, described as four-A scheme (Tomasevski, 2004).

Availability refers to governments' obligation to ensuring that free and compulsory education of good quality is available to all school age children. However, for fund constraints

realization of governments' commitments can be progressive. *Accessibility* of education means elimination of all forms of discrimination, and prioritizes excluded, vulnerable, marginalized and/or disadvantaged children. In addition, accessibility relates to the primary, secondary and tertiary levels of education in different ways. Free and compulsory education is available as soon as possible, and facilitating access to post-compulsory education as circumstances permit.

Acceptability concerns with the relevance and quality of the education program so that government has to set minimum quality standards for education. *Adaptability* concerns to respecting the key principle of child rights, i.e. school systems must necessarily adapt to the various needs of individual students. This involves flexibility of learning time, teaching promoting all-inclusive educational policies children with disabilities, or minority.

To structure the study, in conjunction with the right based framework to provision of primary education, the conceptual framework was adapted from the model developed by UNESCO to evaluate '*relevance, efficiency and effectiveness of education policy*'. It also takes into account the literature discussed in chapter two and the strategies and standards developed by the MoE (MoE, 2008b) for pastoralist areas. The following schema shows the framework of the study.

Figure 1: Conceptual Framework of the Study

Adapted from UNESCO (2013, p.39). UNESCO handbook on education policy analysis and programming

As portrayed in figure 1, the framework shows the interplays of the followings. One, the objectives of pastoral education strategies set by MoE (2008b,p.10) taken its origin from MDGs and the challenges to pastoral children , two, design of modalities embedded in the three alternative modes of deliveries, three, Implementation practices of the Region pertaining to the modalities, four, outputs achieved by the learning centers and schools.

In doing so, the crux of the framework is assessing the viability of the design of the modalities. As Heron (1983) clearly set forth, to assess the nature of problem of educational program and its solution, it needs to examine the key issues (pillars) to education i.e. purpose of education, organization of school/facilities, teaching force, and curriculum. Management is another key issue that needs to suit the arrangement of the four educational pillars. The crux of the framework is, thus, the designs (strategies and standards) of the modalities on five strategic issues (curriculum, school facility, instruction time, teaching force and management) supposedly help to ‘‘expand access equitable, quality and relevant education to pastoral children and bridge the gap between pastoralist and non-pastoralist areas of the country.

Accordingly, first, keeping in mind the very objectives that initiated MoE to institute alternative modalities, the major challenges in providing education for pastoralist children were identified. Subsequently, the designs (strategies and standards) of each modality (FABE, MABE and Boarding) on each of the five key issues were examined against three criteria (suitability, feasibility and acceptability). This was done to ensure the designs are relevant to the challenges identified and the predetermined objectives. Then, implementation practices were analyzed. At this point, it was checked whether the modalities put into effect as designed. Further, strategic management capacity of the region was analyzed. Eventually, the effectiveness of the modalities in the region was explored.

This is done with the following views learnt for the literature reviewed. (A), if the designs are devised in way responsive to the challenges thereby enable to meet the predetermined objectives, the modalities are believed to be ‘*relevant*’ to provide learning opportunity for pastoral children. (B), suppose the outputs achieved meet to the objectives, the modalities are ‘*effective*’. (C) However, if the implementation deviates from the design, the outputs cannot explain the effectiveness of the modalities. (D), effective and relevant modalities is said to be ‘*viable*’ if the organization has acquired strategic management capacity to sustain its success with the change of time and contexts. This is because, as Maggie (2001) clearly stated, operational effectiveness alone does not guarantee viability unless implementation is strategic. Operational effectiveness shows existing things have been done well, whereas, strategic effectiveness depends on the context and that context changes over. Thus, examining actual implementation helped not only to identify whether the modalities were implemented as designed but also helped to find out whether the region had the required implementation capacity to make the modalities effective for future.

1.7. Scope of the Study

Pastoral children in Afar are attending primary education in conventional formal schools and alternative modalities to formal school. Nevertheless, this study was delimited to alternative modalities to formal school. This is because, as scholars (for example, Kratli, 2001; Malinga, 2009) clearly articulated, the ineptness of formal or conventional approach to provision of education for pastoralists is indisputable. Similarly, in Afar National Regional State non-formal education focusing on literacy has been underway by NGOs in fixed learning centers and mobile school. One could opt to undertake a study such as this one to conduct on both formal and non-formal curricula. However, for the sake of manageability and resource scarcity, the purpose of

this study was tuned to alternative modalities providing formal curricula equivalent to formal school for school age children. A formal curriculum was preceded over non-formal education for international conventions, such as the 1948 human right declaration (UN, 1949) gave emphasis on provision of formal primary education at fundamental age. Thus, formal mode of delivery for pastoral children and non-formal education for adults and children were not the sphere of this study.

There are many models of organizational effectiveness such as output goal attainment, system resource, internal process, strategic constituencies, competing values (Robins, 1990; Robey & Sales, 1994; Cameron & Whetten, 1996). In this study, output-goal attainment model was used. This is so for the fact that Robbins (1990) stated that it is the widely used criterion of effectiveness and apt to measure the attainment of the pastoral education strategy objectives this study focused on.

Moreover, educational success is the combination effect of many internal and external factors of schools, in analyzing the viability of the alternative modalities, the study has focused on the design and implementations of five strategic issues of education system: The way school facilities, instruction time, curriculum, management system, and teaching force were designed and put into effect. This is because, as discussed in the conceptual framework of this study, Heron (1983) clearly explained the issues are the core strategic issues to examine the nature of educational problems and solutions for problems.

1.8. Limitations

One of the major limitations of this study was being unable to show the trends of pastoral children participation in terms of NER and NIR by livelihood precisely. This is because, the participation of Afar school age children disaggregated by pastoralist groups (agro-pastoralist,

transhumant and sedentary) was not captured by MoE and REB annual education statistical abstracts. The CSA also did not capture the school age children by pastoralist and non-pastoralist. It is understood that the overall data of the region could not reveal the gap between sedentary and pastoralist, urban and pastoralist groups. Thus, analysis was limited to proxy data, on current enrollments of sample centers, and current enrollments of Afar ethnic group and others collected from all schools for this study via REB. Furthermore, unlike formal schools, the MoE as well as REB annual education statistics abstract did not capture the alternative education students' dropout and repetition. Thus, the measure of effectiveness in this regard was based on current year data. Had it been those data available, the study would have been more comprehensive.

The other limitation is related to measuring the quality educational provision. In measuring the effectiveness of the educational institution using output goal attainment, two groups of the output indicators are frequently employed: cognitive and non-cognitive. Cognitive indicators include achievement test score of students. Non-academic indicators include participation and transition such as enrollment, dropout, retention, graduation, transition and competency to next level of education (Seiler, Ewalt, Jones, Landy, Olds, & Young, 2006). Thus, the study opted to use non-cognitive indicators except grade eight leaving certificate examination results for boarding school students. This is because measuring students' achievement in test score requires developing standard test, which is beyond the capacity of this study for lack of resources.

1.9. Operational Definitions

Alternative Basic Education: concerns the provision of basic education for Afar National Regional State pastoral children in three or four years by way of fixed village learning centers or mobile schools.

Basic Education: In Ethiopia, basic education refers to primary education of the first cycle, grades 1-4. The FDRGE Education sector strategy stipulated, “A primary education from grades 1-8 subdivided into two sections of basic (1-4) and general (5-8) education” (FDRGE, 1994b, article I.1.b). It focuses “on literacy, numeracy, environment, agriculture, crafts, home science, health service and civics” (FDRGE, 1994a, article 3.2.6.).

Effectiveness: This study takes the definition of effectiveness by Hawes & Stephens cited in Barrett, Duggan, Lowe, Nikel and Ukpo (2006), i.e. “the degree to which the objectives of an education system are being achieved” (p.15). Accordingly, the effectiveness of the modalities will be evaluated by the extent the modalities enable to achieve the goals of equity and quality education as measured by participation rates, internal efficiency, GPI, students test scores, etc

Quality:

Livelihood: Describes the ‘capabilities, assets (stores, resources, claims and access) and activities required for a means of living’ (Chambers and Conway cited in Davies & Bennett, 2007.p.490). In this study, livelihood concerns the two dominant means of living for ethnic Afar rural people (pastoralism and agro-pastoralism) subdivided into seven zones as differentiated by geographical location (see annex I).

Modality: refers to the various approaches for provision of educational service. In this study, the modalities are the innovative approaches used to provide primary education to pastoral children in Afar. It includes the delivery systems in fixed ABE center, Mobile schools, and Boarding school.

Pastoral children: pastoral children in this study refers to rural inhabitants primary school age children (age 7-14) in all seven livelihood zones whose household livelihood depends largely on transhumant or agro-pastoral livestock production.

Viability: Oxford Advanced Learner's Dictionary defines the word viable as "that can be done; that will be successful" (Turnbull et al., 2010). The term as it relates to this study refers to the capability of the alternative modalities to provide quality primary education for all pastoral children in a way that is sustainable. Viability of a modality is therefore ensured when the design of modality is relevance; proven effective in its implementation and the implementer has strategic capacity to continue the effectiveness.

Relevance: If a policy /strategy of a program respond to the identified need, it is hypothetical relevance (UNESCO, 2013). Thus, relevance concerns the extent to which the appropriateness of the design of modalities to the objectives of pastoral area education strategies as well as to the context of the pastoralist areas (challenges of to provide education for children of pastoralists). The design of the modalities has two parts: strategy and standard

Strategy: A strategy sets the direction for achieving the goals and priorities set by the policy, specifies how the goals are to be achieved (UNESCO, 2013, P.9). Strategy in this study concerns the directions stipulated by MOE, it answers the *how* question. How the modalities are put into effect, to provide learning opportunity to primary education for all pastoral children. A strategy is appropriate if it is suitable to the pastoralists (Benign to the ways of life, culture, needs etc) and solves the challenges of providers and feasible to implement.

Standard: standard concerns the quest to quality. Minimum acceptable quality of inputs required for a modality of schools to achieve the minimum learning competency of students set for each level of education. For example, the qualification of teachers, amount of instruction time for each grade level or subject required to complete.

Quality: Commonly, quality refers satisfying the needs and expectation (Hanson, 2003). In this study, quality refers to attainment of students of modalities expected at completion of levels of

primary education (grade 4 and 8) as measured by the mastery of knowledge and skills by students as measured by examination test score and the capability of students to follow the next level of education as assessed by their teachers. Thus, opportunity to quality education is analyzed with common quality determinants that include standards of qualification level of teachers, education materials, and facilities.

Equity: Equity of education refers to different types of disparities in sub groups of a society with respect to access, internal efficiency and quality (UNESCO, 2010) as an effect of faire allocation of resources. In this study, equity is measured by the contribution of modalities in reducing disparity in enrollment between boys and girls, between Afar and non-Afar students.

Chapter Two: Review of Related Literature

In order to comprehend the nature of the challenges faced in providing education for pastoralist groups and to visualize the way appropriate modalities need to be designed, the related literatures were reviewed. It begins with brief survey of education of pastoralist communities in Ethiopia. Following this, the forms of pastoralism based on their level of dependency on livestock, settlement type, and degree of movement of pastoralists are reviewed. This is so because the challenges of pastoralists to education entangle in their ways of life, and hence, the design and implementation of education modes of delivery has to address these challenges. Then, challenges of pastoral education are discussed.

Challenges to education of pastoral children and strategies to overcome those challenges are context bound. Therefore, no single comprehensive theory or model is chosen to examine the challenges and strategies adapted to overcome the challenges of pastoral children under this study. Rather, in a pragmatic way, practical challenges, noted by many scholars, that have been evident in many pastoral areas and the designs of innovative modalities, implemented in many countries, are reviewed. Following the challenges, strategies to overcome the educational problems, i.e. organization of educational program to be designed and innovative mode of deliveries for pastoralists are also reviewed.

To the end, following the brief review on how to organize the management of education in pastoralist areas and implementation of strategy, the measurement of educational effectiveness is discussed. This is so because it helps to conceptualize how to measure the effectiveness of the learning centers/ schools of modalities towards achieving the objectives they were introduced for, i.e. increase enrollment, promote equity, and maintain quality provision of education.

Accordingly, pursuant to the output goal approach, the measurement of educational attainment, achievement, and equity are presented.

2.1. Overview of the Education of Pastoralist Communities in Ethiopia

from early Christian era until the end of 19th century, formal education had been controlled by Ethiopian Orthodox Church with the intention to maintain the dominance of Orthodox Christianity (Noonan cited in Ayalew, et al, 2002), regardless of the faiths of pastoralists and other Ethiopians other than Orthodox Christianity. As a result, besides preparing deacons and priests for its own service, the church served as a source of educated civil servants, such as scribes, treasurers and general government officials (Teshome cited in Ziyn, 2009).

Emperor Menelik II made a turning point in modern education history of the country. He managed to traverse the dominance of Orthodox Church and its age long opposition for introducing modern education in the country. In this regard, Jackson (2011) stated:

Towards the end of the nineteenth century, Menelik II permitted the establishment of European missionary schools. At the same time, Islamic schools provided some education for a small part of the Muslim population. At the beginning of the twentieth century, government-sponsored secular education was introduced. (p.20).

Although in decline, the influence of Orthodox Church continued at different degree during the era of Menelik II, 1889-1913, and after. For this reason, Menelik II had to negotiate with church leaders. By 1907, when some ten ministers were assigned for various departments, education had been left in the hands of the church; expatriate teachers were hired from Egypt Christian followers; Orthodox faith had been taught as a subject (Teshome cited in Ahmed, 2002).

During Empress Zewditu Menelik, let alone schools reach to pastoralist areas, the resistance of clergies and noblemen for modern education expansion had become stronger. They succeeded

not only curtailing expansion of schools to provinces but also to the extent of closing the existed ones. As a result, among other things, until 1935 when the country was invaded by Italy, within 27 years of the modern education history of the country, there were only 21 schools (Ayalew et.al, 2002). Moreover, the schools were located in the urban areas (Alemayehu and Lasser, 2012) which are difficult for pastoralists to access.

Thus, the commencement of modern education in pastoralist areas of the country was not only late but also low paced. Of course, before introduction of modern education, Islamic religious education was evident in pastoralists' areas. For example, in Afar, Islamic education, that uses non-formal approaches, was provided ever since the introduction of Islam in Afar in 615 (Gamaluddin & Hashim, 2007). Similarly, in Ethiopian Somali, Quran education was prevalent before the introduction of modern education. Similar to Afar, about 86% of the population of Ethiopian Somali lives in rural areas (FDRGE Population Census, 2008), and are mainly pastoralists and, to a lesser extent, agro pastoralists (Jackson, 2011).

The first primary school in pastoralist areas was established in 1930 in Jijiga town (Jackson, 2011), the seat of present Ethiopian Somali regional state after 22 years establishment of the first modern school in the country, Menelik II in 1908 at Addis Ababa. The school had been named after Ras *Mekonon*, father of Emperor Haile Selassie, now renamed as *Sheik Abduselam* and upgraded to secondary school. The second primary school named Sebelewongel primary school was established in 1948 in Awash Sebat town, Afar National Regional State. Now the school renamed *Awash Primary School* (up to grade 8). Reportedly, the school was established with the intention to serve the children of Afar and, Kereyu pastoralist community of Oromo (Afar REB, 2008). However, both schools were conventional formal school configured to sedentary life style. Then, in 1951 in Jijiga, Ethiopian Somali, and in 1954 in Aysaita, Afar, additional schools were

opened. The Jijiga primary school was conventional school as that of its predecessor while the Aysaita primary school named as *Atse G/meskel* was boarding school [named after throne name of Lalibela]. The school started with 50 students mainly selected from chieftains. The school renamed now *Mohammed Hanfre* and upgraded to secondary school (Wondye, Mekashaw, Woson & Bahru, 1996). Mohamed Hanfare was the fifth sultan of Afar, ruled from 1860 to 1900 E.C (Awsa Awraja Education office, 1982). In Afar, three more schools, namely, Berahale in 1959, Dubti in 1961 and Mille in 1966 were added in late 1950s and early 1960s (Ahmed, 2002). Similarly, in Ethiopian Somali four more primary schools in Dehegabur, Kebridaha, Sagag, Degamadaw (Warder) were made available in mid of 1960s (Jackson, 2011). In Ethiopian Somali, the first Secondary school was opened in 1963 after 33 years of the first primary school establishment (Jackson, 2011) and in Afar the first secondary school was opened in Dubti town in 1981 (Afar REB, 2008), after 33 years of the first primary school establishment in the region.

Besides opening formal schools, during Emperor Haile Selassie (1930-1974), two strategies had been used. Opening boarding schools and giving scholarship in other parts of the country and abroad. However, neither children nor parents in the pastoralist communities had been attracted. The reason runs on that learning modern education was associated with Christianity in the minds of pastoralists (Awsa Awraja Education Office, 1982; Jackson, 2011). With regard to this, citing one elder Somali interviewee, Jackson stated the views of Ethiopian Somali

Haile Selassie invited chiefs to nominate children for schooling but most people were suspicious because they thought their children would be converted to the Ethiopian Orthodox Church [Christian faith]. [Recalling his childhood the informant continued to say] Haile Selassie asked the leader [a leader in charge of the area] to bring 100 young boys

to Addis Ababa for education. No one trusted him, people thought they might be brainwashed, so in the end only four boys were taken. p.20

This perception seemed emanated from the problem of curriculum relevance. For example, in their review to the historical trends of education in Ethiopia, during reconstruction period from 1941-1955, Alemayehu and Lasser (2002) clearly stated, “The Bible served as an Amharic textbook from grade one to four. As a result, non-Christian peoples were obliged to follow the Bible” (p.59).

, in Afar (May be to offset this perception), besides Aste Gebremeskel School, Islamic education and Arabic language had been given. The teachers for formal curriculum were hired by MoE while Arabic language and Islamic education teachers had been hired by the then Sultan of Afar, Sultan Alimirah, from Egypt (Awsa Awraja Education office, 1982). The Awraja Education office added that after completing grade Six, students had chance for getting scholarship to Arab countries to pursue further level of education. Here it is important to note the influence of Egypt in the commencement of modern education in Ethiopia. It was paramount for both the followers of Christianity and Islam to get them accept the newly introduced modern education in the country.

In general, during the Emperor Haile Selassie governance, efforts were exerted to reach pastoralists areas than ever before. Some children of chieftains of the pastoralist people were brought to the urban centers either for boarding schools or given stipends for their sustenance from government funds. However, according to Shibeshi and Kidane(1997), children who got this opportunity were a few in number and they were prepared to serve the then existing political system. Thus, it suffice to say, in this era, albeit actions made to address pastoralists areas increased , most pastoralists in Ethiopia had no real opportunity to modern education ascribed

mainly to problems of relevance of the education, coverage and conventional formal mode of delivery to pastoralists.

During the Military/Socialist System governance (1974 to 1991), although schools established in pastoralist areas increased, in a bid to universalize primary education by 1992 (MoE, 1982), the effect on pastoralist learning was not significant. This is because, not only due to the inherent problems of formal schools to suit the pastoralists but also the number of schools had been very limited in contrast to the geographical areas as well as the school age population. The schools were concentrated in towns and State Agricultural Plantations characterized by high population density and settled permanently at point of location to pursue sedentary way of life. No special arrangement was made for pastoralist areas. Therefore, as Shibeshi and Kidane (1997) indicated, pastoralists could not send their children to the schools for they were not accessible for them. Shibeshi and Kidane evidenced that almost all junior and higher secondary school during Haile Selassie and socialist governance in the country had been located in medium and large towns. It is a recent past to recall that curriculum content and organizations, instruction time schedule, management system, medium of instruction across the country for primary schools in the socialist government were the same regardless of diversified cultures and languages the country has. The 2007 census identified more than 87 Ethiopian languages as mother tongues.

In the present, federal system, government, besides expanding formal schools in rural pastoral areas as that of disadvantaged rural areas, various arrangements were made for pastoralists in a bid to meet universal primary education for all children by 2015. These include establishing boarding schools, instituting ABE in fixed centers and mobile schools, using mother tongue as medium of instruction, introducing Food for Education Program for food insecure

areas. Currently, in the two predominantly pastoralist regional states all levels of education from kindergarten to university are available.

In 1997, there were four boarding schools in Sothern Omo zone in SNNPR with 400 students (Shibeshi and Kidane, 1997) and one boarding school in Afar (Afar REB, 2008). Furthermore, with the intention to produce working force for pastoralist regions, as emergent regional states in the present governance, in short span of time (Afar, Ethiopia Somali, Gambella and Benshangual- Gumuz), an Adult Boarding school named *Ediget Adults' Boarding School* was also established in 1998 in Addis Ababa. The school served to provide education for adults and dropout students from these regions from grade 5-12 (Ayalew et. al 2002). It served up to 2011, 2003 EC, The MoE in 2013 the boarding schools including hostels schools increased to 16 , five boarding in Afar and 11 hostel in SNNPR, (MoE, 2013b). Now, according to MoE department in charge of pastoralist areas education, though no reliable data, a number of hostels and boarding schools have increased and expanded to Afar, Ethiopian Somali, and Oromia and SNNPR pastoralist areas. Besides government, community (for example in Borena zone of Oromia), NGOs (for example Mekaneyesus, Catholic), and UNICEF are involved to establishment of the schools and/or sponsoring the sustenance of the students. The community boarding schools in Borena raised income by levy. Every community member agreed, reportedly, to pay two Ethiopian birr for every animal sale.

Within 10 years, ABE which began in 2003,in 2012/13, the total number of learning centers established in pastoralists areas of Afar, Ethiopian Somali, and pastoralist communities of Oromia and SNNPR states reached 2837 (MoE, 2013c). To this effect, as evidenced by MoE (2012) education statistics annual Abstract, in 2012/13 ABE centers gave opportunity to 14.55% of Afar and 36.22% of Ethiopian Somali primary school age children. In pastoralist

areas woredas of SNNPR (12 woredas) and Oromia (33 woredas) it also contributed to reach the Gross Enrollment Ratio [GER] of pastoralist areas to 73.2 and 63.3 respectively.

. With regard a shift to mother tongue instruction, Oromia and Ethiopia Somali National Regional States were the pioneer to provide primary schools for pastoralist's areas for indigenous children in their mother tongues. This is because, as Teshome (2001) mentioned the two languages are among the five languages), labeled as relatively developed written form. Teshome continued to say upon the current government took the mantle of power in 1991, the government decided by conference to start immediately for primary education instruction in Oromiffa, Tigrigna, Somali, and Sidamigna[before that Amharic was medium of instruction] . Unlike other emergent regions, the availability official script for Somali language, the experience gained from national literacy program during the socialist government, and the opportunity to use educated abroad, in Somali for offices and teaching, were instrumental for the prompt start of the language as medium of instruction for formal school primary (Jackson, 2011). However, in Afar, because of dire shortage of educated Afars, until ABE started in 2003, Afar language use as medium of instruction had been limited to formal primary schools as a subject. Still, Afar REB (20014) study revealed the teaching learning of Afar language in primary schools was found not effective for shortage of sufficient qualified teachers and lack of meaning full preparation.

In general, in the effort to realize the 1994 Education policy objectives and MDGs through implementation of successive ESDPs, coverage in primary education improved significantly. Afar NER has increased from 11.00 to 32.1 between 2003/04 (MoE, 2005) and 2012/13 (MoE, 2013a) and Ethiopia Somali increased from 11.6 to 35.6 for the same years. Problems in retaining the enrolled ones and in quality provision in pastoralist areas, however, remained as challenges to meet the envisaged MDG targets of education. Of course, the problem

in quality educational provision is pervasive countrywide. Yet, problem in pastoralist areas is worse. Shortage of qualified teachers, inadequate educational materials and facilities were more severe in pastoralist regions (MoFED and UN country Team, 2012). Cognizant of this, the government had designed General Education Quality Improvement Program (GEQIP) in ESDP IV in 2010 and implemented across the country including pastoralist areas.

The other strategy, the present government implementing in pastoralists areas as demand side strategy, is Food for Education Program that aims to increase enrolment, reduce gender gap, increase retention, and attentiveness of students in classroom (Jennings, 2011; Woson, 2013). To this end, the MoE in partnership with WFP is providing Hot *Meal Snack* at daily base at school. Moreover, *Take Home Oil* ration is being given for girls since 2002, subject to their attendance record in a month, a girl who attends at least 80% of school days in a month receives 2 liters of oil per month for 8 months in a year. The hot meal snack initiative was started in 1994 in four regions, namely, Afar, Oromia, Tigray and Amhara. Later, SNNPR and Ethiopia Somali are included while the Girls take home ration was started 2002 only for schools in rural pastoralist areas (Woson, 2013). With regard the outcome, Jennings (2011) in Ethiopian Somali, Gambella and SNNP and by Woson (2013) in Afar, reported that regional education bureaus and WFP believed the programme has contributed towards increasing enrolment, stabilizing attendance and reduction of gender disparity in education. For the hot meal snack is a mixture of fortified blended food, vegetable oil and salt, it is believed to be palatable and nutritious for children of poor pastoralists so that it may induce students to come to school regularly and make them attentive in classroom learning.

2.2. Forms of Pastoralism

Clear understanding of pastoralism and pastoralists is essential before proceeding with the discussion of the challenges and strategies of pastoral education. Carr-Hill and Peart (2005) indicated “Pastoralism sometimes used interchangeably with the term “nomadism” (p.24). Following this delusive appellations, Carr-Hill and Peart (2005) figure out nomad as “ethnic or socio economic groups who constantly travel and migrate in large and small groups in search of means of livelihood within a community or across international boundaries” (p.23). Wayne cited in Owniy (2006,p.37) stated that the word “*nomad*” is derived from the Greek word–“*nomos*” – people who move with their households in search of pasture for their animals”. Owniy continued to explain that the term nomad is a common metaphor for aimless wandering though indeed not. Further, nomadic is not limited to pastoralists it also includes others such as fishing communities, small scale mining groups, tea harvesters, sugar cane cutters who are peripatetic. For example, in the United Kingdom migrant agricultural workers and new age travelers, in Tanzania hunter/food gatherer such as Hadzabe, the Romany gypsies of Europe are considered as nomadic (Carr-Hill & Peart, 2005).

About pastoralism, Bianco (2006) conceptualized it as “the finely-honed symbiotic relationship between local ecology, domesticated livestock and people in resource scarce and highly-variable regions often at the threshold of human survival” (p, 6). The above definitions made it clear that nomadism relates to the degree of itinerant that is characterized by constant movement to avail of themselves from natural environment, whereas pastoralism is related to tending herds of animals in resource scarce areas. For this purpose, the definition of Bianco seems compressive and workable.

Pastoralists are different from breeders and livestock keeping farmers. According to Bianco (2006), peripatetic and feeding the livestock natural forage are the peculiarity of pastoralists that distinguish them from breeders and livestock keeping farmers.

Pastoralists can be classified based on degree of movement, settlement type and level of dependency on livestock (economic definition). Categorizations were criticized (for example Kratli, 2001) on the ground that pastoralists are flexible and opportunistic. For example, according to Blench (2001) transhumant in West Africa follow regular patterns of movement, in case of extreme drought or disease stress; however, they switch to highly 'nomadic' patterns, moving to new areas.

The argument of Blench seems sound. Their movement, dominant means of income and settlement varies depending on situations. Nonetheless, Carr-Hill (2005) subscribed the classification for it is useful for service deliveries such as education. This is because, appropriate service delivery is likely to be different for those who have settled partly and for those who are mobile permanently. Thus, for our purpose, looking at their degree and pattern of pastoralist movement is meaningful for frequency of movement affects the schedule of education services. Accordingly, the categorization differentiated based on degree of movement type is reviewed below.

Nomadic pastoralist: are group of society who mainly live and derive their income from raising domestic livestock and move from place to place. They do not have a recognized place of residence and crop production, if any, is only a supplementary activity, (Carr-Hill, 2005).

Transhumance: refers to pastoralists with movement of livestock who have recognized and a permanent homestead and more or less have regular routes between fixed points to exploit seasonal availability of pastures but may disrupt by climatic, economic or political change.

Transhumance is often associated with the production of some crops, although primarily for herders' own use rather than for the market. A characteristic feature of transhumance is herd-splitting (Blench, 2001, Carr-Hill & Peart, 2005).

Agro-pastoralism: are pastoralists who engage in crop production integrated with livestock husbandry in equal proportion. They cultivate to feed their families from their own crop production (Blench, 2001).

Enclosed systems and ranching: enclosed systems or ranching is extensive livestock production system, different from traditional pastoralist system, where the pastoralists own land individually and usually fenced. The United States pastoral system has gradually transited from common ownership systems to a fully enclosed system. Some European systems are more of ranching with a few enclosed systems. Ranching is the dominant system in North America, Australia and parts of South America, notably Argentina (Stricken cited in Blench, 2001). The other categorization of traditional pastoralist system is the *degree of movement*, from highly nomadic (pure nomadic) through transhumant to agro pastoral (Blench, 2001). Blench categorization does not include enclosed and ranching systems that are prevalent in Europe and America.

As regards settlement, Malinga (2009) classified the African pastoralist into three stages towards sedentarisation (settlement type): Nomadic pastoralist, agro pastoralist, and transhumant. According to Malinga nomadic pastoralist, do not have recognized place of residence. In contrast, agro-pastoralists live in semi-permanent settlements while transhumance have recognized and permanent territory.

On economic classification, Swift cited in Adugna (2012) categorized as pastoralist and agro-pastoralist. According to Swift, "pastoralists are households or populations where more than 50%

household income / consumption is derived from livestock or livestock related activities, either as a result of sales of livestock products or of direct consumption, and agro-pastoralists as deriving 25-50% income / consumption from livestock produce”(p.44). Notwithstanding the two dominant income sources of pastoralists’, diversification is common in pastoralist areas. The diversification may involve trading, farm, labor employment differ sharply by the degree of freedom of choice (to diversify or not), and the reversibility of the outcome. The impetus for diversification is either for survival or to accumulate wealth (Kejela, Bezabih & Waktole cited in Adugna, 2012).

In Afar Region, similar to Swift’s economic definition, pastoralists are categorized into two: Pastoralist and Agro-pastoralist. However, no clear distinction was made on the level of income dependency on agriculture and livestock. Sometimes pastoralist and pure pastoralist are used interchangeably. According to Afar DPFSB (2006), around 88 % of the rural Afars practice transhumant pastoralist way of life whilst 11% of them are agro-pastoralist. These pastoral groups are subdivided into seven livelihood zones comprising of five-transhumant pastoralist and two agro- pastoral. The Afar DPFSB uses the term ‘pastoralist’ for transhumant pastoralist. Unlike Malinga definition (2009) based on settlement, the agro-pastoralists have permanent homestead whereas the transhumant live in semi-permanent homestead. Both transhumant and agro-pastoralists have clan-based permanent territory. With regard to mobility, the transhumant pastoralists are more mobile than agro-pastoralists. This calcification on degree of movement fits with Blench’s (2001) categorization. However, according to Afar DPFSB (2006) assessment in Afar there is no nomadic pastoralists typified by absence of recognized place of residence and, enclosed system and ranching as well.

2.3. Challenges in Providing Education for Pastoralists

Shagbark, Bello, and Umar (2013) pointed out that despite efforts of governments to provide equitable quality primary education for all in a bid to achieve UPE goals, nomadic groups in the world were found at the bottom of the ladder in educational participation. Disproportionate numbers of pastoral children were out of school; even from those enrolled many of them were found dropped out before completing basic education. The problem to girls is worse and compounded in contrast to boys.

Concerning the contributing factors to the problems of low enrollment and high dropout, some blame the recipients while others the providers. Mainstream explanations blame the nomadic groups, for their obsolete way of life, for keeping their children out of school or withdrawing them. Conversely, less mainstream perspectives recognize pastoralists' difficulty in using formal education in terms of distance, costs, security, etc. Thus, according to less mainstream perspective, the problem is more of to the incapacity of a national system to respond to the living conditions of the target pastoral population than the nomadic group way of life (Kratli, 2001). The latter argument seems sound. Pastoralists move from place to place not because they are backward but to use the scarce resources effectively. Further, to avoid risk of drought and disease, they tend to diversify livestock herding so that their production system demands extensive labor. Thus, whatever they value education, they could not send their children to formal school at rigid time schedule on the expensive of the family welfare.

Amidst of this, it is worth to note government's capacity problem to deliver standard schools for pastoralist characterized by dispersed settlement. Thus, rather than blaming one or the other, it seems important to emphasize the problems of both groups. As education is a right for every child and governments have prime duty bearer to those rights, understanding why pastoralist refrain to

sending their children to school or dropping them out is pivotal. As resource is scarce and governments' capacity is limited, analyzing the challenges of providers is also equally important.

In line with this, nowadays researchers came to explain the challenges on supply and demand side issues. For example, Kratli (2001) explained the challenges as practical problems (such as mobility, remoteness, insecurity, and poverty of nomads) and cultural problems (such as nomads' conservatism, ignorance, culture, parental selection). Further Kratli subsumed those challenges into supply and demand issues. Carr-Hill and Peart (2005), however, noted that because of the difficulty of sorting out some issues into supply or demand they prefer to subsume from perspective of providers and nomads as depicted below.

Table1. Supply and Demand Issue challenges for Education of Pastoral Children

problem	Providers' perspective	Nomads' perspective
Low enrolment	Target group mobility	Cultural distance of service
	Remoteness of pastoral area	Alien language of teaching
	Low motivation of teachers Parents' ignorance	Cultural alienation of school Insecurity for children
High dropout	Nomads conservatism	Low quality
	Child labour	Parental exclusion
	Curriculum irrelevance	Risk prone school environment Generally hostile

Source: Carr-Hill and Peart (2005). The education of nomadic people in Africa, (p.109)

Carr-Hill and Peart (2005) noted that researchers in different countries found schools in pastoral areas were few and not accessible to pastoralists in reasonable distance. The attributing factors are explained from providers' perspective, the challenges facing providers to make schools accessible. On the other side, in areas where a few schools are available, schools were empty, or almost so. This scenario is likely to be explained from pastoralists' perspectives: problems facing pastoralists to use those available schools.

It is also possible to explain the challenges, as portrayed in Table 2 below, evident at point of delivery) and challenges evident at point of reception.

Table 2: Challenges at point of delivery and reception for education of Pastoral children

At point of Delivery Funding: building and maintaining schools in harsh and remote rural areas is costly Staffing: difficulties in securing school staffing in harsh and remote rural areas Training: difficulties in securing quality teaching in schools in pastoral areas (well-trained teachers often go somewhere else or leave at the first opportunity). Equipment: difficulties in providing adequate teaching and learning materials to remote locations. Legacy: difficulties in overcoming a legacy of antagonism to nomads' livelihoods, where formal school-based education was allowed to be instrumental to policies of cultural assimilation and forced sedentarisation (therefore posing a threat to pastoral production strategies). At point of Reception Mobility: although key to the production strategy of the nomadic household, mobility poses a serious challenge to a system heavily reliant on school-based education Scattered populations: often an advantage for production but a problem for realizing economies of scale in school-based education Unpredictable disruptions of service: on top of routine mobility for production, insecurity and environmental events of great magnitude such as floods and prolonged droughts can significantly disrupt the rigid routine of school-based education Children's work commitments: children's involvement and responsibilities within the household's economy from an early age competes with the requirements of school calendars and timetables Resistance to schooling girls: apart from labor requirements, parents are particularly reluctant to send girls away from the familiar contexts where they can be protected and controlled Non-literate parents: the fact that adults/parents often lack basic education means that children cannot receive help at home as far as formal education is concerned. Liquidity: even relatively small school-related costs are perceived as difficult to meet as pastoral households usually have little liquidity and the economic benefits of schooling are not easily evident.

Source: Kratli and Dyer (2009). Mobile pastoralists and Education: strategic options, p.11

The problems described at point of delivery pose challenge on pastoralists demand for education. As consequence of incapacity of the providers to suit the schooling system to the way of life of the pastoralists, the facilities, equipment and instructional program designed for sedentary people are practically inappropriate to pastoralists. On the other side, problems

described at point of receptionist pose challenge on providers in their effort to supply educational services for pastoralists.

Tahir cited in Ziyn (2009) categorized the problems pastoral education causing to low enrolment and drop out in Nigeria and Kenya into broad socio-cultural, socio-economic, school intrinsic and administrative or institutional factors.

Studies conducted in pastoralist areas of Ethiopia revealed that the challenges discussed above were evident. The MoE (2008b) viewed the problems of pastoralist areas education in Ethiopia into four categories, which are similar to the challenges described by Tahir. The MoE categorized the socio-economic and socio –cultural problems in to one category that are associated to the way of life the pastoralists. *Socio-economic and cultural problems* include previous government's marginalization, poverty, mobility and density of population, inequitable distribution of resources, conflicts, low level of awareness of pastoralists for education and drought. All the problems seem to affect accessibility of education to children. However, the term *marginalization* needs to be seen cautiously. As discussed under the title '*Education of Pastoralists in Ethiopia*', Emperor Haile Selassie and the socialist government have tried to reach pastoralists with the strategy what they believed sound solution. These include, establishing boarding school, offering scholarship abroad and other parts of country, launching literacy program in their language, expanding schools to pastoralists areas step by step as economy allows with the intention of universalizing of primary education. The other practical problems evident in Ethiopia, as stated by MoE, were quality and relevance such as teaching learning materials and absence of alternative modalities. Human resource problems are two types: the capacity problems of managers and shortage of teaching force.

Alemayehu(2014) on his study on Pastoral communities of Dasenech and Nyagatorm in south Omo, categorized the problems of the children into supply and demand side ;Supply side problems include funding, staff shortage, turnover of teachers , ill equipped school facilities , community

participation. Demand side problems include dispersed settlement, child labor, bride price and peer pressure.

The categorization of challenges discussed above are similar, the differences are the way they categorized that depends on the emphasis of the writers and their findings which may differ from place to place. Therefore, taking one of the views and trying to depend solely on it may mislead to the solution. It seems important to bear in mind all the problems discussed and try find the practical challenges and providers too as the context of study allows. In this study, the challenges categorized by Kratli and Dyer (2009), '*at point of delivery and at point of reception*' is preferred. It goes with Rights Based Approach to education, chosen as a base of conceptual framework of the study that has two principal groups: right holder (pastoralist children as point of reception) and duty bearers (in our case government as point of delivery).

2.4. Strategies for Provision of Education for Pastoralists

2.4. 1. Organization of education for pastoralists.

To analyze both the nature of the educational problems and the solutions, Heron (1983) discussed on five generic strategic issues, i.e. purpose, school/facilities, strategy, curriculum and teacher. Similar to this, the 1994 education sector strategy (FDRGE, 1994b) dealt on eight strategic issues/pillars: education system and curriculum, vocational and technical education and training, organization and management, human resource, service expansion and provision of educational materials, research and development and financing. In line with this, the MoE (2008b) designed strategies to institute alternative modalities. The pillars of the strategies were school establishment, instruction time, curriculum organization, teaching force acquisition, and management system. Accordingly, relevant to this study, school establishment and facility

arrangement; instructional time, curriculum and medium of instruction, teachers and management issues are discussed.

2.4.1.1 School facilities.

Most apparent challenge to providing education for pastoralist children is that of arranging school/facilities. Because of changing nature of movement of pastoralists, stationary school centers often are unused even they are in water areas (Heron, 1983). For this purpose, flexibility approach is essential.

Given the conventional formal school has not been suitable to pastoralist way of life, the options fall into two categories: (a) bringing the children to the school, (b) bringing the school/program to the children (Malinga, 2009) that include such as example village school, ODL. However, it is to be noted that schooling expanded well beyond the iconic structures with walled classrooms and desks. Current technological opportunities are expanding the meaning into even more subtly immaterial domains. For example, the ‘School of the Air’ in South Australia, a virtual classroom over the Internet, home school, Open and Distance Learning (ODL) are capable of bypassing the physical limitations of a school-based service (Kratli & Dyer, 2009). In short, the choice depends on the contextual circumstances of target groups; the realities of social and physical environment determine the nature of the school.

With regard to quality of facilities, Schneider (2002) noted that although the effect of quality school facilities on students learning is debatable, in general, the standard quality of buildings and its facilities are dependent on need of instruction and development level of the country. However, for satisfaction and impact on instruction, buildings should have sufficient space for students and convenient environment such as artificial or natural lighting, indoor air quality, size or configuration of rooms, acoustics or noise control, ventilation, heating, and air conditioning.

2.4.1.2. Instructional time.

World Bank cited in Lockheed and Verspoor (1991) found out that if the household's need for child labor conflicts with school schedule, some parents may not send their children to school. Time needed to walk to school also make it impossible for children to attend their other responsibilities. At times of movement for water and Pasture for their animals, even students enrolled are likely to drop out. The solution to these problems is making instructional time flexible. Flexible instructional time can minimize a) drop out of student through labor commitments or other aspects of students' life condition, (b) the economic disadvantage of turning away child labor from pastoral economy, and (c) the consequence of children's education because of unappealing to their families. The very schedule of the school year should agree with the movement and responsibility of the pastoralists nonetheless students would complete the requisite total instructional time. The basic rationale is pastoral children should not be enforced to choose between household responsibility and learning (Kratli, 2001).

Despite the fact that the time required to attain basic education objective varies by the quality of instruction, for example, depending on availability of learning resources, and the learners' characteristics, researchers managed to specify the average required learning hours for basic education. "Worldwide, the official academic year for primary grades one through six averages is 880 instructional hours... this varies depending on the economic status of the country" (Lockheed & Verspoor, 1991, p.58). Lockheed and Verspoor further elaborated the proportion amount of hour for language and mathematics in developed and developing countries are similar, 35 percent for language and 18 percent for mathematics. In Ethiopia, the total instruction time varies by shift system and grade level. For example, the total allotted time for Schools that teach full day is 927 for grade one and two, and around 105 hours for grades one through eight,

Whereas, the total instruction time that use shift system is 812 hour for grades one through eight (MoE, 2009).

2.4.1.3. Curriculum and language.

Curriculum Relevance: Since education is a key instrument for individual and societal development, paying attention to relevance of education is indispensable. According to Ranaweera (1990), relevance of education can be seen from two main directions: policies and goals, and content and process of education.

For the fact relevance is a matter of purpose, to determine the three is therefore a strongly held opinion that it should be considered from the point of view of the learner and societal (parental, community, national and universal) practices and values. Thus, the relevance of education has to consider learners' abilities, age, interest, and view of society at one side and feedback from teachers at other side (Ranaweera, 1990). In doing so, the four dimensions of curricula articulated by Kratli and Dyer (2009) need to be considered. These are subject content (the acquisition of foundation skills and information), status (the acquisition of skills widely respected recognition leading to higher cycle formal education), socialization (the acquisition of social skills to live in national society), and localization-the acquisition of skills and information rooted in the specific section of society.

The core issue in curriculum relevance is how to make the contents of education relevant. To form a meaningful learning, content relevance to a given society (localization) can be achieved in two ways: 1) by introducing or developing relevant knowledge areas or subjects peculiarly valuable to the target groups and, 2) by adapting the core subjects' curricula, which all learners are expected to acquire, match the children's background (ADEA, 2005; Ranaweera, 1990). Further, relevance is not a one-time activity it needs to improve from feedback of teachers.

Amid the importance of relevant curriculum, Kratli (2001) pointed out that some argue curriculum relevance may not be the cause for low enrollment and dropout. He continued to say pastoralists give due attention to relevancy of curriculum if they believe education improves their pastoral livelihood. Conversely, if they lost trust in pastoral way of life, they do not bother about relevance of the content of education to pastoralists' way of life rather, they prefer curriculum meant to sedentary people, because their primarily interest to education is as strategy to get them out of pastoralist way of life. In this case, relevance is limited to local situations. However, as discussed above by Kratli and Dyer (2009) relevance concerns beyond that. Thus, making curriculum relevance is indispensable in line with the four dimensions discussed above.

In Nigeria, ADEA (2005) noted that curriculum relevance to nomadic groups was made by two ways: by developing new curricula from scratch such as Fulfulde language, Islamic religious knowledge and handicrafts. In tandem with this, illustrations and examples in core-primary curricula subjects (English, mathematics, science and social studies) were adapted to fit the backgrounds and economic activities of nomadic groups. For instance in primary science, rabbit and pig breeding, which are not practiced by nomads, were replaced with shoats and cattle herding. As a result, according to ADEA, high school completion rates and learning achievement of nomadic children in Nigeria were found improved. Further, greater community appreciation and support for the nomadic education program was evident.

In Ethiopia, the FDRGE (1994b) education sector strategy stipulated, "the content of the curriculum will be revised to the needs of the community and be realistic to the objectives of the country" (p.15). This statement shows the government's attention to localization and socialization dimensions of curriculum. For this purpose, the decentralization of preparing primary education

curriculum to regional state is believed to pave making curriculum relevant to the regions' context.

Language/medium of instruction: Hois cited in Teshome(2007) pin pointed five patterns of using mother tongue in education: using as medium of instruction in all levels of education, using up to certain level, using for certain subjects, using for only as a subject or completely excluded mother tongue from education system.

Amid this, using mother tongue as a medium of instruction is debatable Supporters argue that it increases motivation (or minimizes exclusion) and school productivity. For example, if social practices are provided in local language, it provides added meanings. If teaching is underway in language that pupils do not speak results in problem of communication with teachers (Kratli, 2001).In similar vein, comprehensively, Kuper cited in Teshome (2007) argued in favor of teaching in mother tongue for five reasons: enhance pedagogical effectiveness, cost effectiveness, respecting children's international right to learn in their language, development of self-identity and political reason. On the other hand, Kratli (2001) continued to say, the high cost associated with defining a written form (if the language is only spoken) and producing written materials, problem in national unity and accessing higher education are often cited as disadvantages(Kratli,2001).“ The international consensus ... is that one should start educational process in local language, assuming one can find teacher- and introduce national and international language when the children are literate in their own” (Carr-Hill & Peart, 2005,p.54). UNESCO (2014) stated:

To ensure that children from ethnic and linguistic minorities acquire strong foundation skills, schools need to teach the curriculum in a language children understand. A bilingual approach that ensures continued teaching in a child's mother tongue along the introduction

of a second language –ideally throughout the primary grades –can improve performance in the second language as well as other subjects. (p.283)

In Kenya, as per the nomadic education policy framework (Republic of Kenya MoE, 2008), mother tongue is used as medium of instruction in lower primary school. Similarly, the Nomadic Education Program of Nigeria has been using mother tongue or the language of the immediate environment of the nomadic group in the first three levels of primary education (ADEA, 2005). Nevertheless, although many authorities recognize the value of using mother tongue as a medium of instruction, Teshome (2007) reported that in Africa only Ethiopia, Eritrea and Tanzania used as medium of instruction through all grades of primary education.

In Ethiopia, the 1994 education and training policy directed that “primary education will be given in nationality languages” (article 3.5.1). “Amharic shall be taught as a language of countrywide communication” (article, 3.5.4) whereas “English will be the medium of instruction for secondary and higher education (3.5.5). The implementation for the former article varies from region to region. Some regional states have put into practice while other not yet implemented. The latter two articles are implemented across the country. Even during the socialist government, English has been a medium of instruction for junior secondary and above level of education with the exception of some subjects such as Agriculture, History started to be given in Amharic in junior secondary schools.

2.4.1.4. Teachers.

Who should be the teacher? Due to the remote locations and harsh conditions, working with pastoral children is demanding for teachers. For this purpose, recruitment of teaching force, training and retaining them are the pressing issue that need to be given due attention.

In principle, selecting teachers from the pastoralist community seems preferable for cultural and motivational reasons. Obviously, teachers familiar with the environments, can effectively communicate with community members, as such these teachers would stay in the areas on duty for longer years than teachers not familiar with the areas and the cultures (Kratli & Dyer, 2009) and can create realistic learning experience (Firidssa, 2003). However, obtaining qualified teacher is found to be the major problem in these pastoralist 'places. This is because mainly, among other things, those who have better educational level from the community want to move to town (Kratli, 2001). On the other hand, citing Ezeomah, Kratli and Dyer (2009) underscored the importance of qualified and recognized teacher equivalent to that of standard schools but it is difficult to obtain. This raises the question of feasibility. On one side, teacher's standard need to be equivalent to other sedentary school standards if equity in outcome is needed, on the other, there may be shortage of such teachers in pastoralist areas.

For this purpose, Mohammed cited in Carr-Hill and Peart (2005) proposed the following:

- a) Assistants from community; with some degree of literacy, who need training, b)
- Permanent teachers who may not from community but are interested in working with nomads, c) teaching supervisors, who are interested in working with pastoralist families and whose role will be to supervise teachers and prepare teaching materials. (p.57)

Nevertheless, Kratli and Dyer (2009) stressed that teachers for pastoralists areas should be proficient in the children's mother tongue.

With regard to training, modules developed for formal schoolteacher trainees may not be adequate because teachers for pastoralists' need specific and special training (Kratli & Dyer, 2009). The question here is how to obtain and retain such teachers. Because more often working in pastoralist areas is not convenient because of the harsh living conditions, scholars in the field

of nomadic education recommended to devise a compensation and attractive incentives such as remuneration that can compensate the hardship, and motivational factors such as recognition, professional development (Carr-Hill and Peart 2005, Kratli & Dyer, 2009). For example, since 2001, Kenya succeeded in attracting qualified teachers for arid and semi-arid land by introducing hardship allowance, topping salary. The allowance differs depending on the level of the difficulty (Ruto, Ongwenyi & Mugo, 2009). An NGO in India had success story with different strategy. as Kratli and Dyer (2009) noted coordinating mobile schools for Van Gujjars in India, was reportedly succeeded to gain teachers for they managed to recruit youths who completed secondary education but remain unemployed (Kratli & Dyer, 2009). This strategy, however, seems not sustainable. Teachers may use their job as a stepping-stone just until they get other job with better living and working conditions.

2.4.2. Modes of deliveries to pastoral education.

Given the challenges facing the children of pastoralists in attending in conventional formal school, it is natural to think of how to provide education to pastoral children. However, as VerEecke (1989) discussed, advocates of pastoralists' development have not been able to agree whether education should be provided in conjunction with or subsequent to other development programs such as sedentarisation. Some argue that education would not be the priority for nomads before other intricate problems solved; others contend that delaying the provision of education for nomads until their settlement is tantamount to denying their fundamental right to education (VerEecke, 1989; Unison consultant, 2009).

Accordingly, recognizing education is the right to nomadic people, its role on national development, and the pivotal role of education for social change, scholars (for example, Kratli, 2001; Carr-Hill and Peart, 2005) rationalize the need to design explicit strategies, suitable to the pastoralists

way of life. The major strategies and innovative approaches include introducing innovative mode of deliveries such as mobile schools, boarding school, sedentary school, ODL; establish self-sufficient schools, support schools with feeding program, mobilize community. In this section, emphasis is given to the common innovative mode of deliveries: mobile schools, boarding school, ODL, and sedentary school.

2.4.2.1. Mobile school.

To control interrupted learning process because of children movement with their parents, mobile collapsible classroom is proved apposite for those who migrate frequently (Government of Federal Republic of Nigeria [GFRN], 1999). In mobile school system, the school moves as the community moves from place to place. This mobility tackles some of the problems associated with sedentary provisions. Its nature of movement along with the community makes the name mobile (Kratli, 2001).

With regard to the design, as Kratli (2001), Carr-Hill and Peart (2005), and Anis (2008) discussed the followings can contribute for the success of mobile schools. a), easily disassembled school that can be packed, easily moved to another places and erected. b), Low cost school. c), Teachers recruited from the community for they can move with their families and stocks together. d), Flexible school time to make appropriate for children's responsibility. e), School material and student's text kept minimal to carry them easily during migration and (f), Adapted standard national curriculum.

With the exception of the mobile tent school in Iran 19950s and Wajir mobile schools in Kenya in the 1990s, studies show that many Mobile schools in Africa and Asia have performed far below expectations due to the problems associated with the models (Kratli, 2001; Carr-Hill, 2005). Community mobile school in Nigeria, for example, failed largely for reasons of lack of

government policy, irrelevant curriculum, using non-nomadic teachers and lack of effective administration (Ezeomah cited in Carr-Hill & Peart, 2005).

With regard to pastoralists' acceptance, studies show that mobile schools are the preferred mode of delivery for pastoralists. For example, as Carr-hill and Peart(2005) stated pastoralists of Adamawa and Taraba states in Nigeria, and Somalia pastoralist in Ethiopia (Anis,2008) have shown interest in mobile schools. As Anis (2008) stated, one elder pastoralist in Ethiopia expressed their demand and has been quoted, as "We will learn if you bring us a school which has feet, a school which can walk with us otherwise we cannot learn" (p.21).

When it comes to practice, two major problems are evident. The first problem is related with teachers. It is difficult to recruit and retain teachers from nomadic pastoralist community, who have suitable qualification and volunteer for teaching in pastoralist areas characterized by harsh environmental conditions and remoteness. Pastoralists, who have attained the rank of teachers, often want to be more stable or closer to larger population settlements (Anis, 2008).

The other challenge of mobile schools is difficulty for management. Ibrahim cited in Anis (2008) and Kratli (2001) underscored that though materials and capital construction cost are minimal, the level of effort and transportation cost needed to track and monitor mobile schools is very high. According to Ibrahim, the schools may move by the time supervisors reach their destination to support and follow-up them. Moreover, the children who have started education in one site may not migrate to the same direction or location.

In general, Mobile schools are swamped with problems: Remoteness, harsh conditions and poor communication make staffing, administration and monitoring very difficult. Consequently, the educational quality is usually poorer than the average in conventional schools. For around 50 years, mobile school was tried in many countries (e.g. Kenya, Nigeria, and Sudan) but with the

exception of Iran, the performance was not as expected. The success of Iran mobile school is attributed to the organization of the schools: tents are prepared for small groups and dismantled easily; the equipment was kept to the minimum; staffs are selected from nomads (Kratli, 2001).

2.4.2.2. Boarding school.

Boarding school is a fixed establishment wherein children would attend their schooling whilst their families migrate with their livestock (Anis, 2008; Carr-Hill & Peart, 2005). It is appropriate for those parents who want school service for their children while they migrate in their herding. It is also preferable for sparsely populated people even if the population is sedentary for the fact it is cost effective in contrast to provide school facilities to too few people within certain catchment area (United Nations Development Program [UNDP] cited in Unison consultant, 2009).

Moreover, studies corroborated that in Karamojang of Uganda, parents are in favor of boarding primary schools for security, hunger and educational reasons (Unison consultant, 2009). In Ethiopia, it was proved to provide better quality education (Anis, 2008) and reduce dropout in Tibet of china (Kratli, 2001) than other mode of deliveries. Similarly, in Kenya it was seen to be better performed than formal schools. This is may be for they had more time for studying and better facilities. It takes them away from their herds and their minds will be free for their books.

On the other hand, like conventional day schools, boarding school still requires the separation of children in education from the rest of the family, thus, cannot serve for the children who work in the household. In Kenya context, it is also found inappropriate for children under the age of ten (MKKOAL, 2010). This is may be kids below age 10 may require close and intensive care from parents or close guardians. In Afar, it was learnt that though not studied, children below age 10 were attending boarding schools.

The other pressing issue in boarding arrangement is financing. Countries' experiences show that the financing system varies depending on the landscape of the target areas. For example, school sufficiency has been used at Yakcho in China. In this case, schools have a yak per child by families. Similarly, school camel program in Samburu in Kenya has been provided 10 camels. School committee comprising girls, boys and teachers manages the camels. The camels are also used as practical learning aids (Kratli, 2001; Carr-hill & Peart, 2005). In many countries, boarding schools are entirely free. For example, in Mongolia when boarding school system was introduced in 1940 it had been of entirely free. The system relied with dormitory facilities, built in all settlements including the small rural centers (Kratli, 2001).

In the third way of providing boarding service, as seen in Uganda, on site schools constructed in fixed concentration areas have been also used to retain children when the families migrate (Kratli, 2001). Furthermore, as Unison consultant (2009) stated in Uganda primary boarding schools for Karamojang are low cost schools and free to provide primary education. Unison noted, "The same physical structures are used as classrooms and dormitories during daytime and at night respectively. Day scholars have also now become *de facto* boarders as they daily trek back to school for a night after getting supper in their homes"(p.34). The above discussions indicate, in general, the boarding service for children differs depending on the economy of the government and parents. It can be totally free of lodging, teaching and feeding like Mongolia and Ethiopia; it can be low cost where classrooms can serve for teaching at day time and/or evening, and then lodging at night like Uganda; Parents also share costs depending on their economy like Kenya.

Problems associated with boarding school include reluctance of parents, separation of children from parents, and cost for boarding service. As regards reluctance parents to send their

children away from them, the Kenyan experience can be a simple case in point. In Kenya, it was revealed that for boarding school “neither parents nor children like being separated for long time. parents do not like the idea of giving custody of their sons and daughters to people they do not know, to whom they are not related and whose moral integrity sometimes doubt” (Ministry of education and science technology of Kenya, Save the children/USA cited in Kratli, 2001, p.28; Carr-Hill and Peart, 2005, p.63). Kenrick cited in Kratli (2001) also stated that “Romani and Irish traveler parents in Britain they feared to send to boarding school because they,” worried that their offspring will learn to take drugs, swear and hear about sex from young house-dwellers’ (p.28). The other limitation of Boarding school is their high cost, especially when it is full boarding. For example, Anis (2008) disclosed in Ethiopia the model results in offering a high quality education to only few.

Accordingly, after reviewing the experiences of countries, Carr-Hill and Peart, (2005) concluded that “the success of boarding schools therefore depends on the quality of life within the school, first of all on the capacity to recreate a familiar and friendly environment, and secondly, on the extent to which effective security in and around the school” (p.63). Even strict law enforcement does not work without the willingness of the target members. In Niger, for example, in the 1980s the government forced the Fulani pastoralists to obey the law on compulsory education. The government has tried to oblige parents to the extent of using army patrols to bring school age children to boarding schools. However, the children often tried to escape. Conversely, the Mongolia boarding schools, reputedly invoked successful boarding schools, had been characterized by warm and familiar environment created by the staff drawn from the nomadic community (Kratli, 2001). As Kratli and Dyer (2009) pointed out Turkana and Marsabit (Kenya), parents had preferred to send their daughters to girls-only boarding school with a good reputation.

In India, Rabaris of Kutch community refrained to send their children to state boarding school established for all rather preferred to private community boarding school that valued the culture of the community.

2.4.2.3. Open and distance learning.

Open and distance learning blends both distance education and open learning work (Kratli & Dyer, 2009). Distance education can be described as “a set of teaching and learning strategies (or educational method) that can be used to overcome spatial and temporal separation between educator and learner (UNESCO, 2006, p.1). Open learning does not imply openness to entry requirements rather it emphasis to overcome unnecessary barriers’ associated with institution-based delivery (Kratli & Dyer, 2009).

ODL is meant to provide access to children, youth and adults who would not otherwise be engaged in education because of work or family commitments, geographical distance, insecurity, or poor quality or inadequate learning experiences (UNESCO, 2006). It offers opportunities for nomads to access education while on the move (Carr-Hill & Peart, 2005).

ODL allows using all dimensions of formal and non-formal education with integrity. It allows the development of alternative, culturally tailored curricula, school calendar, face-to-face contact or to using standard curriculum and school calendar (Carr-Hill & Peart, 2005).

Printing materials for study of correspondence course, media technology such as broadcast radio, webs, cell phones, computers and visiting /hired tutors are all the possible delivery mechanisms (Kratli, 2000; UNESCO, 2006). Most broadcast basic distance-education programs have followed the model of Interactive Radio Institution [IRI], originally designed as a classroom support for poorly resourced school-based education. Distance education using radio is most

effective when the educational content is designed well in such a way to exploit the communication potential of the medium (Kratli & Dyer, 2009).

According to Kratli (2000), the success of distance education depends on the combination of student, teacher, learning materials and communication systems, plus self-discipline, perseverance and sense of humor. For this reason, Ezeomah cited in Carr-Hill and Peart (2005) noted Open and Distance Learning [ODL] require a careful planning including agreement between program provider and pastoralists in the movement pattern of pastoralists and study schedule.

2.4.2.4. Sedentary schools for mobile populations.

Kratli and Dyer, (2009, p.49) stated, “In practice, ‘nomadic’ and ‘sedentary’ rarely define discrete groups of people. Both conditions often coexist within the same community or the same family, even alternate within the life of an individual.” Thus using both conventional and alternative approaches is a sound strategy if achieving universal primary education is needed.

To Similar effect, Ropilo, Ogogo, and Wawer (2012) argued that labeling education as formal, non-formal and informal is improper. The use of two diverse approaches appeared as the solution for making it possible to enhance students’ completion rate in basic education. Therefore, Alternative Approach to Basic Education [AABE }or Alternative Basic Education [ABE] which comprises non-formal education and formal education approaches came up to remedy the inability of formal education. For example in Kenya Alternative Basic Education for Turkana [ABET] has set up learning centers at semi-permanent villages near important roads for Turkana. Whereas, shepherd schools in *Samburu* district are evening classes in conventional schools for village children who spend the day herding. Similarly, in Ethiopia, permanent ABE (grades1-4) learning centers are set up for those pastoralists who stay in one abode for at least eight consecutive months.

2.5. Management of Pastoralist Education

Effectiveness of strategy depends on the way it is managed. Effective and efficient management on the other way place more emphasis on the fit of organizational design and resourcing system to the strategy. As Schermerhorn (1989) stated

High productivity depends on both resources and structure being appropriate to the tasks. One without the other will be inefficient to ensure performance; success structure helps to arrange the resources of organizations in productive task combinations. (p.174)

2.5.1. Organizational design.

Organizational design refers to “developing or changing an organization’s structure”, whereas, organizational structure refers to “the formal arrangement of jobs within an organization” (Robbins & Coulter, 2006, p.234). Robey and Sales (1994) pointed that configuration of an appropriate organizational design shall be made depending on the strategy, size, technology (activities, equipment and knowledge) required by the organization to transform its inputs to products or services, the environment of the organization and, above all, preference of the power holding group. For example, currently, keeping the decentralization of management, FDRE opted to configure management of government organizations by process align with Business Process Reengineering (BPR) principles. Thus, any attempt to redesign organization is to suit BPR design and decentralization principles.

With regard to organizational structure to manage education in pastoralist areas, experiences in some countries show that the importance of establishing separate organization or unit. For example, because of the unique strategy of mode of delivery from conventional mode of delivery, in Nigeria, National Commission for Nomadic Education (NCNE), which is frequently cited as exemplary, is functional since 1989 (ADEA, 2005). Learning from the experience of

Nigeria and deliberating on the situations of Africa, the 2006 Garisaa, Kenya, workshop, where Ethiopia was one the participants, recommended the establishment of working groups/commissions or other organizational structures for the provision education for nomadic communities relevant to the respective country context (Malinga, 2009). Accordingly, in Kenya, the Kenya nomadic education strategy incorporated the establishment of National Commission for Nomadic Education in Kenya [NACONEK] that operates under the Ministry of State for Development of Northern Kenya and Other Arid Lands (MNKOAL, 2010). In Ethiopia, pastoralist education has neither separate organization nor department within the regional education bureaus.

Within the organization, improving the organizational structure aims at giving all levels the appropriate roles and authority to do their jobs effectively and efficiently. This entails realigning authority and functions among the levels of the organization (upper level, intermediary, schools and communities). However, though the optimal delegation of functions vary by country's political structure and culture, based on the situations of developing countries, Lockheed and Verspoor (1991) have the following views: centralized control may be more efficient for some purposes, such as producing textbooks and training teachers, to achieve economies of scale, and to ensure equity and quality. The key responsibility of intermediate organization tends to providing professional support, technical assistance, and resource to individual schools. At school level, the goal of restructuring is to authorize school managers to manage and improve the process of instruction and to mobilize local resources. Accordingly, arrangements need to be made to strengthening school-community relationships (Lockheed & Verspoor, 1991).

To ensure the interests of the school communities and larger communities in whom the school is situated local school boards and board of governors need to be set up to exercise control

over management of the school. The members are individuals who have positive contributions represented from various social groups and educational authorities who have interest in the school. The quality of individuals derives from their personality, experience or contacts. However, care must be taken to ensure their roles and authority needs to be to the best of the school (Common Wealth Secretariat, 1993).

If the design factors are out of alignment, poor and slow decision making, lack of motivation in decision making, too much conflict, high employee turnover, and low morale appear in recurring base eventually resulted lack of goal achievement (Kotter, Schelesinger & Sathe, 1979).

2.5.2. Resource allocation system.

To ensure access, equity and quality of education, resourcing system for education service should look at three dimensions: allocation, sufficiency, and utilization (Fowler, 2000; UNESCO, 2013). In allocation, horizontal (principle of equal treatment of equals) and vertical equity (unequal treatment of unequal) principles should be considered to promote equity in achievement (Berne & Stiefel, 1994; Toutkoushian & Michael, 2007; LaPlante, 2012). The notion of horizontal equity principle uses to allocate resources for areas or schools considered being similar. According to vertical equity principle, areas that require higher costs per student should receive more funding than their counterparts should, to trade of the differences.

Sufficient resources or adequate funding level is one that provides all students the opportunity to achieve specified benchmarks and goals by the delivering required inputs and special support to the disadvantaged groups (Rubenstein, cited in LaPlante, 2012, p.5). To this effect, Augenblick, Myers and Anderson (1997) recommended three criteria, which can address

the needs of schools, for funding formula: the need of students varies by social backgrounds, cost level of various learning sources in each area, and standards needed to be achieved.

Furthermore, the development of new strategy may need the change in resource utilization strategy. As resources continue to be scarce, cost effective way of utilization is key issue. Therefore, to bring about genuine change, leaders must carefully analyze what resources will be necessary and how to utilize to obtain maximum output within the limited resource (UNESCO, 2013; Lockheed & Hanushek, 1994).

2.6. Strategy implementation

Developing sound educational strategy by itself is not sufficient to achieve a desired goal. For effective strategy implementation, it requires efficient strategic management system. Robins and Coulter (2006) defined Strategic management as “set of managerial decision and actions that determines the long run performance of an organization” (p.180). They continued to mention that strategic management process encompasses three basic logical steps: Plan formulation, plan implementation and evaluation.

2.6.1. Plan for implementation.

Typically, organizations prepare three kinds of plan: strategic, tactical and operational. Griffin (2012, p.221) described strategic plan as “a general plan outlining decisions of resource allocation, priorities and action steps necessary to reach strategic goals” .Although there are many approaches to strategic planning, typical strategic planning process examine present situation, followed by determining the desired future targets and devising implementation strategy. It also contains initiatives, actions, and performance measures (Gates, 2010).

The next type of plan is tactical plan. Tactical plans are developed by middle level managers to implement specific part of the strategic plan. It is shorter in time and specific in focus than

strategic plan. Strategic plan concerned with deciding what to do, whereas, tactical plan is concerned with getting things done focusing on resource and people (Griffin, 2012).

Operational plan is derived from tactical plan narrowly focused, short time horizon that involves lower level manager. As to Griffin (2012), Operational plan includes two types: standing and single use plan. Standing plan includes developing for activities that recur regularly over a period. It includes standard operating procedure, policies, rules, standards and regulation, whereas single use plan refers to plan, project, program and action plan to carry out a course of action that is not to be repeated in the future (Griffin, 2000)

2.6.2.Implementation.

Besides sound plan formulation, the ultimate success depends on the way it is implemented. Fullan (2007) noted, that “Implementation consists of the process of putting into practice an idea, program, or set of activities’ (p.84).Accordingly, for effective implementation a strategy or program, Griffin (2012) pinpointed steps to be followed: First, decision makers have to make sure availability of the resources necessary to get the job done. Resources may include funds or other inputs that encourage or facilitate effective implementation of a plan. Thus, it requires acquiring, developing, and retaining at least the key resources. In education, the resource to be made available include financial, human, technical inputs such as curriculum, guidelines or manuals, books, teachers, other learning materials, infrastructure(Corcoran& Goertz cited in Chompucot,2011). Next, every plan has to be communicated and explained to subordinates to ensure understanding and secure cooperation. Third, activities must be integrated vertically and horizontally to deploy resources pursuant to standing and single use plan .This needs appropriate organizational design (Fowler, 2000; Griffin 2012, Robey and Sales, 1994).

2.6.3. Monitoring and evaluation.

For effective plan implementation, monitoring and evaluation must be undertaken to make sure the desired results are being achieved (Griffin, 2012). Monitoring shall include tracking the progress of the planned activities and controlling employees' performance while activities are on progress. Evaluation concerns assessing the archived result. Monitoring and evaluation are followed by feedback and provision of administrative and technical support to implementers. The supports include offering in-service training, follow up session, mentoring, facilitating experience sharing, providing printed materials and workshops (Fowler, 2000).

2.7. Measuring Educational Effectiveness

Educational effectiveness is defined as "the degree to which the objectives of an education system are being achieved" (Hawes & Stephens cited in Barrett, Duggan, Lowe, Nikel and Ukpo, 2006, p.15). In this definition, the yardstick for effectiveness is the objectives set and the objectives to be measured are the result of the education system. Moreover, the measures shall examine the progress made to the intended objective, whether the organization has been doing good job towards the objectives.

The core question is the criteria for judgment, how to judge whether the organization is doing a good job. To this end, scholars have proposed many models, but the four of them are most widely used. These are the output-goal attainment approach, the internal process approach (healthy system of organization), the system resource approach (the extent to which the organization obtains needed input and resources), and the strategic constituencies approach -the satisfaction of all strategic constituents-(Robbins, 1990; Robey and Sales, 1994). Though not all of the models are out of criticism, the output- goal attainment approach is chosen for this study, to

measure the effectiveness of the schools of the modalities for the objectives of the pastoral areas' education strategies were set in output goals.

Output-goal attainment approach: Among the approaches, the output goal-attainment approach is the earliest and probably widely used criterion of effectiveness. This approach defines effectiveness in terms of how well organization accomplishes its goals. These goals are the end output of the organization expressed in terms of goals, objectives or targets (Robbins, 1990; Cameron, 1986; Robey and Sales, 1994).

“How educational output is measured is dependent on the nature of the objectives of the educational system” (European Research Associates, 2006, p.132). To many the goal attainment of educational institution or system is indicated by output/outcome. Educational output/outcome measures concern to the immediate/long term effects of the educational activity. These t can be categorized into four: (1) attainment effects that show accessibility of educational services, (2) achievement effects that specify the quality of output and outcome; (3) attitudinal/behavioral effects that indicate non-cognitive behavioral change of learners; and (4) equity effects that indicate the equality of educational provision (European Research Associates, 2006). As the focus of pastoral education strategies are on access, equity and quality, this section deals with attainment, achievement and equity effect measures

2.7.1. Attainment effects.

Age efficiency (participation rate) and progression indicators can indicate attainment. The indicators specify the count of enrollees relative to the eligible school age learners and the progress of those enrollees towards graduation and transition in the next level (Windham, 1990; European Research Associations, 2006).

Age efficiency: As discussed above under the title ‘challenges in providing education for pastoralists’, multitude factors affect the accessibility of pastoral children to education. The apparent effects of these factors are reflected in participation. Participation of education is measured in apparent and net intake rates, gross and net enrolment rates, and age-specific enrolment rate (UNESCO, 2006). According to Windham (1990), a system is more effective when more and more school age children are enrolled in school. In Ethiopia, as indicated in yearly educational statistics annual abstract portray, age efficiency of educational provision is measured by gross and net enrollment rates, apparent and net intake rates.

Progression: progress holds the extent to which students who enter a given cycle or type of education progress regularly through the system (Windham, 1990). Increased enrollment is considered a positive indicator of effectiveness whereas dropout and repetition, which demonstrate the internal efficiency of the system, on the other hand, reduce or slow attainment and, therefore, are considered negative indicators. The progression rate can be calculated from either a cross-sectional (single year) or cohort data. Cross sectional data is used to indicate the relative size of different grade levels as a percent of the previous grade, for example, grade two enrollments as percentage of grade one enrollment in the same year (Windham, 19990).

In cohort data the progression is calculated as a percent of the previous grade in the previous year, for example, grade two enrollment of current year as percentage of grade one enrollment in previous year. This is also known as survival rate. It is also possible to trace the continuation of same cohort from grade one up to graduation or further attainment, entering the next level (Windham, 19990). In Ethiopia, The progress of student participation is measured in internal efficiency in terms of repetition, dropout, completion and survival rates by grade and level (UNESCO, 2010).

2.7.2. Achievement effect.

Output achievement is not only limited to the number of children enrolled and graduated, but also encompasses the quality of the output produced. One of the indicators of quality is the cognitive development of the learners. As a result, measuring actual learning, the results obtained by the learners (acquisition of knowledge, skills, values and attitudes) is indispensable in assessing the effectiveness of educational system. The achievement effect is commonly measured by test scores (UNESCO, 2006; Windham, 1990). This indicator describes the quality of educational provision. The other alternative is of course observational judgment such as, in most often cases, teacher assignment of student grades (Windham, 1990).

2.7.3. Equity effects.

The equality measurement of educational output/outcome is important, as equality is a basic indicator for making judgments on fairness of educational provision (Windham, 1990). Inequity/equity of education on output/outcome is to be analyzed between different social and territorial groups (between girls and boys, different geographical areas, income groups, socio-economic categories, ethnicity, cultural groups, etc.) with respect, mostly, to attainment and achievement measures (Windham, 1990; European Research Associates, 2006).

To recapitulate, the followings are noted. Despite the fact that the government of Ethiopia has achieved considerable results towards meeting MDGs related to education, the participation of predominately-pastoral regions is not in the track to the expectation and lagged behind the other regions (MoE, 2008b). When the current regime came to power in 1991, the main educational problems of the country were related to the issues of relevance, access, equity and quality (FDRE, 1994a). In the light of these educational problems, national education and training Policy, strategy, and successive ESDPs were devised and put into effect. In the course of

implementing the ESDPs for the last two decades, the primary education NER boosted up; gender parity in primary education in terms of participation was approached to parity; educational management was made decentralized. However, low level of quality of education remained as one of the most significant challenges the country could not traverse. Amidst of such achievement, at the national level, the participation of pastoralist areas did not progress abreast to the non-pastoralist areas. The problem is associated with the ways of life of pastoralists (MoE, 2008b).

Pastoralists belong to nomadic groups. They can be categorized based on degree of movement, settlement type and level of dependency on livestock (economic definition). Although the importance of understanding pastoralists in its ways of life is obvious, there are shortcomings on categorizing them by nomadic, transhumant, agro-pastoralist, enclosed and ranching pastoralist groups. One, the dividing line between the classifications is imprecise. Two, subsuming certain group of people in one or the other is not stable for pastoralists are opportunistic. Nevertheless, amidst of the shortcomings, categorizing pastoralists is useful for service deliveries such as education for frequency of movement and their production system affects the schedule of service. In Afar Region, pastoralists are mainly subsumed into two groups: Transhumant pastoralist and Agro-pastoralist. Around 88 % of the rural Afars practice transhumant pastoral whilst 11% practice agro-pastoral way of life. The agro-pastoralists generate income from both agriculture and livestock breeding and have permanent homestead, whereas, the transhumant pastoralists depend on livestock breeding; live in semi-permanent homestead and are more frequently mobile than agro-pastoralists.

A number of possible explanations have been postulated for the under participation of pastoral children in education. Authors cited above, for example, Kratli and Dyer (2009), Carr-Hill and Peart (2005), Ezeomah cited in Ziyn (2009) subsumed the challenges for pastoral

children education differently. In spite of the differences in appellation, the challenges noted by the authors are almost similar. The challenges, as Kratli and Dyer (2009), can be explained at point of delivery such as funding, staffing, and training, equipment and legacy of educational objective of sedentary people and, at point of reception such as mobility, child labor, parents' attitude to children education, poverty, and unexpected disruption of service for drought, flood, and security. Carr-Hill and Peart (2005) pinpointed the problems from providers and pastoralists' perspective. Having identified the challenges from recipients or service provider perspectives, according to Heron (1983) it needs to analyze the organization of education on five factors: purpose of education, school/facilities, instruction time, curriculum and teacher along with way of life of target communities. Then, by devising pertinent strategies and setting standards on these five factors, innovative alternative modalities to conventional formal school mode of delivery can be put into effect. The choice of the modalities is dependent on contexts of the target areas.

Devising appropriate strategy to a modality is not necessarily an assured passport to success. It is indeed requires putting strategic management in place. If the hypothetical relevance design is implemented strategically, the modalities can be effective. Sound implementation requires putting the pertinent organizational structure aligned with the strategy, deploying required resources, monitoring the progress of the planned activities and conducting periodic evaluation on the effectiveness of the strategic interventions. In education, effectiveness is measured in terms of attainment, equity and quality against the predetermined objectives of an education system.

Chapter Three: Methodological Approach and Research Design

This section is devoted to methodology of the study. It begins by framing the methodological approach and the research paradigm employed to conduct this study. It explains why mixed method research approach and pragmatist view were opted. The second section deals with research design. It presents the plan and the procedures to collect and analyze data. Accordingly, it presents the specific design used among the six types of mixed methods research design common in education, the setting of the study and data sources; then it discusses the methods employed to collect and analyze the data. Finally, the chapter winds up by pinpointing the ethical procedures put in place to safeguard the wellbeing rights of participants.

3.1. Methodological Approach

The methodological approach employed in this study was the Mixed Methods Approach, which integrates both qualitative and quantitative approaches.

Philosophically, mixed research makes use of the pragmatist view. Pragmatist logic of inquiry rests on the use of induction, deduction, and abduction depending on the situation (Johnson & Onwuegbuzie, 2004). Unlike positivism and interpretative / constructivism that relies on quantitative and qualitative approach respectively, Pragmatists believe in using a method that is suitable for a particular research problem under study. To them, what is important is the outcome rather than asking about the nature of reality. Therefore, based on the nature of the problem, an issue that needs to be addressed, and research questions, an approach to a particular research can be either quantitative or qualitative, or both (Creswell, 2009).

Relying on the pragmatist view, it was determined to employ mixed methods research approach as a guide to this study for two underlying reasons. First, it is both the research problem (an issue to be addressed, viability of modalities) and the basic questions set in this study that

necessitated to employment of both qualitative and quantitative approaches. The endeavor undertaken to identify hypothetical relevance of the modalities on the one hand demanded qualitative approach, for the different stakeholders (target communities, policy makers and implementers) might have not the same perception on the relevancy of the modalities because of their different backgrounds. In addition, on the other, measuring the outcome of the modalities (effectiveness) required a quantitative approach to figure out the achievement of modalities towards the predetermined output goal.

The other reason for choosing the mixed methods approach was the advantage to be gained by bringing the two approaches together, synergistic effect of the two approaches. As many scholars (for example, Gay, Mills & Airasian, 2009; Creswell, 2012; Smith, 2012) noted, the combination of quantitative and qualitative research approaches provides a better understanding of the research problems in contrast to employing either method alone. Putting in other words, employing mixed methods research approach made possible to obtain in-depth information from the qualitative study, and quantitative study helped to enhance the qualitative study by reaching larger population. As a result, generalization has been made (what qualitative lacks) about the viability of the alternative modalities to provision of quality primary education for agro -pastoral and transhumant pastoral children in Afar National Regional State of Ethiopia.

3.2. Research Design

In Consideration of the objective and the research questions, this study employed a ‘Concurrent Embedded Design’. Hence, both quantitative and qualitative data were collected concurrently. Moreover, more weight has been given to qualitative data, whereas quantitative data

have a supporting role (QUAL +quan³). In other words, the quantitative data was embedded in qualitative data to enrich the description of the qualitative data. This is because, as relevance of modalities is subject to contexts, in-depth information from major constituents and mode of life of pastoralists were found to be central than large coverage. Therefore, in-depth information collected from the target communities (parents and children) and top managers outweighed the quantitative data. Nonetheless, the quantitative data collected in wider coverage through survey research from facilitators and WEOs experts helped to enhance the qualitative data.

3.2.1. Data sources

Koul (2006) conceptualized population in research as “any collection of specified group of human beings, or non-human entities such as object, educational institutions, time units, geographical areas” (p.111). Accordingly, the population of the study was the number of learning centers in three alternative modalities, i.e. fixed ABE centers, mobile ABE schools and boarding schools. in accord to the definition given by Best and Khan (2006), the target population to whom generalization of findings was made were 353 fixed ABE centers, four boarding schools and two mobile schools.

The units of analysis of the subjects to be studied were the alternative modalities. With regard to selecting an appropriate unit of analysis, Patton (2002) has posited a clear guidance: “The key issue in selecting and making decisions about the appropriate unit of analysis is to decide what it is you[the researcher] want to be able to say something about at the end of the study”(p.229). Accordingly, to get information for the study, the data sources of this study were fixed ABE centers, Mobile schools, formal primary schools, Boarding schools, REB, WEOs, and

³ The QUAL in the upper case letter indicates a higher priority or weight is given to qualitative than quantitative data shortened in the lower case letters. The plus sign (+) indicates the simultaneous or concurrent collection of quantitative and qualitative data (Creswell, 2012).

NGO. From those institutions, schools heads, education experts, teachers, facilitators, community members, out of schoolchildren and their parents were approached.

3.2.2. Sampling techniques

For the study employed mixed method research, to select data sources institutions and participants both non-probability and probability-sampling techniques were used.

3.2.2.1. Selection of data source institutions.

Fixed ABE center selection: In order to select sample institutions, the study applied proportional stratified sampling technique, which involved subdividing the region into pastoral and agro-pastoral groups.

Stratified sampling technique helped to avoid undue proportion of one subgroup (i.e. either transhumant pastoralist or agro-pastoralist) over others in the sample. According to Cozby (2003), the characteristics or dimensions to divide the population into strata (subgroups) should be relevant to the problem under study. It is used when the cases in the population fall into distinct categories or strata (Walliman, 2001). Accordingly, transhumant pastoralist and agro-pastoralist groups in Afar have distinctive characteristics in mobility pattern and source of income. Congruent to this, Afar DPFSB study (2006) stated that livelihood zones within each of the two pastoral groups have more or less homogenous characteristics in terms of degree of movement and source of income with minor difference in their geographical locations and period of movement. Such differences do not have much effect on the basic design of modalities. Therefore, it is possible to say that the grouping of the target community of the study into pastoralist and agro-pastoralist was apposite.

Accordingly, of the five-transhumant pastoral livelihood zones, two zones (namely, Aramis-Adaar and Teru livelihood zones) and, of the two agro-pastoral livelihood zones, Awsa-Gewane

livelihood zone were selected using proportional random sampling technique, the lottery technique. Since the livelihoods within a pastoral group are homogenous, the three livelihood zones are believed to hold the required representativeness of the target population.

Sample fixed ABE center selection: Having the sampling areas identified, the next step was selection of sample Fixed ABE centers from the accessible target population, 240 centers and 23 WEOs found in those three livelihood zones. “Accessible population is the population from which the researcher can realistically select subjects” (Gay, Mills & Airasian, 2009, p.125). Thus, for qualitative data, using stratified purposeful sampling technique, six woredas and six ABE centers were selected. This is because according to Patton (2002) to understand the phenomena of the study in-depth, it requires selecting information- rich cases/ sources. Stratification is needed to compare the issues in different livelihood zones so that increase confidence to the population represents. Accordingly, in cooperation with REB staff, one better performer and one low performer woredas (totally six), in terms of primary education participation rate (the top three and the bottom three from each livelihood, not extreme case), presence of information rich case knowledgeable staff and rich case areas including typical cases were selected. In turn with the judgment of WEOs staff with the same criteria of the REB, from each woreda one center (better center from the better woreda and low performer center from low performer woreda) totally six centers were selected. According to Patton (2002), this technique is known as intensity sampling that helps to get information rich cases and manifest sufficient intensity to illuminate the nature of success or failure of the modality.

To enhance the qualitative data, using proportional random sampling technique, 29 FABE centers were added for quantitative data collection. Thus, the total sample selected FABE centers, for quantitative data, added up to 35 centers found in 12 Woredas. As a whole, qualitative data

were collected from 12 WEOs and 6 centers, whereas quantitative data were collected from the 12 WEOs and all the 35 centers.

It is worth to justify the sufficiency of 35 FABE centers (14.5%) for quantitative data. In quantitative sampling two issues must be made clear: the size of the sample from the population and the strategy to select the sample. The first issue relates to how large the sample should. As Creswell (2009) put it clearly, there is no clear-cut answer to the question. For quantitative survey research, some authors advise to use statistical-formula (for example Creswell, 2009, Dawson, 2007), others (, for example, Gay, Mills & Airasian, 2009), recommend using rule of thumb based on the size of the population under study: large, medium and small size population. Still others advise to trade-off between the desirability of a large sample and the feasibility of a small one. In this case, the researcher shall to determine based on the purpose of the study, the nature of the population and, availability of resources and time (Cohen, Manion and Morrison, 2007, Best & Khan, 2006). For this study, this technique was found feasible, because, among other things, the dispersed settlement and peripatetic of pastoralist population need to be taken in to account to select realistic sample. Accordingly, considering the homogeneity of the centers, the dominant qualitative nature of the study, the dispersed settlement and movement of pastoral community on which school establishments follow suit, Of the 240 ABE centers found in the accessible target population it was determined to take 35 (14.58%) fixed ABE centers and 12 WEOs found in the sample centers.

Second cycle primary schools sample selection: Using snowball-sampling technique, five conventional formal second cycle primary schools that have been teaching those students transited from ABE center were included in the study. During interviewing or informal conversations with educational managers, requests were made to lead me where the ABE

students have pursued their 2nd cycle education. Then, the students contacted led me where other previous schoolmate in ABE pursued their 2nd cycle primary education. As noted by Patton (2002) Snowball sampling is getting new contacts from each person interviewed. Collecting data from such schools terminated when saturation of information felt achieved.

Boarding schools sample selection: using stratified purposeful sampling technique four boarding schools were selected. To obtain rich information the boarding schools were stratified into three, REB led Girls' boarding school, woreda boarding schools and boarding schools run directly by REB, which were found closed. The Samara Girls' Boarding school was included in the study for the school was the only girls' boarding school that functions normally and managed by REB. Of the other three woreda led boarding schools, two were selected purposely (one older and one recently established). Furthermore, to understand the previous situation of the closed boarding schools and the future direction, Hinele Boarding School was selected purposefully with the view that it may provide rich information for it had been the pioneer.

Mobile school sample selection: Of the two schools run by Kelem Education and Training Association [KETA], one school was selected using simple random sampling technique. As all the schools were found in Adaar Woreda (i.e.in Aramis- Adaar livelihood zone) and run by one administration, the information from one of the school can represent the others.

Table 3: Selected Learning Centers and Woredas

Livelihood Zone	Number of woreda and learning centers In the sample livelihood				Number of selected woredas and learning centers			
	Woreda	FABE	MABE	Boarding	Woreda	FABE	MABE	Boarding
Teru pastoral	7	76	-	-	4	11	-	-
Aramis-Adaar pastoral	10	104	2	4	4	15	1	2
Awsa-Gewane agro-pastoral	5	60	-	3	4	9	-	2
Total sample areas	22	240	2	7	12	35	1	4
Total region		353	2	8				
% selected					37.5	10	50	50

Note: see Annex III for the specific selected woredas and centers

3.2.2.2. Participant selection.

At Regional state level, the participants included process owners (department heads), team leaders and non-formal education coordinator. At the woreda level, the participants of the study were WEOs' office heads, educational officers, and non-formal education coordinators. At the center level, the participants included were CMC members, facilitators/teachers, boarding school students, school heads, dropouts, and parents of OSC.

All 89 facilitators and 93 WEOs officers found in the selected centers and woredas were made to participate for quantitative data collection through questionnaire. This is because As Gay, Mills and & Airasian (2009) noted if the accessible population is fewer or below 100, it is advisable to use all of them.

All 34 available CMC members during data collection in the selected fixed and mobile ABE centers were included purposefully with the assumption that they could represent pastoralist communities. For CMC members were elected from the local community and managing the learning centers on behalf of the community, they were found to be capable of reflecting the views of the local communities. Similarly, Samar Girls' Boarding School teachers, all the 12

sample woreda education office officers in their absence their representatives, Nine 2nd cycle primary school directors or teachers, who teach students who have been transited from ABE, were made to participate to find out the competency of ABE students transited from ABE. The information helped to analyze the quality of education provided in ABE.

Twenty-two boarding school students, who were assertive and representative of all the livelihood zones from the three boarding schools, were made participated. More emphasis was given to senior students. This is because it was assumed that the longer they live in the school and the better they are conversant, the better the information they can provide.

Using the convenience sampling technique, 18 dropout students and parents of OSC from both sexes were included in the study. Since the dropout children and their parents move from place to place in search of water and pasture, it was difficult to use simple random sampling technique. The OSC were children in the official primary school age range (ages 7-14) who could not be enrolled in either the target learning centers or other schools. The information to be gathered from dropouts, as right holder, and parents, as duty bearers to primary education, was vital to understand why those children could not access the available learning centers. The number of participants was dependent on the availability of the target groups in each center that vary from center to center.

The 12 sample woredas' education office heads (or their representatives in their absence) during data collection, KETA program manager and supervisor, all REB core process owners and team leaders and non-formal education coordinators were participants of the study. These participants were appropriate to the study as they were directly responsible to develop implementation strategies and guidelines, prepare plans and monitor the implantation of the plans, evaluate the output/outcomes, and provide technical support for the modality schools.

3.2.3. Data gathering tools

In this study, data were collected through in-depth individual interview (one-to one interview), Focus Group Discussion [FGD], document review, questionnaire and field notes. The instruments were designed based on the literature reviewed as well as the pastoral education strategies and alternative basic education standards.

3.2.3.1. In-depth individual interview.

In-depth interview was one of the principal means of gathering qualitative information. It served as a method for collecting qualitative data from 9 schoolteachers and directors, 20 WEOs heads and non-formal education coordinators of WEOs, 18 out of schoolchildren and their parent's .Each interviewee was contacted by appointment except out of schoolchildren and their parents, approached by snowball sampling techniques after completing data collection at their respective learning centers. Each of the interview sessions for teachers and educational managers lasted from 23-67 minutes while for each OSC children and their parents' interview lasted from 7 to 12 Minutes. Some few interviews were contacted up to three times through phone call to recheck their information or to ask more information and explanations during data organization and analysis. Except the informal communication, interviewees were recorded by their consensus. Informal communications were noted either during the conversation or later by recalling the main points depending on situations.

The purpose of qualitative interviewing was to find out the participants perceptions and understanding of the issue under study. With the assumption that the perspective of each individual is meaningful, knowable, and able to be made explicit (Patton, 2002) semi-structured interview guides were prepared for the intended interviews.

Semi-structured interview, combining interview guidelines with the standard open-ended questions, helps to ask the same questions to all interviewees and be flexible in probing in-depth information from individuals when appropriate (Patton,2002; Dawson,2007). For ease of communication, I conducted interview in Amharic. In the case of dropout students and parents of Out Of School Children [OSC], translators supported me. During the interview, audio recorder was used with the consent of the interviewees.

Although it is time consuming, individual interview helps the environment easier to understand the feelings of each respondent for it avoids the inconvenience or maximize privacy of interviewee to disclose what they really feel. The semi-structured schedules were designed to cover the main themes contained in the research questions: challenges in accessing education, responsiveness of the modalities to their problems, curriculum relevance, effectiveness of the modalities, and implementation of the strategies and challenges. Furthermore, to explore more information or seek more explanations informal conversational interviews were made in any opportunity with facilitators, community members, educational managers at woredas and regional level who participated formally as well as with those who did not participate in the study.

3.2.3.2. Focus group discussion.

FGDs were held with 34 CMC members, 22 boarding school students in three schools, 5 teachers of Samara Boarding school 8 REB participants in two groups. Each discussion was held by appointment. Discussions were made and recorded with the consensus of the participants by informing the objectives. Each of the interview sessions for teachers, students and CMC members lasted from 45 to 55 minutes while REB participants' discussions lasted about 90 minutes for each group. The FGDs were focused on suitability of the modality to students, the perception of discussants on the existing modalities in the region with regard to quality provision, relevance of

the curriculum, resource allocation, problems of learning centers, and their suggestions on the way forward to provide education for pastoral children, etc. .

3.2.3.3. Document review

Plan documents and records available in REB, WEOs and learning centers, Policy instrument documents, reports, financial records, pertinent to the study were reviewed.

To examine the design of the modalities and implementation, the pastoral education strategy(MoE,2008b), ABE Standards (MoE,2011a),Mobile ABE implementation Guidelines(MoE,2010), ABE supervision Guideline(MoE,2011b),Afar Region standard(Afar REB,2011),Afar Region Mobile ABE implementation guideline (Afar REB,2010b), were examined. To collect data from these documents, first checklists were prepared. Then by looking the table of contents and looking at the needed part, essential data were collected. For example, from the strategy, the organization of each modality and from the standards, entry requirements of facilitators, instruction time allotment, list of required facilities and materials were noted. From the guidelines, the way the modalities are to be organized, the duties and responsibilities of implementers, facilitators deployment strategy were noted, These documents were selected purposefully for their pertinence for the points needed. Documents were gained from experts working in planning department, quality assurance and a person in charge of alternative modalities in Afar REB.

Study and supervisory reports such as Afar REB general situation study (Afar REB,2014), Afar REB supervision reports(Afar REB,2016), improvements of educational participation in Afar(IPS,1999), supervision report (Afar REB,2016) and Mobile situation school in Afar(Afar REB,2009)were consulted. By asking the REB experts indicated above whether there were documents, study reports, bureau reports and others that reviewed the

implementation of Alternative modalities and formal schools in the region and where they were available, documents were traced. Then by scanning the documents focusing on strength, weakness, challenges, achievements and the way forwarded reporters' notes were taken. The documents helped to get data on the effectiveness/outputs of the modalities, challenges, key decisions of implanters.

Early grade reading assessment (United States Agency for International Development [USAID]/ Ethiopia,2010) and national Learning assessments for 4 grade and 8(GEQAEA,2008) were also reviewed to identify the status and challenges of the provision of education for pastoralists children in the region. These documents were asked from the Afar REB expert in charge of examination, data were taken. By looking directly the data, composite result of students in Afar, average Ethiopia results in early grade reading assessment, Afar REB grade 8 and 4 national assessments composite results were taken by looking at table of contents. The documents help to analyze the achievement effect of the students understudy.

Compiled records on enrollments and expenditure from ABE centers, WEOs and Afar REB from 2010/11-2015/16 were noted from databases and record sheets to note the commitment and performance of the target areas using alternative modalities. Besides these, to examine the commitment of the government and financial capacity of the region to put effective the modalities, the expenditures of Afar region and other regions from 2010/11 to 2013/14 were collected from the MoE (2013a) Education Statistics Annual Abstracts and Afar BoFED database. These documents were sought from the indicated institutions with the belief they are significant to analyze the commitment and financial capacity of the region towards meeting UPE. With the help of plan expert in the Afar REB, a person in charge of Afar BoFED was approached. Then he organized data from his database and offered me as per my checklist. Data from were taken from

the MoE Annual Abstracts which I had already, downloaded from MoE Website, and noted the expenditures of the region and national average from the section under the title Trends of Expenditures. In each abstract the last five years expenditure were organized by region and types of expenditure. BOFED data helped to fill the gaps, which are not, included the MOE abstracts such as expenditure by programs and to crosscheck the former. ESDP III(MoE,2005),ESDP IV(MoE,2010), Afar Region UPE plan(Afar REB,2008), Afar REB strategic plan III(Afar REB,2010a) were reviewed to examine the effectiveness(performance) of the modalities against the intended plans. These data were noted from the documents I have already archived. From these documents plan targets set, performance recorded of previous planning period from situational analysis part were noted in the checklist prepared. These data are pertinent to analyses effectiveness of the modalities understudy, for they contain previous five years performance and the coming five years plans.

Checklists were prepared to collect quantitative data from, community, sample schools, WEOs and REB. The data collected from records and documents included, school age children, enrollment of children, number of promoted students from grade to grade, number of students who completed the level three were taken from schools WEOs and REB , this is done to complement the missing gaps in the lower level and cross check. Afar native students' enrollments were taken from the schools via REB by sending official letter to WEOs to collect the current year enrolment data from all schools in the region. The data were relevant to compute participation rates, internal efficiency and equity in gender and ethnics (between Afar and non-Afar).

Grade eight regional examination results of boarding school students were also collected from regional education bureau database to compare the achievements of the students with the

total examinees in the region for the same year. The person in charge of examination provided the raw data, test score of all boarding students and average of the region, which are necessary to compute one sample t-test. The profile of facilitators/ teachers in terms of qualification, experience, and training were noted from the data sources of the schools, WEOs or REB. The data were requested from the bureau and the sample woredas. In some woredas, a person in charge of planning and statistics provide me the broad base recordings and I took the essential data as per my checklist by scanning the document. In REB and some WEOs, persons in charge of planning and statistic filled in my checklist.

3.2.3.4. Questionnaire

For the pastoral education challenges are context bound, no standard questionnaire fit to the study. Thus, Self-prepared questionnaires were used for two groups of respondents and collected by myself: the first group was the 35 fixed ABE centers facilitators including the ABE coordinators, while the second group consisted of all the 12WEOs' experts.

The questionnaires were developed primarily to enhance the qualitative data. The items of the questionnaires were developed from the literature review, the pastoral and agro-pastoral education strategy and input standards set by the Ministry of Education. They were prepared in English and for ease of communication translated in to Amharic.

The questionnaires for educational officers and facilitators are divided into three sections:

- a) Personal information section: served to provide accurate description of the respondents;
- b) Challenges to provision of primary education for pastoral children and responsiveness of the alternative modalities to those challenges: meant to understand the relevance of the modalities to the challenges and needs of pastoral children to education; and

- c) Implementation of the modalities, designed to ensure whether the result (performance) of the modalities attributed to the strategies of the modalities.

Questions used a 5 point Likert scale were used where participants were required to rate their agreement or disagreement on the extent of the problems, relevance of the strategies and implementation of the strategies. Further, few open-ended questions were converted into quantitative data.

Field Note: Formats used for field notes were self-prepared to collect data on school age population, out of school age children and mobility pattern of the communities in the sample ABE learning centers/schools. For this purpose, in catchment areas of ABE centers, head count was undertaken to obtain primary school age children population (ages 7-14). The information was used to examine the demand for school places and participation of the school age children (enrollment rates). The data were collected through data collectors selected from each woreda. The selection was made with due caution with the help of WEOs considering their qualification, language fluency, perseverance, familiarity to the community as witnessed by WEOs supervisors. Besides orientation, due follow up and support were rendered.

3.2.4. Validity and reliability.

3.2.4.1. Validity.

In quantitative data, validity can be improved through careful sampling, appropriate instrumentation and appropriate statistical treatments of the data (Cohen, Manion & Morison, 2007). An instrument is said to be valid if it measures what it claims to measure. If the instrument is valid, the findings are supposed to be valid (Koul, 2006).

To ensure the validity of the instruments, expert judgment was used. Colleagues working their PhD dissertation and master's theses on pastoralist education, and experts currently working on pastoralist education from government offices and NGOs, critically reviewed whether the

instruments relate to the objectives and appear to measure what are supposed to measure for each variables. After their critical examination, some of them forwarded their comments in writing and thorough discussions were held with three of them collegially on both the quantitative and qualitative instruments. Thereafter, the instruments were improved before put in use. The feedback helped me not only for ascertaining the validity but also for enhancing reliability of the instruments.

Validity in qualitative research does not carry the same connotations as it does in quantitative research. Terms such as ‘trustworthiness’, ‘authenticity’, ‘credibility’ and ‘rigor’ are frequently used as alternatives to validity in quantitative research. For example, Lincoln and Guba, as cited in Padgett (2008), proposed ‘*credibility, transferability, audit-ability, and conformability*’ parallels to quantitative research of *internal validity, external validity, reliability and objectivity* respectively’. Padgett then maintained that the terms all together connote to the trustworthiness of the qualitative study. Trustworthiness is used to suggest or determine whether the findings are accurate from the standpoint of the researcher, the participant, or the readers on account. A qualitative research is said to be trustworthy if it is carried out fairly and ethically and its findings represent as closely as possible the experiences of the respondents (Creswell, 2009; Padgett, 2008).

Threats to trustworthiness of qualitative study fall into three issues: *Reactivity* (the potentially distorting effects of researcher’s presence on participants’ belief and behaviors), *researcher’s biases and respondent’s biases* (Padgett, 2008). To attenuate these threats thereby to ensure trustworthiness or to attain the rigor of the study, two strategies were used. Data collected from different sources were triangulated to verify the credibility of the information. This involved comparing what participants said in formal interviews and what they said in private in informal

discussions, comparing the perspectives of people at different levels (school, WEOs, REB) and comparing and crosschecking information gathered through interviews and documents.

Furthermore, the findings were validated through a presentation to Regional education bureau top management members, experts to ensure the data they provided were included, and the findings reflected the reality of the region. In doing so, additional information they reflected and their comments on the recommendations were taken consideration.

3.2.4.2. Reliability.

To improve reliability, the questionnaires were tested in two woreda education offices and six alternative basic education centers that were not included in the main study and their internal consistency was measured using Cronbach's alpha, which is the most popular method of testing reliability. Cronbach's alpha provides two important indicators: value of alpha and Item Total Correlations (ITC). Value of alpha indicates the average of correlation of each item with and every other item. ITC shows the correlation of each item with the sum of all the other items (Cosby, 2001; Cohen, Manion and Morrison, 2007). In addition to determining the reliability of the instrument, Cosby and Oller as cited by Larson-Hill (2010) recommend to discard items that do not correlate with the other items.

To this effect, the questionnaires were translated into Amharic (the working language of the region). Prior to distribution of the questionnaire for the pilot study, colleagues from the regional education bureau and native Afars who completed primary education had been asked to comment on the clarity of the language and the contents checked out what confused them if there is only. They were told about the purpose of the pilot study and requested to give feedback genuinely. The clarification questions they raised, comments they made after completing the questionnaire assisted me to improve the items eventually. This was followed by self-

distribution of questionnaires to 14 facilitators and 20 woreda education experts found in two woredas (Afambo and Dubti) in my presence. All the questionnaires were collected.

The internal consistencies of the responses collected were calculated using statistical Package for Social Science [SPSS] to ensure the consistency of the measures, that is, whether items of variables are sufficiently correlated with each other or not so that the inclusion of the items were important to measure what is proposed to measure the variable of interest.

Notwithstanding reliability of instruments increases as the number of items, heterogeneity of the participants and dimension increases (Yalew, 2009), Cohen, Manion and Morrison (2007) put forth the minimal acceptable level of Cronbach's alpha at 0.60. Accordingly, the reliability of coefficients of all variables, included in the study, was found acceptable for the alpha values of the variables exceeded 0.70. However, six items were deleted for their Item Total Correlation [ITC] dropped below 0.35. Oller as cited by Larson-Hill (2010) stated that an item of correlation less than .35 is likely to be discarded. One variable (availability of educational material with 4 items) was discarded for the reliability of its coefficient dropped below .60 (see annex IV). Totally, of the original 50 question item, 10 questions items have been discarded based on the comments of experts (before pilot test) and as the result of reliability test (after pilot test).

3.2.5. Data collection procedure.

Previously, it was noted that both qualitative and quantitative data were collected concurrently. The major data were collected from June to October 2015. At times necessary additional data were collected during analysis to fill gaps. In most cases, the data collection was undertaken starting from learning centers through woreda Education Office to the Regional Education Bureau. Of course, in some cases the sequence was not kept because of mobility of communities. After securing permission from REB and subsequently from WEOs, data collectors

were deployed to each center. In parallel, sample centers for qualitative data were visited and I collected essential data. Upon returning from the centers, data collected by data collectors were checked and gathered. Subsequently, with the assistance of colleagues from WEOs, questionnaires were distributed to facilitators at woreda towns and collected at the presence of me. For the time was summer vacation it was convenient to get them at Woreda towns. This was followed by distributing and collecting questionnaires for WEOs experts. Then, woreda level interviews and document review were made. Eventually, data collections at REB (focus group discussions and document reviews) were held. The procedure helped to double check the data. As Walliman (2001) noted, inherently qualitative data are less predictable than quantitative data. For this purpose, according to the suggestion of William, the quantity and quality of the collected data were checked at interval and adjusted for the subsequent data collection.

3.2.6. Data analysis.

For Concurrent Embedded (QUAL +quan) mixed method design was chosen and applied for this study, both qualitative and quantitative data were analyzed altogether. Creswell (2009) noted that the structure of data analysis follows the type of strategy (sequential, concurrent and transformative) chosen for the proposed study. As regards to concurrent design, Creswell noted:

The quantitative and qualitative data collection may be presented in separate sections, but the analysis and interpretation combines the two forms of data. The structure of this type of mixed methods study does not make a clear distinction between the quantitative and qualitative phases. (p.202)

Accordingly, primarily, quantitative and qualitative data from interview, FGD, documents, and questionnaires were cleaned and organized thematically to simplify the analysis. The

qualitative and quantitative data were presented separately and blended at the level of analysis, and then merged at finding level to derive a consistent outcome.

For the qualitative data, combination of comparative and content analysis approaches were applied as dictated by natures of the data. Dawson (2007) noted that comparative analysis involves categorizing qualitative data in themes and describing by comparing the data from different sources while content analysis involves counting the coded items. Accordingly, in this study, data from different interviews, FGDs, documents, and notes were compared and contrasted in narrative form, using reflective and counting techniques. In doing so, the analysis was made by moving backwards and forwards between transcripts, notes and the literatures.

In accordance with the process posited by Padgett (2008), the qualitative data evolved through the following processes: first, recorded data were transcribed; field notes and data taken from documents that address similar issues were arranged together. Second, raw and partially processed data from interviews, FGDs, documents, and notes were filtered and reduced. This is because, as suggested by Gay, Mills and Airasian (2009), to avoid excess information and pave a way for easy understanding during the analysis. Third, coding and organizing transcripts followed. Coding helped to detect patterns (i.e. to detect the codes that occur together). Fourth, the data were categorized and clustered into themes. Finally, data analysis was made by reading repeatedly through organized data. During the analysis, at times data gap appeared, to augment this gap, iterative sampling method (moving back to data collection) was applied.

In the analysis of the quantitative data, it is worth of noting the dependent and independent variables. The dependent variables are the effectiveness of the modalities as measured by output goal attainment. These are enrollment rates, completion rate, transition rate, test score, and gender parity index. The major independent variables of the study include the relevance of the

designs of modalities as measured by suitability, feasibility and acceptability of the designs and the implementation process as measured by availability of required resources, availability of standing and implementation of the modalities.

To analyze the data, employed descriptive and inferential statistics were employed. In doing so, various statistical techniques were employed as deemed appropriate to the nature of the data. Data collected through questionnaires and recoded document were edited, coded, and then fed into computer to process using Statistical Package for Social Science [SPSS] 20 program. As the very purpose of quantitative data is to support or to enhance the qualitative study, the quantitative data were embedded or nested within qualitative data.

The items in the questionnaire, with the exception of participant characteristics, were presented using multi ratings where respondents were requested to rate from the choices. Likert-scale was presented for respondents to rate the magnitude of the challenges for the provision of education to pastoral children ranging from 'very high' to 'no problem'. Numerical values are given five (very high) to one (no problem). For suitability of strategies, the respondents rated their agreement ranging from strongly agree- strongly disagree. The ratings were a given numerical value from 5 to 1 :Strongly Agree = 5, Agree= 4, Undecided = 3, Disagree = 2, and Strongly Disagree= 1 .For implementation of strategy rating scale values were given to responses as follow: always=5, fairly often=4, sometimes=3, rarely=2 and never=1. Average mean value of 3 was taken as a cut point for comparisons. ad Yalew (2006) clearly pin pointed, the cut point is used as benchmark to determine whether specific mean is high or low. Thus, above 3 with maximum values 5 represent as favorable response whereas below 3 with minimum value of one refers to unfavorable. Data collected in those ways were analyzed as follow.

A) Descriptive analysis: The background information of respondents, resources, and enrolments of students were analyzed with measures of central tendency such as percentage, mean, participation rates etc.

B) Single sample research t- test was employed to determine whether there was a significant difference, with 0.05 at alpha level at two- tailed, between the achievement score of the boarding school students and total region students in primary education leaving certificate examination at grade eight in three years from 2012/13-2014/15. Larson-Hill(2010) stated that “To determine whether some obtained value is statistically different from a neutral value, from a previously published population mean, from zero, or from some other externally dictated mean score, a one-sample t-test can be used”(p264).

C) Independent t-test was used to examine if there was statistically significant difference between means of respondents (WEO and facilitators) on independent variables such as pastoral education challenges, strategies, and implementation of the strategies as measured by rating scales. “The univariate t- test addresses the question of whether two population means are equal” (Meyers, Gamst & Guarino, 2006, p.369).

In case a significant difference between the groups mean ($P < 0.05$) was occurred, effect size was computed to measure the strengths of the differences between the mean scores of the two groups. This is because According to Larson-Hill (2010),Cohen, Manion, and Morrison (2007), Miles and Banyard(2007) dependence on significance level has limitations in effectively informing the strength of relationships because it is seen as arbitrary in its cut-off whereas effect size is sensitive to subtle.“ It tells the reader ‘how big the effect is, something that the p value [statistical significance] does not do” (Wright cited in Cohen, Manion, and Morrison, 2007, p.521). The measure is computed manually using formula put forth by Miles and Banyard (2007,P.154)

: $d = 2t / \sqrt{df}$: where t - is the result of the t-test, which we have already worked out, and df is the degrees of freedom, which is $N1 + N2 - 2$. It was interpreted according the rules put forth by Miles and Banyard (large effect size, $d = 0.8$, medium effect size, $d = 0.5$, small effect size, $d = 0.3$).

D) One Way Analysis of Variance (ANOVA) : was used to compare four groups of respondents mean scores (agro-pastoralist areas WEOs experts, Agro-pastoralist areas facilitator, transhumant areas WEOs experts, and transhumant areas facilitators) on impact of child labor for children education. One Way -ANOVA is used to examine differences between more than two groups

The parametric tests were used upon checking the assumptions were not violated: One, the groups of respondents, woreda experts and facilitator in both agro-pastoralist and transhumant areas were independent. Two, from the outset, the instruments were prepared in interval ratio; three, homogeneity of variance as measured Levene's Test for equality of variance shows the significances are greater than the P values at 0.05 (see each parametric measure tables). Four, with regards to normality, citing Weinberg and Abramowitz, Larson-Hill (2010) stated that "sample size larger than 30 eliminate the need to check data for normality" (p.75). However, Larson-Hill warned that when the data is highly skewed there is a need to check. Larson-Hill citing the same authors continued to say "if skewness ratios is less than 2, normality is not violated" (p.78) and Porter in Larson-Hill says "if the skewness level is under 1 there is no cause for concern" (p.79). The other common indicator for checking normality is Kurtosis. To this indicator Kline cited in Melaku (2015) suggested to take kurtosis level less than 10 as normal. Hence Taking the three scholars' guide, the data were checked to be less than 2 skewness ratio and less than 1 skewness level and 10 kurtosis level (see annex VI). E) Non-parametric test: for the data of challenges of mobility did violate assumptions of parametric test, the nonparametric Kruskal–Wallis test is used

to compare the four groups of respondents rating. Hinton, Brownlow, McMurray & Cozens (2005) noted that non-parametric tests are appropriate when one or more assumptions of a parametric test are violated. The Kruskal–Wallis test is the alternative to one-way ANOVA. Not only had the groups had no equal variance but also larger/smallest group ratio greater than 1.5. Although ANOVA is robust to violation of homogeneity of variance, as Pallant (2005) stated it is only when the size of the groups is similar: largest / smallest group size is less than or equal to 1.5. However, in this case the size of the groups are not similar ($54/31 = \text{largest/smallest} = 1.8$). To this reason, non-parametric test was performed.

3.2.7. Ethical Consideration.

The followings procedures have been in place to safeguard the participants' wellbeing rights:

1. The research objectives and the right of informants to decline to answer any or all the research questions was articulated to participants at the very beginning of data collection.
2. It was made clear that the information obtained would be used only for the research purpose.
3. Written permission to collect data was received from the regional education bureau and WEOs (see annex IX).
4. Permission of consent was requested and obtained from parents for their children to participate in the study
5. The informants' consents were requested to use audio record in interview and FGD sessions.
6. It was assured to participants that confidentiality would be maintained
7. Interviews and focus group discussions were held respecting the norms and religious values of the communities and convenient places for recording without interferences.

Chapter Four: Data Presentation, Analysis and Discussions

The purpose of this study is to assess the Viability of the Modalities for Provision of Primary Education to the Children of Pastoralists in Afar Region of Ethiopia. To this end, this chapter deals with presentation, analysis and discussion of the collected qualitative and quantitative empirical data from different sources. The analysis was made using concurrent embedded design method of data analysis. The data were collected from 28 educational managers, 22 students, 14 teachers and school directors, and 52 community members from 35 FABE Centers, one Mobile ABE School, four Boarding Schools, four formal 2nd cycle primary schools, One NGO, 12 WEOs, Afar REB and various documents. In addition, questionnaires were distributed to 89 facilitators and 93 woreda education experts. Of those 85 (95.5 %) facilitators' and 90 (96.77%) woreda, experts' questionnaires were returned and usable for analysis. The chapter is organized into five sections. The first one deals with the characteristics of participants of the study. The remaining four sections have dealt focus on the three basic research questions, subdivided into 10 subsidiary questions, set from the outset.

4.1. Participants Characteristics

Since data have been gathered through both qualitative and quantitative methods, the analyses of background of the participants are presented independently. As seen in Table 4 and 5 below, attempts were made to incorporate views of different social groups from both agro-pastoralist and pastoralist areas. The participants were drawn from both duty bearers and right holders of educational service: Educational and other actors from the three echelons of educational structure of the region (REB,WEO and school from top lowest level respectively), as well as target beneficiary pastoral children and their parents.

Table 4: Social Background of Interviewees and Focus Group Discussants

variable	category	interviewees			FGD				Total	
		WEO	OSC and parents	Schoolteachers and directors	students	teachers	CMC	REB		
		No	No	No	No	No	No		No	%
Sex	.Male	18	10	5	8	5	26	8	80	68.97
	.Female	2	8	4	14	-	8	-	36	31.03
Ethnicity	.Afar	6	18	2	22	-	34	4	86	74.14
	.Non Afar	14	-	7	-	5	-	4	30	25.86
Education	.illiterate	-	10	-	-	-	34	-	44	39.93
	.grade 1-4	-	8	-	5	-	-	-	13	11.21
	.grade 5-8	-	-	-	15	-	-	-	15	12.93
	.secondary education	-	-	3	2	-	-	-	5	4.31
	.Diploma	5	-	4	-	5	-	-	14	12.07
	.BA/BSC and above	15	-	-	-	-	-	8	25	21.55
Service by year	<3	2		2			10	-	14	18.42
	3-5	3		2			24	2	31	40.79
	6-9	15		5		5		2	27	35.53
	≥10			-				4	4	5.26

As depicted from the above table, the majority of participants (86.97%) in the FGD and interview inclined to male. The low representation of females was attributed to the proportion of females positioned in management of education in the region. Nevertheless, realizing this situation due attention was paid to elicit sufficient information that concerns female in interviews and FGDs.

As portrayed in Table4, 86 % of FGD and interview were Afars. This indicates that, among other things, as around 87.74 % of the population of the region is Afar ethnic pastoralists, the problems and views of pastoral communities to education emanating from cultural, economy and

physical environment were supposedly reflected. Notwithstanding with the importance of obtaining information from Afar natives that concerns Afar pastoralists, the participation of non-Afar had vital importance. The influence of culture is sometimes more vivid by outsiders than insiders.

With regard to educational attainment, higher proportion of participants was illiterate. This shows that more discussions were undertaken with community who had no chance to modern education. Interestingly, overwhelming majority of educational managers (75 percent of Woreda Education offices and all REB) possessed first degree and above. This helped to balance the views of educators and disadvantaged people.

Data on item 4 of Table4 depicts that majority of respondents had more than 3 years of experience related to the education of the region. Although it is difficult to determine the minimal years of service to understand ones organization work, in contrast to 12 years age of ABE in the region, interviewees' experience was sufficient to comprehend the issues under study.

Table 5: Characteristics of Facilitators and Woreda Education Experts

variable	category	Facilitators	Woreda experts	total	
		No.	No	No	%
Sex	Male	59	87	146	83.43
	Female	26	3	29	16.57
	Total	85	90	175	100
Age in year	Below 20	-	-	-	-
	20-25	40	14	54	30.86
	26-30	25	31	56	32
	31 and above	20	45	65	37.14
Education	below grade 8	32	-	32	18.3
	grade 8-10	33	-	33	18.9
	secondary education	17	4	21	12.34
	Diploma	3	57	60	34.3
	BA/BSC	-	29	29	16.6
	Total	85	90	175	100
service	Below 5 years	44	25	69	39.4
	5-10	31	23	54	30.9
	11-16	10	23	33	18.9
	above 16 years	-	19	19	10.9
	Total	95	90	175	100

As depicted from Table 5, in questionnaire response females' participants account only 16.57 % of the total participants. Similar to the reason justified for low representation of females in qualitative data informants this is a reflection of the low participation of females in ABE teaching and management of Woreda education. Age wise, all respondents were above 20 while most of them were under 31. This implies, among other things, the respondents were capable of taking responsibilities and responds to questionnaires independently

Concerning the educational background of respondents, overwhelming majority (95.55 %) of woreda experts had college diploma and above, whereas, 37.65 % of facilitators had no secondary education. It is believed that the higher the education level the respondent has, the higher the possibility to comprehend the content of the questionnaire and respond accordingly. Nevertheless, for the questions were directly related to their job, as observed while editing the questionnaires and analyzed in the pilot test, the education levels of facilitators were passable to understand the content of the questionnaire and rate their views.

As to service of the facilitator in ABE, majority had below 5 years. Nevertheless, as most of them were from the community, they have adequate knowledge about the ways of life of pastoralist community. Moreover, as they had learned in the region, school related problem of the pastoral children had been their own problem. Whereas, majority of the woreda experts had more than 5 years of service in education offices of the region which is adequate to understand provision of education for pastoral children in the region. Moreover, to be in safe hands, every question was read and clarified for facilitators but they were left free to write whatever they thought appropriate. In general, it is suffice to say that participants' backgrounds in terms of ethnicity, education, experience, sex, age, and job position were apposite to give appropriate information for the study.

4.2. Challenges to provision of Education for children of pastoralists in Afar

The focus of this study is on the viability of the design of the modalities. Before turning to design, examining the practical challenges in the provision of education for pastoral children in formal mode of delivery is essential.

4.2.1. Challenges of children of pastoralists to access primary education.

The first point of discussion for individual interviewees and focus group discussants was about the critical problems of pastoral children that constrain them to get enrolled and maintaining their attendance in formal mode of delivery. This helps to analyze whether the design of the alternative modalities under study responded to those challenges. Among the challenges raised, include mobility of the communities, child labor, and parents' attitude to education of children, language, curriculum relevance and economy. For similar purpose, eight challenges, filtered from the literature, were given to facilitator and woreda education experts to rate the extents of the problems, ranging from one (not problem) to five (very high problem), evident in their respective areas.

4.2.1.1. Mobility of communities

Albeit it is known that the Afar rural people are mobile, what is important for devising strategy is the degree of their movement. According to Carr-Hill (2005), the design of appropriate education delivery is dependent on the degree of movement of the pastoralists, especially the movements of the children while a community is forced to move which differs from area to area even from family to family. Thus, the movements of communities in the target study areas are discussed for agro and transhumant pastoralist groups as follow.

4.2.1.1. Movement of Agro-Pastoralist areas.

In Awsa-Gewane agro-pastoralist areas, data were collected from checklists on mobility pattern (see Annex VIII). Further, to enhance the data, interviewees and FGDs were asked to describe the mobility pattern of their respective areas and children's role. Data collected from the checklist and discussants indicate that in typical seasons (not unusual drought or rain), agro-pastoralists stay in their homestead for about eight to nine months from October to April/June. of course, in between , in December and February, interviewees and FGD participants asserted children deploy cattle to farm areas, 1/2 -1 day foot travel from home, to feed them crop residues (mostly cotton and maize residues) while other household members stay home with calves, shoats and milk producing cows. Informants asserted that when the Awash River starts flooding in June/July, young men migrate with livestock away it. This is usually in the months of July-September when the summer rain starts in this livelihood area. The rest of the family members stay behind. They return when the floods subside in October-November. This corresponds to the Afar DPFSB (2006) survey study report. REB Participants further underlined that during a drought year, the pattern of movement and duration changes depending on severity of the hazards. This indicates that the formal school time of the country, which starts at the very beginning of September and ends at the end of June is not appropriate for children of the agro-pastoralist areas.

4.2.1.2. Movement of transhumant pastoralist areas.

In transhumant pastoralist areas, data were collected from 22 Village ABE centers, one mobile ABE center and eight WEOs in two pastoralist livelihood areas, Teru and, Aramis – Adaar pastoral livelihood zones.

Data collected from the checklist, and further confirmed by focus group discussants and interviewees averred that in Teru Pastoral livelihood areas a few areas in Golina and Ewa

woredas' transhumant pastoralists stay home up to eight months consecutively. These areas are neighboring to Amhara National Regional State having the chance of good summer rain and access to permanent rivers. For example, as WEOs discussants asserted, in Ewa Woreda, if there is a good rain in the main rain season it can serve for many months up to December/February. However, data collected from field using checklist shows that in most of the areas of this livelihood zone, pastoralists stay home consecutively for not more than 5 months, from June to October (see Annex VIII), which is the other way to agro-pastoralist areas. After that, CMC members affirmed that they move to areas where there is Permanent River like Awra River. CMC members further elaborated that in a rare case, for the effect of short time rain in December (3-4 days) that can replenish the decreasing Pasture grown by summer rain, pastoralists can return to home villages and stay in December/February. If there is rain during the 2nd main rain season of the region, they prolong their stay in homestead for one or two months in March and April.

WEOs, REB and CMC members affirmed that in most of the Aramis – Adaar pastoral livelihood areas the pastoralists tend to stay homestead for 4- 6 months (from July/August to November/December consecutively in a year. In this livelihood in most of the cases, all household members tend to move for dire shortage of drinking water except to people adjacent to permanent river areas. However, in a few areas of the livelihood, for example, Anadi ABE centers in Dewe Woreda and Bulbula ABE center in Chifra Woreda that have Permanent River, flowing from Amhara National Regional State, they tend to stay home for about 8 months from July to April.

Amid the movements of pastoralists of both groups, the children in some areas are subject to stay behind, whereas, in others they move with their families. CMV members and WEOs interviewees made clear the decision who is to migrate with animals and who is to stay depends

on the need of labor, economy of the household to divide the ration into two, availability of resources in homestead. For example, drinking water, enough Pasteur to milk producing animals etc. for example, WEOs interviewees affirmed that in Aysaita(in Awsa-Gewane agro-pastoralist livelihood) in most cases the young and casually employed herder take cattle to host areas during flood time while others including children tend to stay behind. Whereas in Adaar (in Aramis- Adaar transhumant pastoralist livelihood) in areas where there is dire water shortage, all family members tend to move in dry seasons. For this purpose, to enhance the impact on children's education facilitators and WEOs experts were asked to rate the impact of mobility of communities on education of children. Pastoral groups (agro-pastoralist and transhumant pastoralist's areas) to ensure whether there is a difference in the degree of the impact of mobility on the education of the children between the two pastoral group areas, respondents decomposed into four groups.

The rated values of the four groups respondents, (Agro-Pastoralist ABE facilitators $\bar{X}$ = 3.52, agro-pastoralist woreda expert $\bar{X}$ = 3.61, pastoralist ABE facilitators $\bar{X}$ = 3.94 and Pastoralist Woreda expert $\bar{X}$ = 4.05, and), indicate the impact of mobility of pastoralists on accessibility of formal rigid school schedule is almost high above from cutting value (3.00). For the sample size of the highest and lowest is large (highest/lowest, 54 pastoral facilitators / 31 agro-pastoral facilitators = 1.74 > 1.5), non-parametric Kruskal – Wallis test was conducted to identify whether there is a significance difference in the ratings among the four groups of respondents.

6a: Impact of Mobility on Children Education

Null hypothesis	Test	Test statistics	df	sig	Decision
The impact of mobility of pastoralists on education is the same across pastoralist areas	Independent samples Kruskal-Wallis Test	23947	3	.000	Reject null hypothesis

It was hypothesized that the impact of mobility on children education is the same across the pastoralist areas (agro-pastoralist and transhumant -pastoralist areas) for all mobility engender students to discontinue their lessons before completing the academic year. However, the test shows that the null hypothesis is rejected. Meanings, the mean rating score impact of mobility on children education for the four groups of respondents show a significant difference. Thus, pair wise comparison was made on the mean ranks for the four groups of respondents to identify where the significant differences lies.

Table 6b: Pairwise Comparisons by livelihood on Impact of Mobility to Education

item	Sample 1 and 2	Test statistics	sig	Adj. sig.
1	Agro pastoral ABE facilitator –agro pastoral Woreda expert	6.51	.536	1.00
2	Agro pastoral ABE facilitator-- Transhumant pastoral ABE facilitator	-31.511	.001	.005
3	Agro pastoral ABE facilitator—transhumant pastoral woreda expert	38.095	.000	.000
4	Agro pastoral woreda expert—Transhumant pastoral ABE facilitator	-25.259	.007	.040
5	Agro pastoral woreda expert—Transhumant pastoral woreda expert	-31.573	.001	.004
6	Pastoral ABE facilitator—Transhumant pastoral woreda expert	6.316	.430	1.00

The pairwise comparison in Table 6b shows that there is a significant difference between agro-pastoralist and transhumant pastoralists respondents responses (items 2,3,4 5) for pairwise comparisons values are less than .05 whereas there is no significant difference

between raters within the pastoral group (item 1 pairwise and item 6 pairwise comparim). This suggests that the impact of mobility to children education was higher in transhumant pastoralist areas than agro-pastoralist areas. Thus, it is possible to say mobility of pastoralists was a challenge for children to pursue their education in conventional mode of delivery in both transhumant and agro-pastoralist livelihood areas. Furthermore, although the impact varies from area to area within a livelihood and even from family to family, as a whole, the impact of parents' movement in transhumant pastoralist areas was found to be higher in contrast to agro-pastoralist areas.

4.2.1.3. Child labor.

Scholars on the field of nomadic education averred that children's contribution for pastoralist production is significant. As a consequence, children could not avail from available school if schooling time contradicts with responsibility of children. Accordingly, to identify the magnitude of impact in the study areas, WEO experts and facilitator were asked to rate the impact of child labor on education of children in their respective areas. The rating values of respondents [agro-pastoralist woreda expert $\bar{X}=3.85, SD=.034$, pastoralist Woreda expert $\bar{X}=4.05, SD=0.833$, agro-pastoralist ABE facilitators $\bar{X}= 3.77$ $SD=.845$, and pastoralist ABE facilitators $\bar{X}= 3.96, SD=.726$] show that the respondents perceived the impact as high .

Table7: One –Way ANOVA on Impact of Child labor on Children Education

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.879	3	.626	.875	.455
Within Groups	122.430	171	.716		
Total	124.309	174			

$P=0.05$

A one-way ANOVA was conducted to explore whether there was a significant difference among the four groups of respondents. The ANOVA results in Table 7 indicates that at $P=.05$ level there was no statistically significant difference among the four groups ratings [$F(3, 171) =$

.875, $p=.455$]. This indicates the degree of impact of child labor on education of children in agro-pastoralist and transhumant pastoralist areas is almost similar. Views of experts and facilitators are more elaborative by qualitative data. This fact notwithstanding, the MoE (2008b) viewed child labor as exploitation and aimed at to eliminate it through legal and awareness creation measures.

The strategy stipulates:

Carry out extensive sensitization work to create awareness on the adverse consequences of child labor exploitation and mobilize the public at large for its elimination. ... Raise the level of awareness of concerned executive bodies in pastoralist areas to enable them to play their due roles in protecting children from exploitation and taking appropriate legal measures against the perpetrators of child labor exploitation. (article3.6)

However, child labor in Afar seems to be indispensable and irreplaceable for Pastoralist production system is labor intensive. One interviewee described the need of child labor in Afar as follow:

In a common household four individuals are essential. Calves and shoat rearing needs at least one individual; cattle, camel rearing and house chores need other three different individuals. You cannot neglect this because the diversity of livestock is indispensable to cope up the frequent drought hazards” (intv.8).

In agro- pastoralist, one more individual may be essential for farming activities.

The response of one out of schoolchildren mother (OSintv.6) to the question why she did not send all her children to school as long as the school was very close to her village corroborates this fact.

She replied:

I have three children in the house [excluding married and others living away from her].

One follows camel, the other (Girl) looks after goat, my husband cattle, I work at home

and guard of sugar cane. Only one is learning. When he comes from school, he replaces his father or sister as needed. Alas! What do you say? I know education is important but no one is idle in our home.

This shows that the community recognized the value of education but they tended to give priority to survival of the household over the long-term effect of children's education. Children themselves appeared to be convinced their education should not be on the expense of household economy. One school children (OSintv.8) aged around 16 inhabited near one of the ABE center has said the following:

I am not ignorant of the value of education. However, if all of children in our home were made to attend schooling, mother and father could not manage the household activities alone. My elder brother is a graduating student in university while our parents accorded me looking after livestock. I believe it ought to have been. The upcoming time is to me to attend school for my younger brother is growing fit to replace me.

Unfortunately, in the same village a teen ager dropped out from grade three lost hope. Education for him seemed not feasible for he had no other child in the household to replace him in shoat keeping. What is surprising was that he acted in complete accord with his parent's decision.

As regards division of labor, CMC members asserted that commonly small children and females (mother) are responsible for shoat and calves, teen agers for cattle, young males for camel or farming, fathers for overall management of the livestock and farm production. In addition to calve and shoat keeping, female children and mothers are responsible for house chores such as childcare, nursing sick household members, food preparation etc. Figure 2 below partly shows the common labor division of pastoralist households.

Figure 2: Labor Division of Pastoralist Household

Sources: picture 'B' and 'E' collected from Afar pastoral and Agro-pastoral Bureau others were photographed by the researcher

A particular household may need two, three, four, five or more individuals depending on the amount and number of livestock types a particular household rears and posses farmland.

According to the CMC discussants, the one who appears to be the least capable to livestock, house chores or farming activity is likely sent to school. This is because, as discussed above, pastoral parents and children gave precedence to the economy security of the family over their

interest to education. Briefly, though the MoE (2008b) pastoral education strategies aimed at ‘eliminating child labor exploitation’ through awareness creation and legal measures, it seems difficult to achieve this objective for child labor is related to survival of the children’s family.

4.2.1.4. Curriculum Relevance

Kratli (2001) pointed out that the attention of pastoralists to curriculum depends on the purpose they want education for their children. To this purpose, respondents were first asked for what purpose pastoralist want education for their children, then their preference on the content of education and medium of instruction.

Purpose of education: when I posed question for boarding school students whether they wanted education as a tool to pursue the pastoralist way of life, they had a say that they did not want to be pastoralist as to their families. One of the Samara Girls’ Boarding schools student focus group discussants replied, “If we had the intention to pursue the life of our parents, what do you think of the purpose we came here?” agreed the view of the girls, discussants expressed their vision to be professionals such as medical doctors, teachers, and engineers. The Dewe boarding school students also had the same view. CMC members too had a wish for their children to live modern life for they lost hope in pastoralsim; in FGD, one CMC participant had the following say agreed by the discussants

Our old parents had been preferred their children to live in their homesteads and continue herding livestock. However, now that is not hopeful for our children. The wealth of livestock of our grandfather time could not be available in our father’s time. The livestock available in our father’s time is not found in our time. We have no livestock left enough to inherit our children. The drought is becoming worsened from year to year. Thus, we need our children educated and live better (F4).

When they were asked about the choice job for their children, they continued, “Our responsibility is to get them educated. The choice of carrier type is their own interest; if they want they can integrate [they mean urban modern occupations] with animal breeding but in modern way”

Similarly, an agro-pastoralist FGD participant has said the following

Previously we had many livestock and sufficient pastureland. To date our livestock died of drought. Furthermore, we have no sufficient pasturelands to breed livestock. No father who loves his children wants to live his children as we are living now (F6).

In general, the above discussions show that pastoralists under the study sought education as way out of pastoralist mode of life. This finding contradicts to the finding of Alemayehu (2014) for Dasenech and Nyangatom woredas in SNNP Regional state of Ethiopia. For those woredas, Alemayehu made clear “communities perception of education as threat to pastoralist ways of life were the main supply related shortcomings” (p.149). This shows that the problems of different pastoralist areas of the country to education are not alike so that strategies may differ. The next question concerns with the kind of education the parents wanted their children to learn. This refers to content of curriculum.

Content of curriculum: As the content of curriculum is a tool for the objectives of education, interviews and focus group discussants unveiled that, they wanted the curriculum that would enable their children competent for higher-level education thereby to make them out of poverty. Thus, they assured that they did not need curriculum different from that of formal school rather quality education equivalent to formal school. Further questions were posed whether parents in their community are reluctant to send their children because of curriculum irrelevance. They asserted that sending children to school or not has no any relation with curriculum. WEO and REB participants confirmed the parents’ feeling on curriculum relevance. This is maybe for

two reasons: one, they might not face contents that contradict to their culture and religion. Two, getting employment for Afar educated natives at present situation is not much challenging; they might not have seen many unemployed children after completing at least their secondary education so that curriculum relevance was not their issue for sending or not sending children to school. This finding is consistent to the study of Woldemichael in Eritrea cited in Carr-hill and Peart (2005) but contradicts with the finding of Ziyn (2009). Ziyn claimed that irrelevance of the curriculum was found to be the cause for low enrollment and dropout of Afar children. Whereas, Woldemichael noted that nomadic communities had no problem with content of education in Eritrea. According to Kratli (2001), if pastoralists lost trust in pastoral way of life, they do not bother to relevance of the content of education to pastoralists' way of life rather they prefer curriculum meant to sedentary people.

However, although it was not the cause for parents' decision to send their children to school or for low enrollment and dropout of school age pastoralist children; it does not mean curriculum relevance has no effect on student learning. As ADEA(2005) noting , making curriculum content such as materials, names, objects, concepts, illustrations and environmental activities familiar with and can relate to, has paramount value to making education interesting and understandable to students.

Medium of instruction: With regard to the question of medium of instruction, CMC members explicitly articulated that they preferred to learn in their language if possible.

In similar vein, one of the WEO interviewees (intv3) said, "The importance of teaching children in their mother tongue especially in grade one is unquestionable. I have taught in rural schools [in Afar] in Amharic. I observed their problem to understand what I taught until I managed to speak the language and was able to translate". To substantiate his point, he mentioned some Amharic

words that are difficult for the Afar native kids to pronounce. Meanwhile, children in pastoralist areas are seen learning using Amharic as medium of instruction. To this effect, to ensure the problem is pervasive or not, facilitators and woreda education experts from 12 woredas of the region were asked to rate the extent of the problem.

The mean rating scores of facilitators ($\bar{X} = 3.31$, $SD = .845$) and woreda education experts ($\bar{X} = 3.04$, $SD = .847$) is above average (i.e.3). This indicates using Amharic as medium of instruction for pastoral children teaching learning was a problem. Further, to identify whether there is a perception difference between facilitators and experts, t-test was conducted. Table 8 below presents a comparison of the mean score of the two groups. Although the t-test [$t(173) = -2.043$, $P < 0.05$] shows that there is a difference in mean score measure. Further effect size measure ($d = .31$) however, indicate the difference is very small between them.

Table 8: Independent Samples t-test Comparison on Medium of Instruction

Variables (Equal variances assumed)	Levene's Test for Equality of variances		t-test for Equality of Means							Cohn's <i>d</i>
	F	Sig.	t	df	Sig. (2-tailed)	Mean difference	Std. Error difference	95% C I difference		
								Lower	Upper	
medium of instruction	.340	.561	-2.043	173	.043	-.261	.128	-.514	-.009	0.31

Briefly, the above discussion reveal, teaching pastoralist children in their mother tongue is indispensable if quality of learning is needed. Thus, those who were attending in formal school where medium of instruction was Amharic was doing so because they had no option. This was related to feasibility problem. What can be done if there is a problem of teaching force that can and willing to teach in the language? The case is discussed under the subtitle '*staffing*' below.

4.2.1.4. Economy

Oxford Poverty and Human Development Initiative (2013) data reveals that 79.7% of the Afar population was in a severe poverty which is the second poorest next to Somali region in the country. Amidst this, the question in this study is how the economy level of pastoralists affects the educational participation of the children. In literature, one of economy related factors that affect the pastoral children participation is tuition fee. In Ethiopia, this is not a problem. Students are free of any obligatory fee up to grade 10. The government shoulders provision of facilities and education materials including textbook.

The other school related cost interviewees and focal group discussants pointed out were the capacity of parents for three purposes: one, fulfilling required educational material for their children, two, arranging to their children to enable continue their education in homestead while parents migrate. Three, sending their children to a school, to enable pursue further education, not available in their homestead.

Notwithstanding to this, Participants had no the same view on the incapacity of parents to fulfill education materials for their children. Some of the participants claimed that many of pastoral parents, not all, are poor to the extent to buy education materials such as exercise books, pens, and pencils. They substantiate their perception by saying that many children are seen with less number of exercise books than required. Others refuted that though many parents were seen failed to fulfill education material for their children it was not because of their incapacity to buy rather the low value they gave to education. The experts and facilitators were requested to rate the extent parents perceived school related cost as difficult. The mean score value WEOs and facilitators ($\bar{X}$ =WEO=3.21, SD =; 0.918 and facilitator $\bar{X}$ =3.57 SD, =0.956) show that parents perceived fulfilling required resources for their children as moderately difficult. To identify

whether the means score of the two groups of respondents are significantly different, t-test was conducted.

Table 9: Independent Samples t-test Comparison on School Related Cost

Variables (Equal variances assumed)	Levene's Test for Equality of variances		t-test for Equality of Means							Cohn's <i>d</i>
	F	Sig.	t	df	Sig. (2- tailed)	Mean difference	Std. Error difference	95% C I difference		
								Lower	Upper	
school related cost are perceived as difficult	2.216	.138	-2.064	173	.041	-.214	.104	-.418	-.009	0.31

As portrayed in Table 9 above, t-test showed that, as the significance level is lower than P value ($p=0.05$) which indicates there is a difference in the ratings of the respondent groups. Further measure in Cohn's effect size ($d=0.31$), however, assured the difference is minimal implying pastoral parents perceived school related cost to their children as difficult. The rating of respondents show the problem was pervasive despite some focus group discussant argued against the support of education materials. Thus, notwithstanding the argument, whether it is from lack of giving due attention of parents or poverty, many students in pastoral areas deserved support for education materials and other essentials. The support may vary to the level of problem of the children subject to the wealth and commitment of their parents. Some poor parents' children may deserve to the extent of educational materials to attend their lesson properly even in their homestead schools. Others, even better of pastoralists, may lack capacity to afford their children to learn in town or away from home for further education when it is required. If children cannot get the proper support from their parents, they may quit their education before completing secondary education. Thus, devising ways and guiding principle to support for those who are worthy of is essential.

4.2.1.5. Challenges of girls to education

On top of common problems to all pastoral children, in literature many Girls' specific challenges were found in Africa and Asia. These include parental selection, religious faith, cultural marriage, fear of parents for their daughter security, etc (Kratli, 2001, Carr-Hill- and Peart, 2005). With this in mind, the issue of religion was raised in discussions with group and individual interviewees. Accordingly, all interviewees and discussants averred that religious faith and parental selection favoring boys were found to be hardly problems.

Experts and facilitators were asked about the attitude of parents towards education of girls. Extracting from literature, they were asked to rate the attitude of pastoral parents on the two items as seen in the table below.

Table 10: independent Sample t-test Comparison on Parents' Attitude towards Girls' Education

Variables	Levene's Test for Equality of variances		t-test for Equality of Means							Cohn's <i>d</i>
(Equal variances assumed)	F	Sig.	t	df	Sig. (2-tailed)	Mean difference	Std. Error difference	95% C I difference		
								Lower	Upper	
parental exclusion	.110	.741	-.688	173	.492	-.058	.085	-.229	.109	0.10
parents reluctant to send girls away from family	1.917	.168	-.401	173	.689	-.056	.140	-.333	.220	

The mean computed results of WEO respondents ($\bar{X}=2.79$, $SD=0.530$), and facilitators' ($\bar{X}=2.85$, $SD=0.588$) in item 1 of the above table rated low, below, i.e. average (3.00). This indicates that the problem of parental selection in favor of boys is minimal. An independent-samples t-test was conducted to compare the mean scores of the two groups. As depicted in item 1 of Table 10, the t-test value [$t(173) = -.0741$, $P > 0.05$] indicates that the mean score difference between woreda experts and facilitators is very small ($d=0.10$). Implying, parental selection in favor of boys to send for primary education was insignificant. Conversely, WEOs interviewees

observed that in schools where there is school feeding program, parents give precedence to girls for benefit of oil take home ration providing by WFP to encourage girls participation. In On one FGD (F7), participants averred that the number of girls were more than boys for the effect of take-home ration providing for girls by WFP. See the following figure.

Figure 3: Preponderance of Girls Students over Boys



Source: photograph taken by the researcher at Bulbula ABE center level three, Aramis-Adaar LHZ

As seen from the picture, the number of girl students attended during the visit in the class was more in contrast to boys. As the facilitator averred, although there were some students absent from both girls and boys, the number of girls enrolled in the center were more than boys for the effect of girls take home ration. At regional level, the participation of girls in primary education enhances this fact, absence of parents' selection in favor of boys for education. The Afar REB educational abstract (Afar REB, 2013) also shows that the girls in first cycle primary grade showed continuous improvement and exceeded boys' participation by 2012/13.

However, parents' reluctance to send girls away from them is one of the challenges. In relation to this, the mean scores of experts ($\bar{X} = 3.56$, $SD = .849$) and facilitators ($\bar{X} = 3.61$, $SD = 1.036$) were found to be higher than the average. As can be learnt from Table item 2, the t-test value ($t(173) = -.481$, $P > 0.05$) indicates that there is no significant difference between the mean score of the two groups. This means, both respondents perceived pastoral parents are reluctant to send girls away from their homestead.

Attempts were made to elicit information from the group and individual interviewees why parents were not willing to send girls away from them. Group and individual interviewees uncovered that the factors that made parents refrain to send their daughters to send for further education included cultural alienation.

The other problem for girls was early marriage. Informants disclosed that though it seemed decreasing, early marriage in Afar was not found very outmoded. In most areas, especially central and southern parts of Afar, a cross-cousin marriage, where by the man is entitled to marry his maternal cousin (Absuma), was found common when a girl reaches puberty, 12-15 years old. However, as samara boarding teachers and REB discussants, the problem was not the case in northern part of the region; rather the problem in this area was bride price. Parents tend to force their daughter to dropout from education for marriage initiated by others to get bride price.

The Samara boarding school teachers and REB discussants further discussed parents' fear of their daughter to act outside the norm. They said that as girls grow older and educated in town, parents fear their daughter for induced relationship before marriage, which is disparaging for parents, marry out of her lineage or out of the family choice. One interviewee articulated the view of communities in Aysaita woreda as follow:

Until get married, girls in Afar are seen like mosque, worth not doing wrong at all. Parents do not believe schools can shoulder this responsibility. If she lives away from their close surveillances [he means in town or other where 2nd cycle school is available) they assume she will be spoiled or uncouth (intv. 18).

4.2.1.6. Disruption of Service

Besides normal mobility pattern, unexpected or untimely natural disasters such as flood and drought, and insecurity can disrupt the children learning in a rigid routine based education (Kratli and Dyer, 2009). In this regard, facilitators and WEOs experts were given to rate the extent educational provision was disrupted with unexpected natural disaster such as flood, drought and others. Both facilitators ($\bar{X}=3.24$, $SD=.739$) and woreda experts ($\bar{X}=3.29$, $SD=.623$) rated it above average (i.e.3.00). Item 1 of Table11 the t-test shows that there is no significant difference between the mean values of the two groups. This indicates disruption of educational service because of natural disaster was evident in Afar.

Table 11: Independent Samples t-test Comparison on Disruption of Education

Item	Variables (Equal variances assumed)	Levene's Test for Equality of variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean difference	Std. Error difference	95% CI difference	
									Lower	Upper
1	Unpredictable disruption of service	3.043	.043	-.476	173	.634	-.050	.104	-.256	.156
2	insecurity	.380	.538	-.940	173	.349	-.158	.168	-.488	.173

Group and individual interviewees elaborated the causes for the disruptions. According to FGD discussants and interviewees, the main natural disaster causal to distribution of educational service in rigid formal school system was drought. However, REB discussants and WEOs

interviewees reported that there are two rain and two dry seasons in Afar, the irregularities of the start of the rain and variation in overall precipitation was becoming prevalent. This situation has undoubtedly affected scheduling the academic calendar in advance. With regard to flood, the vulnerable flooding disaster areas are Awsa-Gewane agro-pastoral livelihood areas, because of heavy summer rain in highland of the country starting in end of June/early July. This is the known time and mostly the communities' moves to dry land areas. The effect on teaching –learning in formal time setting was found to be minimal as it occurs after the end of academic year.

With regard to security problem to disruption of students' learning, it was learnt that the problem was insignificant. However, that does not mean there was no conflict in Afar. REB focus group discussants affirmed that although there are conflicts between different communities within the region and the Afars with other communities neighboring to the region for resources, no school reported disrupted for conflict case. The informants disclosed that in most cases the conflicts have not been lasted beyond one or two days. Of course, as interviewees disclosed the prevalent conflict between Afar and Isa tribe of Somalia had reportedly effect on girls' attendance. The Amibera WEOs and one school director clearly elaborated, in the border areas of Isa tribe, where conflict between the two tribes was prevalent and age old, parents do not deploy boys for looking after shoats in fear of danger if conflicts between the two tribes arise unexpectedly. To this effect, girls, customarily who are not the target of attack by both Afar and Isa tribes, appear to look after livestock on the expense of their education.

The response of WEOs experts and facilitators was also affirmed the same to interviewees and focus group discussants. In item 2 Table 11, both experts ($\bar{X}=1.88$, $SD=.739$) and facilitators ($\bar{X}=2.04$, $SD=1.149$) rated below average score (i.e.3.00). The t-test shows ($t(173) = .940$, $P=.349$) that the mean score of the two groups of respondents have no significant

difference. This indicates that unlike to Dasenech and Nyangatom in SNNP regional state (Alemayehu, 2014); the impact of insecurity to disrupting schools was found to be insignificant except in a few areas in Amibera woreda.

4.2.2. Challenges of providers to make primary education accessible for children

Understanding the challenges of pastoral children is not sufficient if viable solution is sought. It needs to understand problems from the side of providers (government in our cases). The following section attempts to examine this side.

4.2.2.1. Funding

As Kratli and Dyer (2009), clearly pinpointed one of the main challenges at point of delivery to reach sparsely populated pastoralists is funding. Accordingly, to explore the problem in Afar, derived from literature, woreda education experts were asked to rate the extent sparse settlement and remoteness of pastoralist areas posed challenge to government to construct schools. They asserted that both remoteness ($\bar{X}=3.81$, $SD=.820$) and sparse population density ($\bar{X}=3.97$, $SD=.816$) of pastoralists in the study areas made costly to construct schools.

In congruent to the expert, data collected from documents and informants also revealed that the cost of constructing standard schools similar to densely populated areas in Afar pastoralist areas was costly because of three reasons: scattered population in large territorial areas, remoteness and scarcity of construction raw materials.

According to Afar Bureau of Finance and Economic Development [BoFED] (2009), the region is a sparsely populated area with crude population density of 15 persons/ sq. km, as low as 9 persons/sq. km in remote areas in total land area of 95,265.67sq.km Afar (Afar BoFED, 2009). Covering this large area with standard school, among many commitments, is very challenging in

cost wise. It rises the per student capital expenditure in the endeavor to bringing schools closer to hamlets.

The other contributing factors for rise of cost to build standard school are absence of road to transport building materials, and scarcity of local raw materials such as sand, construction wood, and water. As a result, currently cost of standard school for 1st cycle formal primary school (grades 1-4) in remote pastoral areas is 1.43 times expensive in contrast to urban areas. The REB record shows that currently the average cost of construction in relatively urban areas for four-classroom primary school with its facilities was 1.4 million birr whereas in remotest pastoral areas it was found to rise to two million birr and above. In general, as to REB officials asserted, as move to peripheral areas from towns, the cost was found to increase. Thus, setting cost effective standard schools for pastoral areas in reference to possible school size, different from formal standard, is recommendable.

4.2.2.2. Staffing

Literatures,(for example, Kratli and Dyer 2009) note that one of the very challenging issues for governments, in many countries in their endeavor to provide education for nomadic areas, is securing qualified teachers. Accordingly, to identify the extent of the problem in Afar, woreda experts were requested to rate magnitude of the problem. The computed mean of the ratings of the woreda education experts was found to be nearly high, ($\bar{X}=3.9$, $SD=.862$). Further, WEOs experts and facilitators were requested the extent of turnover of qualified teachers because of harsh climate and remoteness of the pastoral areas. They asserted that the influence of both factors (harsh climate $\bar{X}=4.14$, $SD=0.801$ and remoteness $\bar{X}=4.43$, $SD=.765$) were high. The mean average ratings of experts indicate that turnover problem for the two reasons was found to be more challenging even than securing them.

In agreement to the response of WEO experts and facilitators, in agro-pastoralist woreda, an interviewee(intv.7) said “ because we could not get Afars who are capable of teaching in Afar language , many of our formal primary schools in rural areas could not have Afar language teachers”. In the same woreda, a school director corroborated that “though using Afar language as medium of instruction in the region (for both formal and ABE schools) was launched three years ago, it is not still implemented in the school for absence of the required teachers”.

With regard to turnover, the problem in rural areas was found to be worrisome. The above-mentioned woreda interviewee (intv.27) said, “Last year the region assigned us five trained Afar native teachers for formal schools. To your surprise, they did not work even for three months. They left for other sectors at the regional office level in good position and salary”.

The above discussions indicate that in Afar at existing situation there was dire shortage of educated folks who have the willingness to teach in Afar language. Thus, securing qualified teacher and then retaining them continued as one of the major challenges.

4.2.2.3. Difficulty to manage schools in pastoralist areas

In Afar, schools are directly responsible for their respective WEOs. WEOs are responsible to provide technical and administrative support, and manage the human and financial issues of the schools. To this effect, interviewees disclosed that managing school in pastoral areas from the Woreda education office was found difficult to support and monitor schools and teachers, and coordinating communities.

Because of transport service in remote pastoral areas combined with schools located dispersed, it was found to be difficult to reach schools for supervisors to render technical support and monitor their activities. Distribution of educational materials was also a problem for similar case. The other problem WEOs complained that hampered them to manage schools as desired

was absence of communication means such as post or access to road to send circulars to schools and receive report from schools.

4.3. Relevance of the Designs of Modalities to Provide Learning Opportunity

4.3.1. Suitability and feasibility of alternative education strategies

4.3.1.1 Suitability and feasibility of school establishment

The pastoral education strategy of the country was geared to provide primary education for pastoralist children with four alternative approaches to formal school setup: FABE, Mobile ABE, Para-boarding school and Distance modes. Thus, data were collected whether the existing three modalities were relevant to redress the problems identified in section 4.2 above and the objectives set by MoE. The data analysis of this section has focused on the hypothetical relevance of the modalities regardless of their implementations, which will follow in section 4.4.

Fixed ABE.

According to pastoral education strategy of the country, the establishment of low cost FABE center has to examine mainly three criteria: Settlement of community at least for eight consecutive months in a year, enrollment possibility at least 30 school age children within three kilo meter catchment areas, and availability of water within three-kilo meters radius from learning centers.

Low cost is the core of the strategy of pastoralist education so that the interviewees and focus group discussants were requested to express their views in this regard. Accordingly, participants explained that as far as the minimum quality requirements are fulfilled, constructing the center from low cost materials is apt. One interviewee (intv3) has aptly said, “Constructing standard schools, for a few students, say 10-12, is exorbitant. In our woreda, there are schools where only

one or two students are attending, in my view this is exorbitant”. The following picture corroborates the observation of the interviewee.

Figure 4: low Attendants of ABE Center, Anadi, Aramis-Adaar LHZ



Source: photo taken by researcher

Thus, it suffices to say that the view of participants is plausible. Having wide areas of pastoralists out of access to school, constructing school with low cost is considered as wise utilization of resources providing the school quality does not impede the quality of teaching-learning. This refers to cost effectiveness.

Having low cost recognized as cost effective mechanism for construction of schools, participants of interviews and FGDs were elicited the suitability and feasibility of fixed ABE centers for those who can settle at least eight consecutive months in a year. Amid the suitability for the intended target group, the discussants believed that those who can stay in homestead for eight months whether in consecutive manner or not can benefit from this modality. Mobility pattern undertaken in sample ABE centers also shows that the requirement of settlement of eight consecutive months within the formal academic year (September-August) may disregard many disadvantaged children whose mobility pattern does not affect to attend in FAFE schooling system. For example, if a community life style is characterized by staying six months

consecutively in homestead, and move out for the next three months and, return and stay homestead for the remaining three months of the calendar year, totally the community is in touch homestead for nine months in a year. In this case, the ABE mode of delivery is convenient as long as the instruction calendar is flexible subject to keep up a correspondence the mobility pattern of communities. One may argue mobile school is an alternative for such kind of communities. However, as discussed in the literature part, for its problematic nature for management, mobile mode of delivery is likely to be employed if only other options are not suitable and feasible.

In agreement to interviewees and focus group discussants, WEO experts and facilitators rated the suitability of low cost fixed ABE center high above average (expert $\bar{X}=3.78$, $SD=1.099$; facilitator $\bar{X}=3.76$, $SD=1.231$). As depicted below in Table 12 item 1, the t-test computed ($t(173) = .074$, $P=.941$) shows that statistically there is no significant difference between the mean scores of the two groups of respondents implying agreed positively.

Table 12: Independent Samples t-test Comparison on Suitability of ABE

item	Variables (Equal variances assumed)	Levene's Test for Equality of variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean difference	Std. error difference	95% CI difference	
									Lower	Upper
1	Suitability of low cost fixed ABE	1.061	.304	.074	173	.941	.013	.176	-.335	.361
2	Suitability mobile ABE school	3.119	.079	.715	173	.476	.133	.187	-.235	.502

Thus, it is possible to say low cost fixed ABE center is suitable and feasible for sparsely populated areas.

The strategy also specifies where the location of the school is to be situated, i.e. three-kilo meters away from the children home and water point. Many of the participants viewed that three-kilometer distance would be appropriate since children can travel this much distance.

Limiting the minimum apparent intake about 30 with some flexibility, however, seems problematic. School age head count undertaken in all the centers shows that only 1/3 (12 of 36) centers satisfy this criterion. Abiding to the availability of water point, within three kilo meter distance from the site, for construction of FAFE center is also found not feasible efficacy if the aim of the strategy is giving operative and enabling direction to offering education for all pastoral children . One FGD participant (F11) has the following to say.

If we follow this criterion, many of our pastoralist areas might not have accessible school. in our region many parts of rural areas have no permanent water source near their village, Rather they use rain water retained in shallow ground up to three or four months for livestock as well as for human drinking. When it dried up, they move long distance where there is hand pump or permanent water point.

In Teru Woreda where one of the sample centers is found, I was told that in dry season, children were obliged to walk 6 hours (double trip) away from their village to fetch water from precipitating steams emitting from volcano. Reader may pose the question why pastoralists are not resided near water point if there is such dire shortage. However, the Afar communities have their own distinct territory. Although pastoralists migrate to resource areas beyond their communities' territory, they are not allowed to reside permanently. Thus, school site location should not depend on availability of water point as a criterion rather on the number of school age children within the catchment areas of the site.

Mobile ABE school establishment:

As to the pastoral education strategy, mobile school is meant to provide ABE to pastoral children who stay in one place for less than eight months consecutively in a year. In this modality, facilitators are expected to move with the community to go on with the teaching-learning process. The schools in mobile ABE need to be constructed from local materials or easily transportable

tent. Similarly, the education materials ought to be prepared in such a way that can be easily portable.

Accordingly, WEOs experts and facilitators were asked to rate the suitability of the mobile school for the intended target group. The respondents rated it nearly high (WEO expert $\bar{X} = 3.93$, $SD = 1.140$; facilitator $\bar{X} = 3.80$, $SD = 1.326$). The t-test was undertaken to ensure whether there is a significance difference between the mean scores of the two groups. As depicted in Table 12 item 2 the table above, the t-test $t(173) = .715$, $P = .476$ indicates that without significant difference respondents agreed on the suitability of mobile school for the intended target group. Nevertheless, this does not mean it is suitable. To this effect, discussions were made with interviewees and focus group discussants.

CMC members have mixed views. As to them, if government arranges education along their movement, they thought it suits to them but doubted the practicability because of its inconvenience for teachers. Their skeptics emanated from their experience in fixed ABE. One of the focus group discussants (F7.) said that “Let alone the teachers move with us from place to place, they do not teach regularly here [at permanent school] “. Another group’s discussants have casted light on WEO’s commitment. They said “The woreda officials who could not offer the education material here [they mean in their permanent residence which is road side], how do they reach us while we move from place to place” [F8]. From their experience, REB participants also felt the difficulty to manage properly because of the difficulty to obtain committed teaching force and, to follow up learning centers, to coordinate communities, and deliver education materials.

With regard to the design of construction of the center from low cost local material or movable tent and facilities, interviewees and focus group discussants affirmed appropriate.

Nevertheless, their fear on effectiveness of teaching -learning while children move seems sound. Thus, the problem is feasibility. Experiences of many countries show that with the exception of few countries such as Iran in 1950s and Wajir in Kenya in 1990s in many countries such as Sudan, Kenya and Nigeria mobile schools did not perform as expected. This is attributed to the difficulty (feasibility problem) nature of mobile school to management (Anis, 2008, Kratli, 2001; Carr-Hill 2005).

Besides the difficulty to get the commitment of facilitators and WEOs, to Afar situation the design itself is wanting. According to the implementation guideline of mobile school, facilitator has to follow the group where majority of the students move. If the numbers of the two or three groups are equal, the facilitator has to follow the fresh year students. However, for those who could not get teacher because of the above strategy, nothing was designed. Thus, although mobile school is believed to be essential for those who move frequently, as participants of the study asserted, at existing situation it was found difficult to put into effect. This is mainly attributed to incapacity of the educational managers to monitor, low commitment of facilitators and the deficiency of the design in deploying facilitators.

Boarding school and hostel School establishment

In pastoralist areas, education strategy low-cost Para-boarding school was designed to provide second cycle primary education for those children who have no opportunity otherwise. The schools are expected to share cost with government.

Accordingly, WEOs experts and facilitators were requested to rate the extent they agreed with the establishment of low cost Para-boarding schools for pastoralist children to continue second cycle primary education. Respondents agreed with mean average above 3.00 (WEO expert $\bar{X} = 3.92$, $SD=1.102$; facilitator $\bar{X}=3.86$, $SD=1.14$). The t-test ($t(173)=358$, $P=.721$) in item 1 of

Table 13 shows that there is no significant difference between the mean ratings of the two groups of respondents.

Table 13: independent Samples t-test Comparison on Para-boarding School

item	Variables (Equal variances assumed)	Levene's Test for Equality of variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean difference	Std. error difference	95% CI difference	
									Lower	Upper
1	Establishment of Para-boarding school	.242	.623	.358	173	.721	.063	.177	-.286	.413
2	Provide support for pastoral children	2.247	.136	1.034	173	.303	-.158	.153	-.460	.144

CMC discussants and WEOs interviewees also asserted that cost effective Para-boarding school is one of the effective strategies for provision of pastoral children when parents migrate. At this situation, students can stay at their parents' home. The important support, poor parents need is meals. It is also helpful for students whose parents are willing their children to attend in day regular school located away from them. At this condition, students need both meals and lodging. Moreover, examination of the document revealed that boarding school was limited to second cycle primary education. The Afar experience indicates the possibility to use boarding school for 1st cycle primary education.

Participants were also asked about the possibility of cost sharing between government and parents/community. All the three level participants (REB, WEO, and CMC) reported that it had not been tried so far. Nevertheless, they believed that there were pastoralists who could contribute in material or in kind such as shoats. However, discussants underlined that many of parents neither willing to share cost with government for they considered providing education is the responsibility of government, or had no capacity to do so.

With regard to hostel, WEOs and CMC participants believed that the more valuable is boarding service. Nonetheless, free hostel may be valuable in decreasing the cost of parents who can afford their children's sustenance. According to the participants, what is more valuable for Afar pastoralists is supporting their children for their sustenance while learning in school.

Complementary to the interviewees and focus group discussants, WEO experts and facilitators underscored the need to provide pastoralist children with education materials and other essentials. The respondents rated their agreement above 4.00 from the 5-scale rating: WEO expert ($\bar{X}=4.09$, $SD=.932$), facilitator ($\bar{X}=4.25$, $SD=1.09$). As depicted in Table 13 item 2, the computed t-test [$t(173)=1.034$, $P>0.05$] shows that there is no significance different in mean scores between the two groups of respondents.

In general, on one hand, the data shows that there is a need to support children in education materials and sustenance. On the other, there are pastoralists who can share their children's boarding service. This implies that it needs to differentiate who can share cost at what expenditure item and amount, and then to define the subsidy of government considering individuals' and communities' capacity.

4.3.1.2. Suitability of instruction time schedule

This section deals with the suitability and feasibility the instruction time schedule. If the schedule of instruction conflicts with the schedule of children responsibility in home, parents may not send their children to school (Lockheed & Verspoor, 1991). As regards to this, the strategy underlines the flexibility of instruction time to be decided by community and facilitator. Discretion given to them was to decide their preferred months, days of the week and time in a day suitable to them. Specifically, the strategy sets the bound of academic months (September to

August), the number of instruction days in a week (six days), the instruction time in a day (2 hour 40 minutes).

Interviewees and focus group discussants supported the flexibility of instruction time unflaggingly. WEOs experts and facilitators also showed their agreement, rating high (WEOs expert $\bar{X}=4.10$, SD, 1.061 and facilitator ($\bar{X}=4.02$, SD, 1.165) above the cut point (3.00) with no significant mean score difference as tested by independent sample t-test measure, depicted in Table 14 item 1 below. Thus, making instruction time flexible is perceived suitable by beneficiary pastoralists and implementers.

Table14: Independent samples t-test comparison on Instruction Time

item	Variables (Equal variances assumed)	Levene's Test for Equality of variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean difference	Std. error difference	95% CI difference	
									Lower	Upper
1	Flexible instruction time	.791	.375	.455	173	.650	.076	.168	-.256	.409
2	Communities decide the instruction calendar	1.799	.182	-.324	173	.746	-.058	.180	-.413	.296

If flexibility of instruction time is suitable, the next question is who is likely to determine the instruction calendar to make the calendar appropriate. Respondents were requested the extent to which they agree on the discretion given to communities to decide the instruction time calendar. WEOs rated mean ($\bar{X}=3.79$, SD, 1.176) and facilitators rated mean ($\bar{X}=3.85$, SD, 1.2) indicates that respondents agreed on the strategy in this regard. The computed t- test ($t(173) = .324$, $P = .746$) portrayed in item 2 of Table14 above shows that there is no significant difference between the two groups of respondents in mean rating. This indicates that flexibility of instruction time subject to decision of communities was found to be apposite.

With regard to the annual calendar, the objective of the strategy was to complete one grade level with one year as conventional formal school doing. However, mobility pattern of the

communities may not correspond to the academic calendar. For example, Aramis- Adaar transhumant pastoralists, who are convenient to start on July, would not complete a semester course in August. At normal movement pattern, mobility pattern data collected from communities shows that pastoralists stay homestead up to October/November. For this purpose, it is better to allow the children continue their learning up to November than limiting the end of academic in August. Thus, let the intensity of mobility dictate the convenience of instruction time and in turn the amount of instruction time required for the curriculum determine the duration of one academic calendar. With regard to feasibility of making instruction time flexible, discussants felt that no problem not a such a problem. Of course, at the start, teachers may not welcome the new schedule but this can be overcome by training and strong management system.

4.3.1.3. Suitability and feasibility of teaching force deployment

Recruitment: the pastoral education strategy (MoE, 2008b) stipulated that “recruit people who have better qualification from locally available educated manpower as ABE facilitator” (p.7). To put into effect, ABE Standard expounds first to see from the residence of the community, then, in the absence of this, to recruit from neighboring Kebele or woredas. This is may be opted as Kratli and Dyer (2009) clearly stated for the fact that those who are familiar with the environment, the reality of the community they work with and the language of learners, can effectively communicate with the community and stay for long in the areas. On this regard, based on the Afar circumstances, participants explicated the advantage, disadvantage and feasibility problems.

Better efficiency of the facilitator work and retaining them were cited as an advantage. Interviewees and FGDs explained that teachers from community could coordinate the community effectively than those facilitators who are not from local communities. Moreover, for

acquaintance of the communities and hardship living condition turnover is supposed to be minimal. On disadvantage side, the main problem is the difficulty to control them because of problems related to the clan -affiliated social relation (primordial loyalty) prevailed in the region. Furthermore, looking closer into the strategy statements, securing people who can manage teaching in primary education seems difficult for three reasons: One, as per the strategy, ABE School is to be established in a place where there is no formal school. This indicates that the availability of educated Afar native in the local community is unlikely. Two, the objective of this strategy also contradicts with other objective. On one side, to avoid dropout of pastoral children before completing secondary education, the Regional state offered stipend for Afar indigenous to continue their secondary education. On the other, to put the strategy into effect, some secondary education dropout is needed for ABE teaching. As discussed above it needs to Note that facilitators recruitment criteria for teaching position is grade 8-10. Three, as discussed above in problem section, educated Afars do not want to be a teacher for they have other opportunity with better remunerations and fringe benefits in urban areas. Because of the ethnic federalism the country follows, by virtue of self-administration, less educated Afar natives had opportunities to take position in management of sector offices. However, the working conditions of teaching was not attractive for it had no fringe benefits such as per diem allowance, transport service, housing and other fringe benefits like other occupations in the region, but as facilitators felt the work of teaching was demanding. Thus, it suffices to say recruiting facilitators from local community has a feasibility problem. Nevertheless, this situation may not sustain long. As the number of Afar native students is increasing from year to year, job space in government of offices is supposed to be saturated.

To this effect, at existing situation, residence of community or ethnicity should not be used as criteria to recruit facilitators for ABE teaching position. It should be open for anyone who knows the language and willing to work in the target pastoralist areas.

Retaining better facilitators: With regard to retaining the better-qualified facilitators, the strategy opted to provide incentives and promote facilitators to formal teacher status after completing secondary education and professional training. To this effect, woreda experts and facilitators were requested to rate the extent which they agree with this strategy. The responses of WEO ($\bar{X}=2.54$, $SD=.603$ and facilitator ($\bar{X}=2.58$, $SD=.625$) which are lower than the average (3.00) indicate their disagreement with the strategy.

Table 15: Independent Samples t-test on Facilitators' Status

Variables (Equal variances assumed)	Levene's Test for Equality of variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2- tailed)	Mean differen ce	Std. error differen ce	95% C I difference	
								Lower	Upper
Give the status of teacher (for salary) after completing secondary education	.048	.827	-.351	173	.726	-.032	.091	-.212	.148

The t-test computed ($t(173) = -.351$, $P > 0.05$) in Table 15 above, shows that statistically there is no significant difference between the mean score of the two groups. Similarly, interviewees asserted that the strategy could not keep better-qualified facilitators in their work. Realizing this fact, from outset, different from sedentary areas' salary scale, the Afar REB salary scale for facilitators was made equal to formal school primary school certified teachers. However, it was proven that no effect was seen as was expected in attracting abler candidates and retaining better-qualified ones. This is may be, as many teachers complained, let alone the salary scale of certified teachers compensates the hardship of the pastoralist areas, it lacked to cover their monthly expense.

4.3.1.4. Management

Designing relevant educational program is essential but not sufficient to meet the intended objective unless management structure and resource allocation systems are aligned with the organization of educational program. Thus, it is important to see whether relevant management system was designed to the newly introduced alternative approaches.

Structure:

In the strategy document, it was designed to manage the alternative modality schools under the existing structure of REB. In the strategy (MoE, 2008) it was stipulated to entrust the responsibility of leading and coordinating the program to Educational Programs and Supervision Department [now known as curriculum teaching-learning process) at regional level. In line with this design, WEOs experts and facilitator were requested to rate the extent of their agreement on the strategy in Afar circumstances.

Table 16: Independent Samples t-test Comparison on Assignment of Experts

Variables (Equal variances assumed)	Levene's Test for Equality of variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2- tailed)	Mean differen ce	Std. error differen ce	95% C I difference	
								Lower	Upper
Assignment of expert for Woreda and Region	.857	.356	-1.446	173	.150	-.144	.099	-.340	.053

The mean rating scores for WEO expert ($\bar{X}=2.64$, SD =.605) and facilitators ($\bar{X}=2.79$, SD=.709) are far below the average mean. The t- test ($P>0.05$) shows that statistically there is no difference between the mean scores of the two groups to mean they did not agree with the strategy, manage modalities by expert level in WEOs and REB. Thus, according to the results, the design to coordinate ABE program is wanting. In agreement to the respondents, WEO

interviewees and REB FGD participants showed disagreement on the organizational design of alternative education. One participant justified his disagreement as follow:

The job is complex. One, it is innovative approach, new to most of us. It combines both non-formal and formal mode of delivery. Two, the natures of mode of deliveries [mobile, FABE, boarding, Hostel] are different that require varied approaches and expertise. Three, numbers of ABE centers are almost equal to the number of formal schools. For two technical vocational education and training colleges in the Region agency was established, but not for ABE programs which outnumber the technical vocational education and training colleges. (F10)

The views of the expert are plausible. Worthy of to note here recommended for African countries the establishment of separate structure such as commission. Following the suit of Nigeria, Kenya (republic of Kenya MoE, 2008) had established commission to manage the education of nomadic people in the country. However, despite the fact that Ethiopia has the largest pastoralist population in Africa, coordination of pastoralist education program was limited to individual expert level under one department in the bureau.

Concentration of decision-making: WEO experts and facilitators asked to rate the extent they agree with the authority given to center management.

Table 17: Independent Samples t-test Comparison on Center Management

Variables (Equal variances assumed)	Levene's Test for Equality of variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2- tailed)	Mean differen ce	Std. error difference	95% C I difference	
								Lower	Upper
Entrusting the responsibility of managing ABE Centers to Center Management Committee	1.266	.262	-.345	173	.731	-.056	.163	-.378	.265

Both group respondents rated their agreement far above average (3.00): WEO experts rated mean score of ($\bar{X}$ =3.96, SD 1.11) and facilitator rated mean score ($\bar{X}$ =4.01, SD, 1.04). As depicted in the above Table 17, the t-test ($t(173) = -345, P = .731$) shows that the mean score difference between the two groups of respondents were not statistically different. It indicates that entrusting responsibility to CMC for managing centers were suitable to the circumstance of Afar. Interviewees and FGD participants also agreed on the appropriateness of the design, involving community to manage centers. They believed that without ownership feeling of community, it is hardly possible to coordinate and support facilitators from WEO.

In similar vein, with regard to responsibility given to the REB and WEOs, the WEOs interviewees and the REB FGD participants believed it appropriate. They believed that the responsibilities were in line with the decentralization of the management of education the country pursues. Their responsibilities were found to be suitable to the capacity of the actors and feasible to implement. However, at school level, no authority and responsibility are stated for heads of the centers in the strategy, standard, or any guidelines although the position of head of facilitator and the criteria of selection for the position were clearly specified. It is not difficult to visualize without clear job description, how difficult for coordinators to manage their center. In turn how difficult it was for the WEOs to make the coordinators accountable.

As regards the responsibility and authority given to CMC members, WEOs did not agree. CMC has the authority to follow up the teaching learning, to control facilitators and report the mobility of pastoralists where they are and duration of their stay, and to coordinate Para – boarding schools. According to WEO interviewees, for two reasons it is difficult to put these responsibilities into effect. One, timely report requires daily base follow-ups. Two, for the committee members move in different directions, they may not have information about what is

happening in the center they move to other directions. Similarly, for the community members are mobile at daily and seasonal bases, it is difficult to get the boarding school committee members when they are needed.

The view of WEOs seems plausible. According to common wealth secretariat (1993), it is unwise to involve board of education members in day-to-day activities, one, for the morale of the school directors because it violates the autonomy of the school, two, for the absence of accountability. If they fail to do so because they are not paid for and, third, for their own business they may not in touch with the school when they are needed.

Resource allocation:

Meeting the desired educational objective, inter alia, depends on the sufficiency of resources made available. As long as the pastoral education strategy aimed at maintaining equity in quality, horizontal and vertical equity principles in financing schools/centers need to be achieved. However, in the strategy document nothing was stated on this regard. Thus, it is possible to say the strategy is not robust enough to give direction for implementers how the objective of equity and quality can be achieved among different social groups.

4.3.2. Acceptability of input standards to quality education.

Besides suitability and feasibility of the strategies, acceptance of the education program has significant impact on relevance of education. Thus, this section deals with the alignment of input standards with the objectives set for pastoralists' areas strategy. In this document it was prescribed to provide quality education equivalent to formal mode of delivery schools. As Tomasevski (2004) clearly stated, acceptance of the education is determined by the relevance of curriculum and quality provision. To this effect, data obtained from multiple sources at different

level are analyzed pertaining to the major educational inputs (curriculum organization, facilities, teaching force and instruction time) set for ABE by the MoE.

4.3.2.1. Acceptability of the design of curriculum and language

According to Ranaweera (1990), relevance of education can be seen from two sides: goals, and content / process of education. Thus, in this section, analysis was made on the purpose of education and contents of curriculum set by the MoE.

Purpose of education: Kratli and Dyer (2009) stated that one of the problems in providing education for pastoralist is the legacy of formal based educational objective not congruent to their livelihood. However, the pastoral education strategy has aimed to “develop [and] localized ABE curriculum that is equivalent to that of formal basic education (grade 1-4)”. This indicates that though not explicitly stated, the purpose/goals of the curriculum are not different from formal education. In this regard, in section 4.2.1.3(problem section) pastoralists and children affirmed that they want education similar to formal school to be competent in learning higher-level education thereby to get themselves out of pastoralist ways of life. The purpose of basic education in Ethiopia as stipulated in the 1994 Education and Training policy was to prepare students for further general education and training’ (FDRGE, 1994a, article3.2.2). This opens career out of pastoralism for the pastoralist children. Thus, the purpose of education in alternative modalities was acceptable by beneficiaries.

Contents: to realize relevance of the content, it was opted to localize/adapt and develop curriculum pursuant to the national curriculum framework. Curriculum adaptation involves the adaptation of existing core-primary curricula consisting of Amharic, English, Mathematics and Environmental Science. Aesthetic education is to be given in integration with the core subjects or separately by its own with the discretion of the regional state education bureaus.

In adapting the formal school core curriculum to the realities of the region, No interviewees and FGD participants espoused the design. As long as the purpose of education is similar to formal school, the design to making relevant the core subjects to local situation is undoubtedly acceptable. The similar experiences of many African countries, for example Kenya and Nigeria enhanced the acceptability of this strategy.

Looking the subjects set to be provided for pastoral children, it offers the acquisition of foundation skills and information (language to develop communication skills in national/international languages, mathematics in developing skills in numeracy, environmental science meant to understanding of natural and social sciences) while the purpose ensures formal recognition leading to a higher cycle of formal education status. According to Kratli and Dyer (2009), foundation skill and status are the essential dimensions of curricula. The other two dimensions, localization and socialization, were found reflected in the contents of the subjects.

Further to complement the relevancy of content and objectives, the strategy and standards stipulated to make the teaching learning process participatory and student centered, to prepare educational aids ,as far as possible from local materials, involve community leaders and others in teaching so as transfer their experience and shape the behavior of children, and to use continuous assessment. In doing so, as design, the WEOs and REB discussants averred as acceptable. Their view seems plausible. Derebssa (2006) pinpointed learner centered/ active learning is preferable for students are likely to understand lessons better if they spend energy to master it; students may model what they will need to do when they leave the schools and enter the work place. Continuous assessment as part of active learning is also helpful to enable students learns from their error and understands what is expected from them (Lockheed & Verspoor, 1991). Involvement of community leaders in teaching so as to transfer their expertise

also believed to enable children appreciate and grasp their communities' rich knowledge and culture.

Active learning involves presenting material in a rational and orderly fashion and allowing students to practice by assigning individual work, organizing group work and discussion. it also includes monitoring and evaluating performance through essays, quizzes and tests, homework, classroom questions, and standardized tests; (iv)and providing feedback promptly so that students can learn from their errors;(v) and letting students know what is expected of them (Lockheed & Verspoor,1991).

In general, as designs of the strategy and standards tried to make curriculum relevant in five components of curriculum (objective, content, teaching methodology, teaching material and assessment). However, as discussed below it does not mean the curriculum designs ensure the relevancy of the curriculum comprehensively.

With regard to developing new curricula or subjects peculiar to pastoralist areas, the pastoral education strategy developed by MoE did not specify whether it is possible or not. Nonetheless, in the ABE standards, the subjects to be provided were specifically listed. REB staff members also asserted that their discretion is to adopt the subjects relevant to the reality of the region in line with the national framework. This indicates developing new curricula or subjects other than specified by the national curricula frameworks was not possible. Curriculum relevance cannot be achieved only by modifying the subject contents to suit target group realities but also needs to develop curricula peculiarly valuable to the target group areas. For example, Association for the Development of Development of Education in Africa [ADEA] (2005) noted that in Nigeria curriculum relevance to nomadic groups was made by two ways: by developing new curricula from scratch such as Islamic religious knowledge and handicrafts and by adapting the

core subjects' curricula, which all learners are expected to acquire, match the children's background. Thus, it suffices to say the designs developed to ensure the curricula content relevant is wanting.

medium of instruction: As discussed in the problem part, using Afar language as a medium of instruction was found to be essential for two reasons: for pedagogical and interest of the communities to use their language as medium of instruction. Although no participant repudiated the importance of using mother tongue as a medium of instruction, some participants questioned the feasibility. One FGD participant has noted:

We want our children to learn in our language for they can understand easily. Further, it is our language. No one shuns of learning in his language. However, to date we know we have no sufficient number of educated Afars[able to teach in the language]; so that we did not say, we do not want to learn in other language. The time will come. (F9)

The fear of the participants is therefore need to be given due attention. Although teaching children in a language they can understand, most often mother tongue, enables children to lay strong foundation skills for further learning, potent arrangement of acquiring required teaching force is a determinant factor. In this regard, after reviewing the pros and cons of teaching in local language, Carr-Hill & Peart(2005) who conducted profound study on nomadic education in East Africa, pointed out that “The international consensus ... is that one should start educational process in local language, assuming one can find teacher” (p.54). Teshome (2007) discussed that in Ethiopia using mother tongue in primary education pedagogically found to be effective. However, he discussed the effectiveness is influenced by other internal and external factors of schooling. Thus, it suffices to say, although the use of Afar language as medium of instruction is valuable to address the right of children, the interest of community and pedagogical effectiveness; its start as a medium of

instruction for all subjects in all levels of ABE (level1-4) was an impetuous decision for it had not been preceded by feasibility study.

In integrating Aesthetic and physical education with other subjects, interviewees had different views. Those who did not support the strategy had a say that since Aesthetic and physical education have a role for all rounded personality, pastoralist children should not be denied of this opportunity. Others claimed that constraint of time compels to do so. If situations allow, the discretion left for the REB to specify separate time otherwise to offer in integration with the core subjects. Second argument seemed acceptable. In both ways students are not denied of learning the subjects, the question is the effect on quality providing the allotment of instruction time, which will be discussed below.

Participants were requested to rate the extent to which they agreed with an arrangements of curriculum for school age children and older children differently, into three and four years respectively. Facilitators and woreda experts agreed with the provision of four years 1st cycle primary education for school age children thereby to use textbooks of formal school for those students. Respondents' rating scores (Woreda expert rated $\bar{X} = 3.49$, $SD=1.225$; and facilitator rated $\bar{X}=3.55$, $SD=1.277$) show that they agreed on the arrangement. Contrarily, they disagreed,(WEO expert $\bar{X}=3.94$, $SD=1.010$; facilitators rated $\bar{X}=3.95$, $SD=1.143$), on the arrangements of offering for older school age (age11-14) in three years , and condensing the contents of the curriculum of the four year into three years (expert $\bar{X}=2.81$, $SD=.970$ 'facilitator $\bar{X}=2.79$, $SD=.860$).

Table 18: Independent Samples t-test Comparison on curriculum Organization

item	Variables (Equal variances assumed)	Levene's Test for Equality of variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean difference	Std. error difference	95% CI difference	
									Lower	Upper
1	School age children learn basic education in 4 year	.488	.486	-.809	173	.420	-.153	.189	-.526	.220
2	same textbook as formal schools for 4 year students	.796	.374	-.052	173	.958	-.008	.163	-.330	.313
3	older children learn basic education 3 years	3.673	.057	.165	173	.869	.023	.139	-.251	.297
4	Localize ABE curriculum for 3 year student	.068	.794	-1.440	173	.152	-.141	.098	-.335	.052

A t-test was undertaken to ensure whether there is a significance difference in the mean score of the two groups. As depicted in Table 18 above, statistically the two groups of respondents have no difference in their rating score for all the four items. For detail understanding, WEO interviewees and REB discussants were asked why they did not agree on the arrangement of three years education for older school age children. The justifications raised by WEO interviewees and REB discussants are related to feasibility and the debilitating effect on quality provision. Participants justified that dividing them into two incurs additional cost that raises cost per student. The other reason relates to quality. Since basic education, as the name implies, is a base for further level education, students at this time need to get sufficient time to meet the profile set for basic education completers. As long as early learning begets later learning, the participants' justification is plausible.

The assumption behind the strategy might be for older children supposedly had the knowledge gained from their life experience so that they can easily handle the four-year curriculum contents meant for school age children. However, from their experience, facilitators and woreda education offices affirmed that no difference they observed in performance between

the older and younger school age children. Thus for two reasons, cost effectiveness and for quality, providing three years education for the older age children (age 11-14) need to be reconsidered. In general, the design of the strategy tried to make curriculum relevant in five components of curriculum (objective, content, teaching methodology, teaching material and assessment) but wanting.

4.3.2.2. Acceptability of standards of school facilities design

Regardless of what had been put in place, the standard of facilities specified in the document such as classrooms, playgrounds, office, store, latrine for female and male, facilitator house and light were found to be suitable and feasible as commented by WEOs interviewees and REB participants. The standards were set in congruent to the requirements of the teaching learning and standard set for 1st cycle primary education except the quality of the facilities made of. For example, instead of bricks rooms are set to be constructed from local materials but size of classes were set sufficient to move beneficiaries. Further, the essential office and storehouse equipment and materials were found specified. As Schneider (2002) stated, as long as the required facilities put in place in way that do not impede the quality of teaching learning, the quality standard of materials and facilities is acceptable for cost effectiveness.

4.3.2.3. Acceptability of instruction time design

Document analysis shows that the instructional time allotted was not equivalent to formal one. According to Afar Education Bureau standard (Afar REB, 2011), the total hours for formal schools was 947 hours (203 days x 7 periods in a day x 40 minutes), whereas, according to the standard of ABE set by the MoE (2011a) the total instructional time for ABE was 540 hours (203 days x 4 periods x 40 minutes). The official hours for each subject are also lower in ABE. For example, the time allotted for mathematics was 160 hours (6 period x 40 minutes x 40

week) for formal schools grade 1 through 4. For ABE, the allotted time for the same was 136 hours (6 period x 40 minutes x 34 weeks). Thus, it is impossible to say equitable quality education could be achieved between ABE and Formal school students with such difference in learning time.

4.3.2.4. Acceptability of teaching force acquisition design

Qualification: With regard to the required qualification of facilitators, the lowest entry level for facilitator's position issued by the MoE was grade 10 complete with the possibility to down grade eight with three month professional training, whereas, the formal primary school standards stipulated for entry level of teachers for 1st cycle primary teachers was college diploma. Participants seem agreed the entry-level qualification standard set for ABE teaching force is wanting. Related to this, an interviewee argued in the following way:

I strongly dissented with the qualification level of facilitators set for ABE teaching. Previously it was grade four, and then improved to grade eight, now we are told to recruit from grade 10. I believe pastoralists ought to learn with a qualified teacher equivalent to formal schoolteacher. Look at facilitators who are grade 4. How can someone teach others before he himself gets educated? (Intv.2)

Here, question may be raised as to what the minimum entry educational level for lower primary education teaching position should be. As Boe & Gilford (1992) noted that the level of qualification of teachers varies among countries, every teacher needs to have minimum standard of entry qualification. However, without doubt it is absurd to expect effective teaching at primary level from those who do not complete secondary education.

Professional training: WEO experts and facilitators averred the need of pre-service training and upgrading facilitator who are under qualified. Both groups strongly agreed the need of the pre-service training (expert $\bar{X}=4.06$, $SD=1.115$; facilitator $\bar{X}=4.14$, $SD=1.187$). To ensure

whether there is a significant difference between the mean scores of the two groups, t-tests was undertaken.

Table 19: Independent Samples t-test on Training and Upgrading Facilitators

item	Variables (Equal variances assumed)	Levene's Test for Equality of variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean difference	Std. error difference	95% CI difference	
									Lower	Upper
1	Provide pre-service training for facilitators	.214	.644	-.492	173	.623	-.086	.174	-.429	.258
2	Upgrade facilitators through distance or evening	.289	.592	-.626	173	.532	-.092	.146	-.380	.197

As depicted in the Table19 item 1, t-test($t(173)=-.492, P=.623$) shows that there is no statistically significant difference between the mean score of the two groups to indicate the design offering pre-service is found to be acceptable. Nonetheless, the main important issue here is about the training duration and the appropriateness of the training contents. As to the ABE standard, the duration of the pre-service training was three months. None of the WEOs interviewees and REB FGDs participants gave assent to adequacy of three months pre-service training. They believed that 3 months training is not enough to equip them with the required professional skill and knowledge.

Upgrading: Facilitators and WEOs were also requested to rate the extent they agree with the design of upgrading the low level of facilitators through distance/ summer program. Realizing the low qualification of facilitators, designing to upgrade facilitators was found to be acceptable by participants. Woreda expert and facilitators rated above 4 point of 5 rating scale (experts $\bar{X}=4.16$, $SD=.970$; facilitators $\bar{X}=4.25$, $SD=.962$). As depicted in the Table 19 item 2, the t- test computed ($t(173)=-.626, P=.532$) shows that statistically there is no significance difference

between the mean score of experts and facilitators. Thus, as a design, upgrading facilitator is one of the essential parts of the strategy.

4.3. 3. Learning opportunities to secondary education.

As the signatory of the 1948 human rights declaration, the Ethiopian government has the responsibility at least making secondary education available for all children. To this effect, in the pastoral education strategy document, five strategies were devised to be put into effect as circumstances permit. I.e. build more secondary education in collaboration with beneficiary community; establish low-cost boarding school with the participation of beneficiary, build low cost hostel, and provide support with pocket money for students from the poor families and employ distance education for those who cannot continue their education through conventional schooling. Three of the strategies were put in place in the region: expanding secondary education, establishing boarding school, and providing pocket money.

As REB participants asserted government has expanded secondary schools systematically giving priority to areas where many primary schools completers are available. Database of the REB also shows that in ESDP IV plan implementation period (2011/11-2014/15), the secondary school increased from 17 in 11 woredas to 28 in 22 woredas. Ten woredas had no secondary school so far. For those who cannot access secondary school in their Woreda it was learnt that WEOs offer pocket money, irrespective of the students' family wealth, to pursue their education in any secondary school convenient for them.

Financial support from government office could not address sufficiently for those pastoral rural children who could not continue otherwise. According to the informants, three drawbacks were raised. One, the payments were not enough (300 to 450 Ethiopian birr equivalent to 15 to 22 USD per month) to cover the expense of students from poor families. Two, the support was for all

Afar natives irrespective of the students' family wealth. Three, those rural pastoral students, where secondary school was available in their respective woreda, were not entitled to receive the privilege.

In 2014/15, of the 32 woredas in the region, 43 secondary students were found beneficiary from three boarding schools vested in the three respective WEOs and 40 girls from samara girls' boarding school vested in REB. Though the demand for low cost boarding school was found high, the boarding schools and WEOs participants affirmed that they could not increase their capacity for limitation of budget. This signifies the WEOs and REB need to revise their support strategies for secondary education to ensure opportunities are facilitated for the needy. .

4.4. Implementation of the Modalities

To delineate the interplay between relevance of the design and effectiveness of modalities, the following section deals with the implementation of the modalities: whether they were implemented as was designed and the management practices of implementers.

4.4.1. Implementation Vs. design

4.4.1.1. Implementation of School establishment Design

4.4.1.1.1. Implementation of fixed alternative basic education

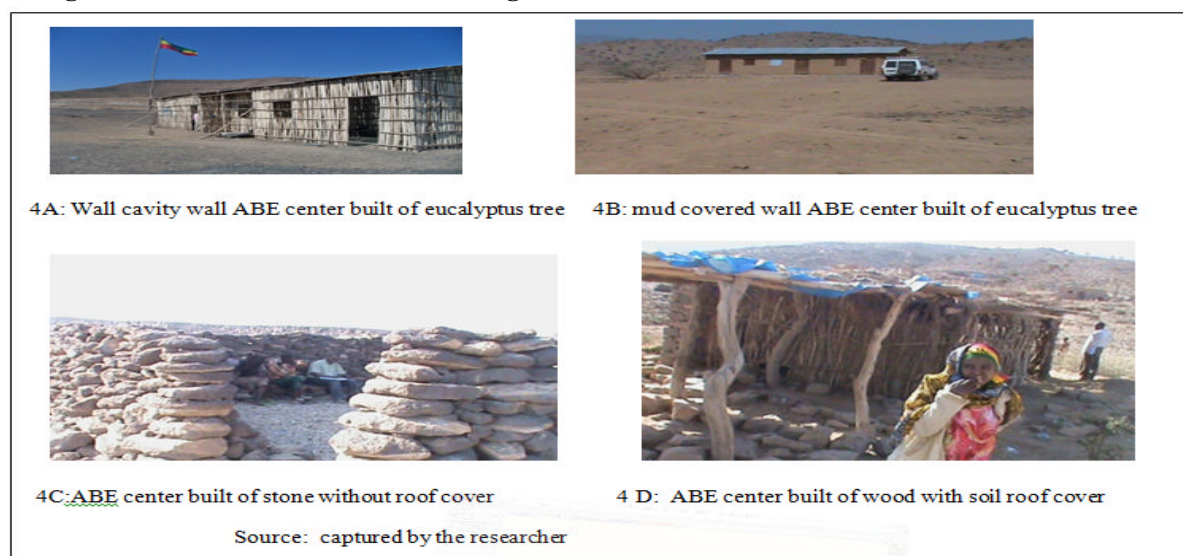
According to the pastoral education strategy, the type of delivery to be established in pastoralist areas is dependent on the mobility pattern study. To ensure the implementation of this key strategy, WEOs interviewees were asked to describe how they used to open schools. The interviewees discussed that the basis of the decision of the woredas to establish a school type hinged largely on the number of school age children in the target areas in par with consideration of the availability of capital budget. Formal school was to be constructed to those areas where the number of school age children was found to be relatively large and at the same time the

woreda secured capital budget to construct formal school. Otherwise, fixed ABE has been established. Furthermore, all the 12 sample WEOs disclosed that whenever budget was secured they tended to change ABE centers to formal schools. They did this every year in plan. Of course, every year woredas used to open new ABE centers. However, in the meantime, they changed the old ones to formal school depending on the availability of budget. Consequently, as REB database shows, the numbers of ABE centers were found decreased from 440 in 2011/12 to 380 in 2013/14. When they were asked why they did angst the strategy, some WEOs interviewees justified that, in ABE, children could not acquire quality education as that of formal schools for the ABE centers were not convenient for teaching –learning and, mainly, for paraprofessional facilitators. They argued that changing ABE to formal school supposedly benefits children when government capacity allows. This indicates that WEOs implementers had negative feeling on ABE. They construed ABE as a last resort mode of delivery, characterized by low cost that results provision of poor quality education, in repose to economic incapacity of government to establish formal school for sparsely populated areas. Of course, the REB FGDs and some woreda implementers have expressed their dissent from such practice though they could not upright the practice. In this regard one of FGD participants (F11) argued that ABE was used as a temporary mode of delivery until fund is secured and the region becomes capacitated to acquire qualified teacher. He expounded his argument as a clear vindication of the action of woredas, weathering ABE to formal school. He pointed out that, for example, Yalo woreda [located in Teru LHZ] able to change all ABE centers to formal school. Conversely, other participants refuted him by underlining the crux rationale of introducing Alternative Approaches is for unsuitability of formal mode of delivery to pastoralist ways of life. Eventually, he was persuaded. In general, the implementation practice of woredas and discussion of participants signified that the

implementation practice for establishment of mode of deliveries derailed from the design for lack of awareness.

The quality standards of ABE centers were checked against the MoE standards. Some of ABE centers were found constructed from both local available and industrial products as per the standard and some from only locally available materials such as stones, log of wood or sticks. Most of the ABE centers' roofs were made of corrugated iron, soil, and open without roof.

Figure 5: Fixed ABE Centers Buildings



The four pictures in figure 4 are displayed as prototypes of ABE centers. As illustrated in the figure, picture 4A and 4B were constructed from both local and industrial materials; such classrooms had normal class size as per the standard (6 mt by 4mt size) that could accommodate 30 students. However, the center shown in 4B failed to fulfill the standard for it was wall cavity building. The 3rd one (4C) was the worst of the four centers. It had no roof and classroom separations though it is meant to three sections of students (level 1-3) and the 4th one (4D) had two sections for three sections of students with no wall cover. It is not difficult to visualize how challenging it is to undertake the teaching–learning process in the last three centers, especially in the last two centers. Undoubtedly, it is difficult for facilitators to control the attention of students

from adjacent classroom teaching–learning interactions and passersby actions. To the worst, they are helpless to shield rain, effects of wind and heated sunrays. Such roofs and structures, which are unsafe in adverse weather conditions, are supposed to cause loss of motivation for teaching and learning. Thus, it is assumed to precipitate the closure of the centers whenever there is rain or wind so that affect the participation and attendance of children. Afar region is windy, especially in May and June windstorm is common. According to Schneider (2002), although the quality of buildings depends on the need of instruction and economy of the country, at minimal, classroom buildings should have sufficient space to move teachers and students and need to create convenient environment such as noise control wall and air conditioning.

As per the standard of ABE centers, besides quality standard, basic facilities that should be fulfilled were specified. Accordingly, fixed ABE center should have classrooms, playgrounds, office, store, separate toilets for female and male, facilitators' house, and light service. However, none of the centers secured those facilities in complete. For example, none of the sample centers had leveled playgrounds though open space is not a problem in Afar. Teachers' house, store, facilitators' house and light service were also nonexistent in most of the centers. This indicates that due attention was not given to uphold the standard of the ABE centers which had been designed by the Ministry. Consequently, it suffices to say that the centers were found to be less conducive for teaching–learning process.

4.4.1.1.2. Implementation of mobile school.

Participants for mobile school disclosed that, although tents were procured, facilitators did not carry the tent during migration for the tents were heavy to carry and laborious to disassemble, assemble and fix. Further, interviewees asserted that the tent could not serve more than two years for it was easily ripped by wind, which is recurrent in the region. For this effect,

as facilitators disclosed they preferred to use tree shade. Similarly, although moveable box was found procured to luggage books and teaching materials, facilitators reported that they used to carry only blackboard and chalk. It was also learnt that in six mobile schools, which had been opened in the region with the initiation and financial support of UNICEF but closed for different reasons, one of the problems was the difficulty to assemble and disassemble the tents.

Figure 6: Tent Mobile School



Source: Afar education bureau non- formal education expert photo collection

The mobile school tents portrayed in figure 5 above was the mobile schools of Kifle Abaco in Adaar woreda in Aramis- Adaar LHZ run by KETA, which was used in the sample. It was meant to accommodate 35 students. It seems suitable to protect windstorm and sunray. However, according the facilitators it was found difficult to transport from place to place. The box prepared to luggage educational materials (textbook, teacher guide, chalk) and blackboard seems portable although facilitator preferred to take only chalk and black board. As to the mobile school supervisor and REB discussants, one of the problems to transport tents was shortage of pack animals to transport the materials. In similar case, as the REB non-formal education coordinator affirmed, although camels had been purchased for the mobile schools, established by the bureau with the support of UNICEF, looking after the camels was reportedly the challenge for the management. It was learnt that responsibility had been given to Kebele simply to look after together with their own. As a result, all the camels purchased for the six schools were reportedly lost and died. This implies proactive mechanisms were not designed to manage the

camels. The community members might have not either developed sense of ownership or no due payment gained. Thus, in spite of the fact that the management procured tents and educational materials in accordance to the standard, in places where there are trees, using tree shades or making shade from sticks had been opted. Of course, this option is entangled in the problem of wind, usually in afternoons. Furthermore, in places where trees are scarce, such as Elidaar and Kori woredas of the region, there is no option than using portable tents. Figure 7 depicted below were mobile schools used in the region as witnessed by the regional education bureau in charge of mobile schools.

Figure 7 : Tree shade and Stick Mobile Schools



Source: Afar Region Education Bureau

. In general, the above discussions show that in mobile school establishment the suitable school type differs depending on the target areas. Thus, before procuring tents or other types of school, consulting the community to determine the transportation means and convenient school type to a specific community and making the education material more easily portable as far as possible is indispensable. This is because portable tent proved convenient in other countries was not preferred in Afar. Although Tree shade was preferred in the sample center, in some areas it was found not to be feasible.

4.4.1.1.3. Implementation of boarding school and hostel.

As per the pastoral education strategy, it had been designed to establishing low cost Para-boarding schools (non-formal boarding schools), in harmony with the life conditions of the pastoralists in which the community participates actively in managing the schools, for the second cycle primary education. Furthermore, hostel with low cost was proposed to 2nd cycle primary school students who are obliged to learn away from their homestead for absence of 2nd cycle primary school around their villages. However, the boarding schools established by the government and WEOs were not Para boarding except one, the Dalifage boarding school. Dalifage woreda supported students with meals and provision of education materials while lodging and clothing for the students were shouldered on parents. Even the school had no standard cooking and dining rooms. With regard to hostel, no hostel was established, for second cycle primary education as well as secondary education students, as it had been designed.

Cost effectiveness of the modality schools: low cost strategy is one of the main strategies to overcome the fund constraints in the endeavor to reach scattered population. However, the boarding schools that were managed directly under REB were found not to be cost effective. Table 20 below shows that the average expenditures of different types of school constructed 210/11-2014/15. As depicted in the Table, the pricy expenditure spent per student was on Samara Girls' Boarding School. The expenditure spent for one student in Samara Girls' boarding could have served 25 students if the Dewe boarding school strategy had been adopted for the school.

Table 20: comparison of Cost for Boarding, ABE and Formal School Construction

N o	Number of students to serve	Capacity for enrolment	Cost of construction in birr	Estimated Life time in year	Per student cost in birr in a year*4	remark
1	Standard formal school	200	1,500,000	28	268	Average expenditure of construction
2	Samara boarding	300	12,636,608	28	1504	Initial built in 2009 and additional facilities in 2014/15
3	Fixed ABE center	90	118,222	6	218	the expenditure ranges from 60,000 to 260,000 birr, so that 111 to 481 per student per year
4	Mobile school tent	35	17,000	2	243	One tent For 35 students
5	Dew boarding school	75	4500/year		60	
6	Dalifage boarding school	50	None		0	

Sources: the information about life time schools was gained from REB while the construction expenditure collected from WEOs and REB.

In contrast to those schools being managed by REB , the recent schools established by the woredas seemed to be low cost. So far, at time of data collection, the two woredas did not build classrooms and lodging. They made the student learn in the formal school found in the respective woreda towns. As regards to lodging utilization, the two woredas have used different strategies, Dewe Woreda used rent house for monthly pay of 225 birr while Dalifage Woreda made the students to reside in their respective relative houses. This strategy is believed to reduce students' unit cost and hence to reach for many needy children rather than to end up offering comfortable service for a few students.

The recurrent expenditure of the Samara Girls' Boarding and the two boarding schools had also shown large difference. For the 2014/15 fiscal year, the recurrent budget for Samara Girls Boarding was found to be 5,585,941 Birr for Dewe 440,000 Birr for Dalifage 400, 000 Birr. This resulted in 41,377 Birr, 5867 and 8,000 Birr expenditure per student for Samara Girls', Dewe and Dalifage Boarding Schools respectively. Thus, this made the Dewe and Dalifage Boarding Schools 5 and 7 times cheaper in contrast to Samara Girls' Boarding School. Nonetheless, it was learnt that the two woredas were looking for donors and NGOs support to build standard

boarding school, whereas, paradoxically, for budget constraints, the schools could not increase the number of beneficiary children from their start.

The factors that made expenditure differences among the three boarding schools include the share of government in the boarding service and utilization of employees. The Samar Girls' Boarding School covered education services, education materials including educational writing materials, and basic personal needs that include meals, lodging, cloth, medication, cleaning detergents such as soap, transport from and to their families, and others. Whereas, Dewe Boarding School covered meals, education materials, cleaning detergents and mat while parents covered the expense for cloth and bed sheet. Further, the two woredas have employed only five administrative employees each(1:12 staff –student ratio), whereas, the Samara Girls' boarding school had 49 employees including 11 teachers(about 1:4 staff-student ratio).

The two woredas experiences, especially the Dalifage Woreda, indicate that Para- boarding school service is feasible. Parents can share costs for the education of their children. Nevertheless, care need to be taken not to disregard those children whose parents cannot afford to share the cost or who have no relatives for lodging where the boarding school is situated. Although Dalifage and Dewe woredas started para-boarding school in line with the pastoral education strategy, their intention to build standard building overrides the strategy developed by the Ministry. In short, the above discussions show that the boarding schools in Afar were not guided by a clear strategy endorsed by major constituents.

Beneficiary students of boarding school: Starting from 1997, the Afar REB has established five boarding schools. Four of them ceased to admit students mainly for budget burden of the schools. The four closed schools had been established to offer primary education for those who

had no access to school such as orphans, and disadvantaged pastoralist children. However, no reliable data was found to identify who actually had been served by the school.

With regard to Samara Girls' Boarding School, the school director and REB discussants asserted that the school was established to provide opportunity for female students from disadvantaged pastoralists to pursue their second cycle education. Although the purpose appeared appealing, of the students enrolled for 2015/16 academic year, only 23 % (26students) were found from pastoralists, others were found from well-off families such as merchants, government employees such as nurses, government executives. To this effect, I posed the question to the students' FGD participants what would happen to their education if they could not get the opportunity for the boarding school. They affirmed that there were students who could pursue by the help of their parents. Conversely, others could not pursue. This indicates that the selection system of the boarding school was not aligned to the very purpose of the school.

The background of Dewe and Dalifage boarding school students obtained from the schools' record, in contrast however, showed that the beneficiaries were pastoralists' children who could not get access to education. The students were attending in 1st cycle primary, second cycle primary and secondary education selected from rural peripheral areas where there was no second cycle primary and secondary education. Their age ranges from 8-21.

The experience of Afar so far indicates that, unlike the strategy, boarding schools have been rendering education service for 1st cycle primary students and for children aged below 10 years that was considered as improper in Kenya. The Ministry of State for Development of Northern Kenya and Other Arid Lands (2010) stipulated that boarding school is not appropriate for children under age 10. With this in mind, I asked the boarding school heads on their experience to the problem of children below 10 years. The heads affirmed that they faced no

problem, especially in the Hinele boarding school, which was closed and the pioneer, reportedly many of them had been below age 10. Although the heads asserted they experienced no problem, further in-depth study is essential to reach at sound conclusion.

4.4.1.2 Implementation of curriculum design

To maintain the relevance of the curriculum, it was designed to make learning materials suitable with the cultural realities of pastoralist population, to use mother tongue as a medium of instruction, to use the same textbook for ABE and formal school, to localize the curriculum of formal school for students above 10 years and to prepare self-instructional texts.

Content relevance: In the endeavor to make the curriculum content reflect the realities of pastoralist areas, the REB expert participants articulated that based on the national curriculum framework, efforts were made to reflect the region's reality in primary education curriculum. To enhance their opinions, they invoked contents of subjects from ABE: In Environmental Science, the topography of Afar National Regional State and crops produced in the Regional State were included; names in languages were Afar indigenous names; examples and illustration in subjects, as appropriate, were made to reflect the region's realities. To verify the information, the textbooks I surveyed confirmed the information provided by the participants. For example, in Environmental Science, subject- causes and prevention mechanisms of malaria disease, which is prevalent in the region and crops produced largely in the region such as cotton, maize, and sugar cane were included for science part. Rivers of the region(such as Mille, Awash, Logia, mountains such as Artaalee), and tourist attraction areas (such as Dallol) for geography part, cultural attire, and information transmission system of Afar oral literary known as 'Dagu' for cultural values, and the regional government structure for civics- were found in grade 3 Social Science textbook. Names in English and Mathematics topics, illustration for wild and domestic

animals were found indigenous of Afar. Further, Environmental Science in grade 4 mainly devoted to countrywide economic activities, cultural and historical heritage and, social values and assets. This shows that unlike the findings of Ziyn (2009) and Petros (2015), efforts were made to apply the four dimensions of curricula: Foundation Skills and Information, Status leading to higher learning, Socialization and Localization (Kratli and Dyer, 2009). Petros and Ziyn claimed that the curriculum content in Afar were irrelevant and hindered the participation of pastoral children. In this study, however, data from communities and document revealed that the low participation of children was not attributed to curriculum relevance problem. Further, the curriculum contents were not found irrelevant. Of course, the relevance of curriculum is still wanting, need improvement. As Firdissa(2003) stated, making curriculum relevant is not a one-time activity rather it needs a continuous improvement for relevance of learning changes as individual location and community characteristics change over time.

In developing and adopting contents of learning, REB participants disclosed that the four year formal school textbooks' contents which had been prepared in Amharic by experts were made abridged and condensed by subject experts then translated into Afar language by native Afar educators. This indicates that no need assessment was made to make the curriculum relevant and interesting. However, curriculum relevance is complex; it cannot be achieved simply by expert knowledge. Furthermore, no feedback was collected from students and facilitators, and improved accordingly. According to Ranaweera (19990), there is a strongly held opinion that the beneficiaries should be consulted. Especially, teachers' feedback is indispensable for curriculum improvement (Chapman & Adams, 2002).

Medium of instruction: With regard to language, although most of the sample woredas were found using Afar language as medium of instruction in ABE centers, two of them not yet started,

still they were using Amharic as a medium of instruction for nonexistence of qualified teachers willing to teach in rural areas. Concerning Amharic, Pursuant to the design, in some ABE centers, it was offered as subject in the last two levels of ABE, whereas, in the 2nd cycle primary education, the medium of instruction was Amharic. Among other things, to this effect, the 2nd cycle teachers and directors disclosed that the students that joined from ABEs could not be competent to their counter students came from formal school using Amharic as medium of instruction grade one through four. As to REB discussant (F10), the design was made with the assumption that Afar language would be used as a medium of instruction for the second cycle so that no adverse effect was presumed. However, for the last 12 years the language could not be used as a medium of instruction for the second cycle primary education. Afar REB (2014) study disclosed that let alone for second cycle, Afar language as subject could not be offered even in urban 1st cycle formal primary schools properly for shortage of qualified teachers. The REB supervision report also shows that in 2015/16, only 4% of the schools in the region managed to provide grade one to four using Afar language as medium of instruction (Afar REB, 2016). This shows the design lacked feasibility study in this regard.

As per the design, Aesthetic and Physical education ought to be offered either in integration with the core subject or separately by its own. However, the two subjects have not been offered in either of the strategies. It was also learnt that though in 2011 the curriculum for 1st cycle school age children (age 7-10) was made four years and three years for older children (age 11-14), no textbook was prepared accordingly. Still fixed and Mobile ABE have been learning the textbooks prepared for three years. The textbooks were not also prepared in way that uses as self-instruction as it had been designed. In general, efforts were made to make the curriculum to reflect the realities of the region, but it lacked feedback of teachers and communities and the region failed to offer subjects such as Aesthetic and physical education as was designed.

4.4.1.3 Implementation of instruction time design

The pastoral education strategy unequivocally stipulated the instruction time for ABE is to be flexible and be decided by the beneficiary communities. To identify the implementation of this key strategy, WEO experts and facilitators were asked two questions: the extent to which instruction time was made flexible (item1) and the extent to which communities were involved in deciding the schedule (item 2).

Table 21: Independent Samples t-test Comparison on Implementation of Instruction Time

i t e m	Variable(Equal variances assumed)	Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% CI Difference	
									Lower	Upper
1	making the instruction timetable flexible	2.001	.159	.703	173	.483	.067	.095	-.120	.254
2	communities decide the instructional i time	.106	.745	1.230	173	.220	.161	.131	-.097	.419

In both items the mean ratings of both respondents were found to be below the cut point ($\bar{X}=3$). Thus, the mean rating of WEO ($\bar{X}=1.87$, $SD=.603$; facilitator $\bar{X}=1.80$, $SD=.651$) testified that the instruction time across the sample centers was not flexible. In order to understand whether this occurrence was because of the decision of communities, respondents were requested to rate the extent discretion has been given to community as was designed. Respondents ratings (WEO $\bar{X}=1.67$ $SD=.821$; facilitator $\bar{X}=1.51$, $SD=.908$) was computed below the cut point (3.00) implying that communities had little say for instruction time schedule. In Table 21, the t-test computed for item 1 ($t(173) = .703$, $P=.483$) and item 2 ($t(173) = 1.230$, $P=.220$) shows that there is no significant difference between the mean score of the two groups.

WEOs have raised two reasons for failing to implement the strategy as deemed to be: One, some woreda participants perceived as difficult to control centers if they allowed community to schedule the instruction as they want. Interviewee (9) said that

The problem of dropout for mobility and household responsibility is the same for both formal schools and ABE centers. If we had allowed them to make the instruction time, as they want, in the name of flexibility, facilitators would have been out of control.

The possible explanation for failing to implement the strategy on part of the WEOs is, therefore, resistance to change as a result of lack of internalizing the value of flexible instruction time for pastoral children education and lack of confidence to manage the new change, which is different from the way, they have been doing conventionally.

The second reason was facilitators' resistance. One interviewee (intv3) said, "As an expert we have tried to pressure the facilitators to make flexible their schedule. However, they resisted. Surprisingly, we could not get support from the higher authorities of the woreda to uphold the strategy". This shows that facilitators resisted for they felt inconvenience for teaching in flexible ways, which is novice to them. Higher officials as change agents have to devise mechanisms to overcome such resistances for change resistance is expected. As Yukl (2010, p.297) clearly stated, "Resistance to change is a common phenomenon for individuals and organizations" However, the heads themselves seemed to not value the strategy.

As regards the mobile school, the management of the project and WEO affirmed that the center was guided by the regional calendar as that of fixed ABE discussed above. Further, the interviewees disclosed that in the movement of the community within short distance, within the woreda and neighboring woredas, facilitators tend to follow the community, just as prescribed in the strategy document, when they dispersed into different directions, they tended to follow group

preponderance in number. However, as they migrated far away to Amhara National Regional State, more often than not as of April, they did not follow the migrants. Those students who could attend up to April (two months before end of the academic year) were allowed to promote to next grade whereas others to repeat for the coming year in the same grade. Thus, in the mobile school, it is possible to say that the instruction time was not used effectively. This is detrimental to provision of quality education or indirectly tantamount to denying their right to quality education.

In boarding schools, as REB participants asserted that the boarding schools were among the schools using the instruction time appropriately: classes begin and end at right time and teachers who missed periods for different reasons were to compensate. Informal discussions with teachers and students also confirmed the REB information. In general, in ABE (both fixed and Mobile), it was learnt that for four reasons students could not learn what was deemed to be: Late start at the beginning of the academic year, early end of classes in every semester, frequent absence of facilitators and students' absence for child labor.

4.4.1.5. Implementation of Teaching force deployment design

In the strategy, three issues have been given due attention in deploying facilitators: recruiting facilitators from community who have a minimum of grade eight education level, three months pre-service and on job continuous training and support, and upgrading under qualified facilitators to complete their secondary education.

In all the sample woredas as explained by the interviewees, recruitment of facilitators was undertaken in similar ways. They gave priority to select candidates from the community who satisfied the minimum grade level (grade eight). However, some woredas such as Teru Woreda have continued to hire below that level of education. Because of this, I have learnt that in one

center during the time of data collection students could not learn English for the low capacity of the facilitator. Of course, some woredas such as Amibera and Chifra have decided to abide by the standard, secondary school complete even to look for college diploma from any area other than the immediate community, if available. Others, such as Golina woreda preferred to employ formal schoolteachers and to teach in Amharic for lack of qualified facilitator willingly to teach in the language. This shows that some woredas gave more emphasis to locality of facilitators and others to qualification. There was no uniformity of implementation among the woredas indicating that the REB did not discharge its responsibility to upholding the standards for the benefit of pastoral children quality learning. Thus, shortage of teachers and failing to uphold the standards were critical problems of the Region. However, one of the pressing initiatives as stipulated in ABE standard had been to make the ABE implementation program uniform.

Training: The REB and Aysaita College of Teacher Education participants disclosed that no pre-service training has been provided for the last five years so that facilitators have been deployed to teach without the required pre-service training. Furthermore, as regards to training course which is sine quo non to training, the College dean and REB participants affirmed that no curriculum was developed for ABE candidates as required by the standards. The college had been used (five years ago) to providing pedagogical training in Amharic. The courses were taken from one Teacher Education College in Amhara National Regional State developed in Amhara context and Afar language literacy developed and provided by Afar Language Enrichment Center's experts. However, as per the MOE standard, there are courses, different from those of formal schools trainees, ABE facilitators need to take in their training. As per the working policy of the country, primary teacher education should be also given in the language the primary school students learn (in our case Afar language). To this effect, the trainees had to take courses that are

essential for facilitators such as the concepts and implementation of ABE, gender mainstreaming, multi grade teaching, student result record keeping and community mobilization that were designed by the MOE. For the occurrence of this drawback, the College invoked two reasons: unable to develop teaching- learning materials in Afar language and could not hire qualified trainees for shortage of qualified human source in the market. From this, one can surmise that neither the REB nor the College did give due attention to make relevant the ABE facilitator training and equip facilitators with the required professional knowledge and skill. Thus, the facilitators seemed not well prepared to discharge their responsibilities in pastoralist areas. If the trainees do not get relevant training, they would not be effective as desired to be.

For this purpose, the REB and WEOs interviewees and discussants were asked about the professional capability of facilitators. In their responses, they confirmed that the ABE facilitators' professional skills in general were poor. The respondents asserted that their skills in preparation of lesson plans, assessment (to use continuous assessment), multi- grade teaching, and self-contained teaching were weak. Aside from quality, preparation of lesson plan in ABE centers was found to be not common. Looking at the mark list of facilitators, two major drawbacks were observed. Although as to WEOs, ABE students were said to be evaluated in continuous assessment, the students were assessed only based on repeated tests. Facilitators seemed construe continuous assessment as administering many tests and grading students' classroom attendance and participations.

On job training: Realizing the insufficiency of three months pre-service training, the other strategy designed to build the professional capacity the facilitators was continuing on job training and support by cluster supervisors. However, according to REB Teacher Development Department participants, the trainings arranged for this purpose were insignificant. As per the

supervision guideline prepared by MoE (2011b), however, cluster supervisors had to visit each fixed and mobile ABE centers every fortnight. For two reasons, however, supervisors were not found effective in supporting facilitators. One, as WEO interviewees avowed, almost all supervisors had no competency to read and write in Afar language. Two, for lack of transportation, they could not visit ABE centers as designed. Thus, it suffices to say facilitators could not get the required on job professional support.

Upgrading: WEO experts and facilitators were requested to rate the extent the facilitators upgraded to required educational level, meaning secondary education completion. Respondents' rating score (expert, $\bar{X}=1.87$, $SD=.603$; facilitator $\bar{X}=1.68$, $SD=.582$) was found lower than the cut point (3.00).

Table 22: Independent Samples t-test Comparison on Upgrading of Facilitators

Variable (equal variance assumed)	Levene's Test for Equality of Variances		t-test for Equality of Means							df
	F	Sig.	t	df	Sig. (2-tailed)	mean diff	std. error diff	95% CI Difference		
								Lower	Upper	
Upgrading facilitators	1.829	.178	2.055	173	.041	.184	.090	.007	.361	0.31

The computed t –test ($t(173)=2.05, p=.41$) shows that statistically the difference between the mean rating scores of the two groups is minimal ($d=.31$). The result signposted that the upgrading training for facilitators was not put into effect as designed. The REB participant in charge of alternative modalities corroborated that with the support of one NGO it had been started to upgrade facilitators' educational level in summer program for one year. however, with the termination of the project, the program could not continue, whereas, it was learnt that REB was undertaking upgrading of formal primary school teachers from certificate to college diploma level

but no budget was allocated for upgrading under qualified facilitators from primary to secondary education completion. This shows that the region overlooked the ABE program. It is clear that besides the negative effect on quality education, facilitators would have no morale to remain in the profession if they perceive they will have no chance of advancement; rather they might have remained in the profession to use it as a stepping-stone.

4.4.1.6 Management

Structure: as per the strategy, WEOs and REB experts coordinate alternative mode of deliveries. Amid this, according to the expert interviewees, the structure was not congruent to the volume and complexity of the job. In both WEO and REB levels, the coordinators took responsibilities to coordinate six sub programs: coordinating the teaching learning of Adult education, kindergarten, fixed ABE, mobile school, boarding schools and special education. Further, as felt by REB and WEO experts in charge of alternative education, let alone adding other responsibility, the job description for alternative education itself seem beyond the capacity of one individual. Their complaints seem plausible. The job description demands to study mobility pattern, follow-up facilitators, coordinating NGOs, monitor boarding and ABE schools, etc.

When interviewees of WEOs and REB FGDs were asked to add if there are other practical problems, as regard to organizational structure, encountered them in their implementation of modalities of school, asserted that included the decentralization educational management system, and the woreda pool financing system in Afar National Regional State. According to the participants, the WEOs were accountable to woreda administration so that the REB had no direct authority to make accountable the WEO. Thus, amid its advantage to address the local problems and needs, decentralization management system of the region made difficulty for REB to get the compliance of woredas. Moreover, in Afar, at woreda level, all sector offices use one finance

office for financial, procurement and construction issues. On this system, WEOs complained on the inefficiency of their respective woredas finance offices to procuring the input and constructing school facilities at due time and quality.

Responsibility of the actors: The WEO and even REB participants themselves believed REB failed to discharge its responsibilities. To mention a few, responsibility entrusted to REB such as developing and improving curriculum, preparing textbooks in a way it serves as self-instruction (modular) form and offering education materials, upholding the standards, ,developing and training facilitators and managements of WEO, were not put into effect by REB as it should have been. This largely seemed attributed to lack of commitment and more importantly absence of accountability. According to the focus group discussants (F10), many of the problems of ABE and boarding schools were not out of the knowledge of top management of the bureau. Supervisors, annual consultative meetings and study reports went over the problems. However, the discussants have assured that no commensurate measure was taken.

In discussions with the WEO and REB, it was learnt the Regional government has tried different strategies to get children enrolled and enhance student attendance. These included imposing penalty on parents who failed to send their children to school, sensitization communities, involving and working with development partners such as UN organizations and NGOs, Food for Education Program and integrating the school establishment with other sector development works such as health post, developing water point, establishing dropout returnee committee. However, they were found wanting. Table 23 below illustrates the major initiatives taken by the regional government and the problems of the initiatives.

Table23: summary of Strategies to Enhance Enrollment and Attendance

Strategy/intervention	Features of the strategy	Assumption	Problem /effect	evidence
Establish dropout returnee committee in each school	The committee members move house to house to convince parents to return the dropout students	parents and children can be persuaded to resume students their learning	Students could not resume their education unless the root causes for their discontinuation are solved	in our woreda, there are schools where teachers came to woreda town after December ,when parents start movement, for they can retain students when parents move(intv.12)
Integrate the development works of different sectors	.Build health station, animal health station, school, pure water hole in one area	community members tend to settle when social service are situated in one area	. many pastoralists did not show up to settle as expected for the service government fulfilled	Afars do not stop migrating if you offer drinking water for their life depends on their animals.(intv 26) communities in our areas move in summer to hillside areas for quality of grass and to avoid seasonal insects (intv.15)
Providing food service for students in food insecure areas in cooperation with WFP	provision of hot meal for students in food insecure areas provision of vegetable oil for girls as take home ration subject to their attendance	students would be encouraged to attend in school for benefit of food parents are likely send girls and allow to attend regularly for the benefit of the oil	-as long as animals need children to look after them, parents and children are not aggravated by one time hot meal	Students prefer go far distance schools where there is feeding program than schools which are not incorporated in school feeding program proximity to them . but this is happen only when parents found the children less needed for house chores (intv19) Parents tend to send girls regularly than boys for the effect of girls initiative program (intv19)

Strategy	Features of the strategy	Assumption	Problem /effect	evidence
Enforcing the communities to send their children with penalty	Let the community decide the fine for those who failed to send their children	-Parents send their children for fear of sanction or penalty	The opportunity cost of sending children to school outweigh the penalty	-No parent, who failed to send his /her children, abstained from fine, but we could not be successful. For them nothing surpass their animals (intv15)
		-parents respect what they decide		-parents tried to use counter strategy – such as sending children by turn(intv13)
sensitization	-Workshop on value of education for community representatives (religious leaders, clan leaders, PTA etc	-Community do not send their children because they are not aware of the value of education	-parents do not want to scarify the survival of household for educational benefit that come after long years	- Education value is seen after long years, 12 or above years. They need the labor of children for subsistence of the household (F11).
	-Direct agitation to community -Top officials campaign to make parents enroll their children	-Parents induced to send their children for fear of authorities		-Every year top officials give the list of children ready for enrollment to schools but practically parents do not send all the their children as they pledged(intv 27)

Responsibility of Community: WEO experts and facilitators were requested to rate the extents to which responsibilities were given to CMC as designed. They rated below the expected average (WEO expert $\bar{X}=2$; 70, SD=1.47; facilitator $\bar{X}=2.39$, SD=.520). The computed t-test in Table 24 ($t(173)=1.385, P=1.68$) below shows that no significant difference on mean score between WEO experts and facilitators. This indicates that CMC member did not assume their responsibility as designed.

Table 24: Independent Samples t-test Comparison on CMC Management

Variable (Equal variances assumed)	Levene's test for equality of variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean difference	Std. error difference	95% CI Difference	
								Lower	Upper
Entrusting the responsibility of managing ABE centers to CMC	.268	.606	1.385	173	.168	.312	.225	-1.32	.756

With regard to the reason, WEOs interviewees and CMC members asserted that some of responsibilities delegated to CMC were not feasible to be assumed by pastoral communities. For example, they cited controlling facilitators and follow up the teaching learning process in the centers demands daily attendance in the centers. This is not possible for pastoralist CMC members for daily and seasonal movement characterizes their life. Nevertheless, according to WEOs and REB participants, communities via their committee representatives and Kebele administration had played pivotal role in resolving discipline problems of facilitators and students, in sensitizing parents, in bringing children to centers and returning dropouts. This indicates that the request of community involvement in schools should be geared to their capacity. In relation to community involvement as a board/committee in schools, Common

Wealth Secretariat (1993) clearly pinpointed that giving authority and responsibility for activities that require frequent attendance is not apposite.

4.4.2. Strategy implementation.

The effectiveness of policy level strategies, among other things, depends on the strategic management process for implementation: This include communicating the designed strategy, developing sound plans and implementing accordingly (Wells, 1996). In line with this, the following sections deal with how implementers in Afar put the pastoral education strategy developed by the MoE into effect.

4.4.2.1. Communicating pastoral education strategy.

REB participants were asked the understanding of implementers at different echelon of the region about the pastoralist areas education strategies and standards. This is because preparation of sound plan depends on the knowledge of the implementers on the strategy and standards. The REB expert, who had been in charge of the pastoral education, reported that the strategies and standards were communicated to WEOs through workshops, seminars and distributing published materials. However, of the 12 woredas only three experts in three woredas witnessed they had participated in orientation workshop for the strategy. Attempt was made to check the availability of the guidelines in WEOs offices and centers. Accordingly, no woreda had the full documents. Even some of them had no single document in their offices. In the six visited centers, facilitators had no adequate knowledge on the strategies, standards and implementation guidelines. To this fact, the REB expert responded that “because of turnover and irresponsibility of concerned individuals, the documents might not be archived in the offices”. He claimed the respondents were new recruits. Nevertheless, by any means, the REB ought to have assured the understandings of front line implementers on the guidelines and

strategies. Therefore, it can be safely said that the guidelines, strategies and standards were not communicated to the existing implementers as desired. Every new staffs need at least need inductive training through workshop or providing manuals to read.

4.4.2.2. Strategic *plan* preparation.

Improper plan formulation brings difficulty, complexity, and chaos for implementation and lack of inadequate yardsticks for later evaluation so that preparing cogent plan is indispensable (Agarwal, 2004). With this in mind, plan documents of REB and WEOs were scanned and interviewees made with REB and WEO participants to identify whether the implementation of alternative modalities were guided by sound plan.

The REB documents showed that two types of plans were common: long-range plan and annual plan. Preparing tactical plan is uncommon. It was learnt that from 2003/04 to 2014/15 four consecutive strategic plans were prepared at the regional and woreda level. However, WEOs and REB participants conceded that pastoral education modalities had not been given due attention as that of formal schools. For example, scanning the plan documents shows that the impact of mobility and child labor were not analyzed duly and no strategies devised accordingly.

With regard to planning process, REB and WEOs participants were asked on how they did prepare long range and short-term plans. WEOs and REB have followed virtually the same process. They asserted that technical committee members, selected from departments in the Bureau / WEOs, prepared strategic and annual plans. Upon completion of the plans, the committee would submit to top management for approval. Upon approval by top management members and reviewing by the Bureau of Finance and Economic Development and respective Woreda Finance Offices for WEOs, it would be sent to council for budget allocation. This signifies the senior management involvement and participation of implementers at Woreda and

Regional level was minimal. The communities, development partners, WEOs and schools' inputs were also minimal as REB informants affirmed.

For effective plan implementation, senior leadership should establish the foundation of the strategic plan by creating vision, clarifying missions, developing guiding principles and developing strategic goals. The role of technical experts is completing the plan (Wells, 1996). Wells further warns that if there is no active involvement of top management, confusion arises at the operational level that could lead to cynicism about any improvement efforts. From this, it is difficult to say that the activities of WEOs, REB, and NGOs were coordinated at all. As Agarwal (2004) pointed out unless those who are involved in implementation (WEOs, schools/colleges, and NGOs in our case) participate in plan preparation, they would not see the relatedness of their own plan with the organization's master plan (the regional plan in our case).

Standing use plan preparation.

With regard to operational plan, it was tried to get the standing plans such as implementation guidelines, procedures, and manuals prepared by the region, if any, for ease of implementation. Accordingly, some implementation guidelines were found prepared by the MoE. These include ABE Standards, Implementation Guide for Mobile Schools, and ABE Supervision Guide for Supervisors. At the regional level, no effort was made to prepare its own or contextualize the national standing plans except the translation of Mobile Implementation Guideline prepared by the MoE into Afar language (Afar REB, 2010b). In the discussions with REB participants, top management members believed that there were many important issues, which they did not agree with the national strategy, but no attempt was made to modify except recruitment and training of facilitators. As a result, on some issues, the implementation differs from woreda to woreda. For example because there is no implementation guideline for Para-

boarding school and hostel, the target groups, school construction, funding system varies from woreda to woreda. As a result, the implementations were not uniformly guided towards the objective the modality.

4.4.2.3. strategic plan Implementation.

Besides sound plan formulation, the ultimate success of a plan depends on the way it is implemented. For effective implementation of strategy, first decision makers have to make sure the availability of the resources and make use of them to get the job done. The resources to be made available include financial, human, technical inputs.

4.4.2.3.1. Finance allocation system.

ABE centers had only two sources of finance: from government and from donor agencies through the federal government, named as General Education Quality Improvement Program [GEQIP] earmarked for purchase of teaching materials. Expenses for salary and classroom facilities such as desks were covered by WEO. Textbooks, reference materials, facilitator training, curriculum development were covered by REB. The budget for schools appeared to use for stationary, teaching aid and materials.

For non-salary expenses, both WEOs and GEQUIP allocated based on the number of students for both formal and ABE centers for non-salary recurrent budget. This indicates that the budget allocation system did not consider the needs of learning centers and potential source of income. It implies that the region has no a policy or effort to maintain vertical and horizontal equity principle. ABE centers and formal schools are not alike in social background of students and potential of income as well. For example, formal schools in towns have relatively large number of students. This makes them advantageous from economies of scale in purchasing education materials. They have also a possibility to generate income from evening school

students' fee, support from well-off families. Moreover, because of the parents' background pastoral area students have no chance to be supported by families in out of school study, purchase of supporting reading materials, study facilities in home in par equal to urban educated parents' of students. This necessitates complementing the deficit of disadvantaged learning centers with budget allocation policy. Otherwise, the government should not expect the same profile or equality in quality provision from pastoral and non-pastoral areas' students.

With regard to Samara Girls' Boarding School, it was learnt that besides obtaining textbooks from REB, no specific budget formula was set for recurrent and capital budget allocation: Presumably, a tradeoff between need and capacity of the state has been made. Nonetheless, relatively higher per student budget was being allocated for the boarding school. Similarly, the two woredas, newly established, boarding schools acquired from woreda in tradeoff between the budget request of respective WEOs and the capacity of the woreda administrations.

Mobile school: information gained from the KETA shows that budget for mobile schools was allocated pursuant to fund granted from donors for their proposals. Proposals had been prepared on the need of capital and recurrent budget. However, as to the project office, the grant acquired was below their need. Because of the European financial crisis the committed budget from the donors were found cut by 62.5%: reduced from 40,000 to 15,000 Euro. To this effect, the project managers were obliged to budget-cut accordingly. Consequently, the project office encountered challenges of turnover of facilitators for looking better remuneration, short of fulfilling facilities and materials as required. This shows that the NGO's funding is not sustainable.

Records of WEOs show that recurrent budget for ABE goes to non-educational material. The WEOs affirmed that the budget for ABE was insufficient to purchase stationary let alone to purchase teaching aids. According to the WEOs interviewees, this was attributed to low capacity

of the woredas in particular and the region in general. The overwhelming bulk of budget of the government in the woredas went to salary so that WEOs asserted the overall budget of the region to education was found low. Data collected from Afar Bureau of Finance and Economy Development show that the share of consolidated salary expenditure of all woredas in total woreda government expenditure was 62.47%, 59.86 % to 58.84 % for 2012/13, 2013/14 and 2014/15 Ethiopian fiscal year respectively. The data indicate that the largest proportion of the budget of the government in the woredas went to salary. Table 31 below shows the commitment of the Region in general.

Table 25: The Regional State Education expenditure from 2010/11-2013/14

<i>description</i>	<i>2010/11</i>	<i>2011/12</i>	<i>2012/13</i>	<i>2013/14</i>
% education expenditure in total government expenditure	14.62	11.22	14.24	12.59
% primary expenditure in total education	56.09	59.11	68.14	64.40
% non- salary expenditure in primary recurrent	8.74	8.31	9.72	8.77
%capital expenditure in primary	20.63	24.37	45.88	31.85
% all regions' education in total government expenditure	28.55	24.86	22.76	
% all regions' primary expenditure in total education	37.23	34.04	31.85	
% all regions' non-salary expenditure in primary recurrent	3.66	2.87	2.21	
% all regions' capital expenditure in primary	2.73	4.16	5.47	

Source: computed from MoE statistical abstract from 2011/12-2013/14 and Afar BoFED data base

in ESDP IV (MoE, 2010) it was committed to maintain the share of education budget to 24.9% in total regional state budget throughout the planning period (2011/-2014/15). However,

as depicted Table 25, Afar National Regional State education expenditure declined from 14.62 % in the beginning of the planning period to 12.59 % in 2013/14, below the target set and the total regions' average up to 2012/13. Having the participation rate of Afar lagged behind all regions and out of the track of the UPE, it was supposed to allocate more percentage than other regions.

Similarly, as seen in item 2 of Table 25, the share of primary budget in total education budget fell below the share envisaged by ESDP IV (61.9%), but as shown in item 6 of the same table it was found above the average of regions' budget in the country.

As depicted in the Table, within the primary education expenditure, the share of capital expenditure rose from 20.63 % in 2010/11 to 31.85% in 2013/14 which was more than triple as targeted by ESDP IV and better than the regions' average (contrast item 4 and 8). This is ascribed to the fact that since the coverage of schools in the region had been low, the focus of the region demanded expansion of schools elsewhere as compared to privileged regions where schools had been in place already.

Similarly, of the total recurrent expenditure of primary education, the share of non-salary operating cost depicted in item 3 of Table 25 were higher than the target for end of ESDP IV, 8.4 % and greater than the regions average depicted in item 5. This implies that within the subsector of primary education, relative to other regions, considerable proportion of budget went to non-salary cost supposedly, among other things, to bring positive effect on quality of education. Another indicator for the commitment of government in education can be described in per pupil expenditure. Table 26 below presented the expense of the region for each primary school student.

Table 26: Per-Pupil Recurrent Expenditure on Primary Education in birr

	2010/11	2011/12	2012/13	2013/14
Afar	519.67	603.85	829.85	587.76
All regions' average	227.42	266.35	306.60	

Source: computed from MoE statistical abstracts from 2010/11-2013/14

As depicted above in Table 26, per student expenditure on primary education for Afar was very high, more than double of all regions (all the nine national regional states the two City Administrations) spent on primary education. Among other things, this might be attributed to the peculiarity of the region such as small school size of the region because of sparse population of pastoralist areas, cost of 30-40% desert allowance payment on employees' salary and duty station allowance because of hot climate and remoteness of the region. This does not mean that the government had allocated sufficient budget for quality expansion of primary education rather it indicates that the provision of education in pastoralist areas is very costly; sufficiency of budget depends on the availability of required resources.

As to WEO and REB planning experts, budget requested for education was not approved more than 1/3 of their need. For example, REB budget requested (153,291,570 Birr) for 2011/12 Ethiopian fiscal year but among other commitments such as water which is may be one of the priority to region, the Regional government allocated only (63,864,466 Birr). The budget include other partners support such as UNICEF, WFP, etc. To cover the gap, as MOE strategy, volunteer community contributions were sought. However, as discussed above, pastoralist communities were not financially dependable. Thus, it is possible to say the Region lacked sufficient revenue to satisfy the growing need of the centers abreast to the expansion of schools from year to year.

In general, the share of expenditure spent for education to total government expenditure in the region was found proportionally low in reference to the ESDP IV plan target and other regions' expenditure. However, within the sector, the proportion of expenditure spent for primary education, the proportion of capital and non-salary expenditure from total primary and per student recurrent expenditure were found higher in reference to other regions total. Despite the higher proportion of salary and per student total expenditure, the budget required to fulfill

facilities and educational materials was not sufficient. were not fulfilled as described below in section 4.4.2.4.3. Thus, the regional education sector could not acquire the required budget for its effort to meet the ESDP IV targets in line with UPE goals. To enhance this finding, the following section is devoted to demonstrate availability of relevant modes of deliveries to those who deserve and required resources in schools/ centers.

4.4.2.3.2. Availability of modes of deliveries

In spite the fact that 85.74% of the residents of the region are pastoralists, 59.75 % (616) of primary schools were formal schools which are not suitable to pastoral community. This resulted to the formal school students from pastoralist communities in late registration, dropout and repetition. One of the pastoralist woredas interviewee (intv13) disclosed that” of the 20 formal primary schools in the woreda, 15 schools’ residents are transhumant pastoralists. Consequently, many of the students do not enroll at due time or dropped out after months”. In the similar vein, another woreda interviewee (intv12) said that in some areas of his woreda, teachers who were deployed to formal school by September they returned by December at times of the migration of the communities. This indicates that pastoralist children could not access the suitable mode of delivery rather formal schools were opted to them which are not suitable to their ways of life.

With regard to the ABE, the centers were not established and functioning in suitable ways to the mobility patterns of the communities. Data collected on the 35 Fixed ABE centers show that 24 (68.57%) fixed ABE Centers’ catchment area communities tend to move more for than four months in a year. This indicates that only 30.6% (11) of fixed ABE were propitious to the design, whereas, the others had better been mobile schools. Therefore, students could not attend in schools as was supposed to be. For example, in Awra woreda, of the seven fixed ABE centers, all but two centers were found closed because of the movement of the target communities in

response to the current drought. Conversely, as Adaar WEO and KETA interviewees affirmed, of the two mobile schools in their woreda only one was found pertinent for the mobile design.

As regards boarding School, although low cost Para-boarding and hostels need to be established in community areas for second cycle primary and secondary education, students who otherwise cannot continue their education, there were only four boarding schools in the region. Amid this, the CMC members and students affirmed the demand for the Para-boarding and hostels were found to be high.

Besides those boarding schools, two strategies were pursued for those who want to continue 2nd cycle primary education in formal mode of delivery: Either opening 2nd cycle primary education in ABE centers with formal approach or letting the students to learn nearby formal schools. However, no sample ABE center was upgraded to 2nd cycle primary education. The only choice left for the children was, so that, to go to nearby formal schools as far as 8 Km though the standard, as stipulated Afar REB (2011b) was 3 km. The distance from village to the 2nd cycle schools, as WEO participants estimated ranges from 4 km to 8 km. Travelling 8 km in desert areas is difficult, especially for girls.

4.4.2.3.3. Availability of required resources

The main important input variables influenced students' learning can be categorized into teachers, teaching-learning materials, and facilities (Carr-Hill &Peart, 2005). Accordingly, the availability of required resources (teaching force, teaching learning materials, and facilities) for the learning centers/schools under study is presented below.

*Teaching force***Table 27: Qualification of Facilitators**

No	description	Transhumant pastoralist	
		frequency	%
1	Educational level		
	a. below Grade 8	111	37
	b. Grade 8-10	99	33
	c. secondary complete	67	22.33
	d. above secondary complete(10+)	23	7.67
	total	300	100
2	Pre-service Training		
	a. below 2 month	32	10.67
	b. 2-3 month training	81	27
	c. 1 year training and above	18	6
	d. no training	169	56.33
	total	300	100
3	In-service training		
	A. below 2 months	48	16
	b. 2-3 months	16	5.3
	c. a 1 year teacher certificate	-	
	total	64	21.3

As shown in Table 27, more than 1/3 (37%) of the facilitators had below grade eight educational level. The lowest entry level for facilitator's position issued by the MoE was grade eight. This implies that the centers could not acquire the qualified facilitators as required by the standard. The qualification of other 33 % of facilitators was grade 8-10. Although those teachers were fit to the standard of the MoE, the WEOs officials found that they were incapable to provide quality education.

As long as gap of facilitators was realized, the REB ought to have offered pre-service and continuous in-service training. However, as depicted in items 2 and 3 of Table 27, the majority of the facilitators (67 %) have been deployed to teaching without any or little training. only 16(5.33%) of facilitator have gotten the 2-3 month training through in-service training program. The other 48 (7 %) were found to have taken short term training, five days to one month pedagogical training, by REB. According to WEO and REB participants, even those who had taken regular training proved to have not been equipped with the required professional skills. Boissiere (2004) pointed out that many studies found that pedagogical training matters most. For

early grades, one-year pre-service coupled with well-designed in-service follow-up and support is indispensable.

With regard to Samara Girls' Boarding School teachers, the teachers' profile show that all teachers had the required qualification. They had college diploma and above with 3 years regular teacher education training. This shows that unlike students of ABE, boarding school students have acquired qualified teachers equivalent to that of formal school students.

Educational materials: In the standard guideline, the essential teaching materials to be fulfilled included textbook, blackboards, 10 kinds of teaching aids such as charts, Sash boards, picture cards, blackboards, rulers, balance, meter, geometrical solid samples, Amharic and local language letter chart, wall maps(world, Africa, Ethiopia and region).

From all the above list of expected materials the available materials in all centers were only blackboard and textbooks. With regard to textbooks, none of the centers had teachers' guide. It is an established fact that teachers need guide to help them chart out what they can do in the classroom, just as children need textbooks that support their learning experiences. Especially for facilitators were Para-professionals, the importance of teacher guide in explicating curricular intentions and content details would have been paramount. Moreover, none of the centers had achieved 1:1 textbook –student ratio. Though the availability of textbooks differ in subjects, 22 centers (61.11%) had on average 1:3 -4; the other 4 centers including mobile school had distributed 1 textbook to 2 student ratio. In the sample centers, shortage of Amharic and English textbooks was found to be recurrent. In spite of the fact that ESDP IV envisaged for each student a book in each subject, ABE students could not get the required textbook, which has a significant impact on the quality of teaching- learning process.

The attributing factor, inter alia, according to REB and WEO participants, were budget shortage, administration inefficiency for procurement and distribution on the part of REB and WEOs, and improper handling of the books for lack of store in the centers.

. With regard to teaching aids listed above, in none of the centers fulfilled all items. Data collected from centers revealed that 27 (77.14%) centers had some teaching aids such as map while 8(22.85%) centers had no any teaching aids from the 10 required aids. Though the ABE centers were supposed to share teaching materials from the cluster school centers, supervisors, WEO experts and facilitators disclosed that it was not common for two reasons: one, the cluster schools' themselves had no pedagogical center or ill furnished, two, for the difficulty to take in and bring back the materials and/or lack of commitment of facilitators.

Facilities

Table 28: Availability of facilities in ABE Centers

item	Material/ facility	adequate		partial		none	
		frequency	%	frequency	%	frequency	%
1	desk	5	14.28	20	57.14	10	28.57
2	playground			4	11.43		
3	Separate toilet	3	8.57	9	25.72	23	65.72
4	office	4	11.43				
5	Teacher house	1	2.86			34	97.14

The availability of facilities checked against the MoE standards were classroom, toilet, pedagogical center, playgrounds, offices, and teachers' house. As WEOs assured in the entire sample centers, the floors of classrooms were in bare-soil (not cemented) and the doors and windows of most of the centers were made of corrugated iron.

As depicted in Table 28, only 5(14.28%) of the centers had adequate desks for their students whereas 10(28.57%) center had no desk at all. only 3 (8.57%) centers were found to have separate toilet for girls and boys. only 4 centers were found to have volleyballs and football ground leveled for children playing. Only 4 centers (11.43%) had office and store portioned

together. all but one ABE centers had facilitators house. The following pictures show classic examples of the inside part of the classrooms in ABE.

Figure 8: FABE students' Seat



As can be seen from the photograph taken from three different ABE centers, the floors of all the three classes were bare soil, and the first two classes had no desk. In the third picture, students were seen sitting on desk. In this school, it was observed that only level three students had desks, whereas, levels one and two had no desks rather they used log of trees and stones to sit on just as seen in picture two. It is not difficult to imagine how depressing it is for teachers and students sitting on dusts and the inconveniency of students to use their lap or log of trees in place of desk. In general, the classrooms were neither furnished pursuant to the standards set by the MoE nor convenient for the teaching- learning process.

4.4.2.3.4. Monitoring and evaluation system.

WEOs were in charge of the overall administration of primary education in their respective woredas. They were responsible to monitor the work of ABE centers. Accordingly, the offices were supposed to visit the centers two times in a semester four times in a year. All the woredas asserted that they undertook the visit focusing on monitoring whether the centers work properly. Further, for budget constraint some of the centers might not be visited even once in a

year. Similarly, REB found visited selected ABE centers once in a semester. Giving feedback to centers and WEOs on the part of the REB supervisors were found common. However, follow up the implementation of their comment was learnt weak. This is because, for visitors are drawn from different departments of the bureau, no one is responsible to follow up the implementation of the feedback. This indicates the monitoring system of the Region on alternative modalities is not strong in a way to lead the learning centers to track the intended effect for two reasons: one, the supervisors did not follow up the implementation of their feedback on their visit. Two, the monitoring visits of the WEOs and REB might not cover some of the centers. .

With regard to evaluation, More often than not, program evaluation rests on REB. To this effect, consultative meeting between WEOs top managements and REB on semester basis was found to be common. The agenda for consultative meetings was the overall performance of the region including alternative modalities. However, the participants disclosed that periodic evaluation focusing on the design, efficient implementation and effectiveness of alternative modalities with the intent to make decision on the design was not known. In general, monitoring and evaluation practices of the Region on alternative modalities were found to be low. This is attributed mainly to the commitment and capability problem of leadership.

According to WEOs and REB participants, ABE program hamstrung by lack of inexperienced and committed leadership and facilitators coupled with low accountability. Of course, it was learnt that all the WEO heads and process owners, REB process owners and experts had first degree and above educational level, it satisfies the required education level of the civil servant of the country for their respective positions. However, the capability problem lies on the training and experience of the managers. None of the WEOs heads had service in teaching or lower level management position before they had been appointed as woreda education head.

With regard to their commitment, the CMC members, facilitators and experts seem to have lost hope on the leadership dispositions of the heads at region and woreda levels. From informal discussion, it was learnt that top managements did not give due attention to the technical aspects of the teaching-learning process. Moreover, according to the informants rules and regulations were found not respected, for example, more of than not, promotion of managerial positions from school-woreda-REB was not merit based or on competition. Fountain Management Consultancy (2014) has corroborated the experts' complaint. Fountain Consultancy report revealed that in Afar the breaking of rules and regulations need wider scale improvement. Reports of supervisors, consultative meetings decisions were rarely put into effect.

The case of one WEO (also sample of this study) quoted in Afar REB (2014) study shows that the low accountability in the region or challenges of educational managers in the region to put rules and regulations in place.

Newly deployed Afar native teachers did missed classes frequently in our woreda. The schools' [schools found in the woreda] report reached to the attention of the Woreda administration. To that effect, deliberating on the issue with concerned bodies, the administrator gave direction to the woreda education office to take appropriate measure. Accordingly, our Office [WEO] took measures on those who failed to attend on their duty. Nevertheless, after a time, the measure of the office was subverted *without any official explanation*. All the native teachers did carry on receiving their monthly salary although they gave up teaching altogether. Following this, another Afar language teacher, known by his perseverance who observed that situation, has become absent from his school. When the school director asked the reason, the teacher replied as nothing was different to him, he did what others did and he wanted to see what would be done to him. He had been right.

No measure has been taken. All continued earning their salaries although the students stayed without teacher. (p.251, self-translation from Amharic)

From their experiences in supervision visits, the study group pinpointed that the event was not a one-time occurrence in one woreda; rather they confirmed that the problem has been prevalent across the region. This shows that clan -affiliated social relation of the pastoralists in the region, primordial loyalty expected from managers, impinged the management of schools. Fountain Management Consultancy (2014) unveiled that the management of education in different echelons of Afar is affected by informal communication, the pressure of influential individuals and clan members.

4.5. Effectiveness of the Modalities

In this section, the contributions of the alternative modalities towards achieving the third strategic plan of the region(2010/11-2014/15), which was prepared in the light of UPE was analyzed. Participants' satisfaction was elicited on the performance of the modalities. . To enhance the views of the participants, the contribution of the sample centers and schools were measured using attainment, equity and quality indicators.

4. 5.1. Perception of major constituents of education to effectiveness of modalities

REB Focus group discussants and WEOs interviewees were asked to judge the contribution of the ABE in providing quality basic education for school age children. They believed that because the centers were established near to children's village, most of the centers enabled to enroll most of the children, both girls and boys, some estimated 85-90%, around their catchment areas. However, they conceded that most of the students could not attend until the end of the academic year. CMC members had also witnessed that in the beginning of academic year most of the children in their community used to enroll but disproportionate number of students could not survive until the end of the academic year, June.

Discussions with participants revealed that most of children in around ABE centers enrolled for two reasons: proximity to their homestead and the usual campaign of the Regional government to get parents' consent to send their children to school. However, because of implementation, problems of alternative education strategies and deficiency of some of the input standards from the design, ABE centers failed to provide quality basic education comparable to formal schools and could not retain the enrolled students. Formal and informal discussion with facilitators and supervisors perceived although the quality of educational provision in the region is low as compared to other non-pastoralist regions, the ABE is worse. They confirmed that competency level of students' found to be below the standard expected per grade level. To this effect, communities perceived ABE as inferior to formal schools. When CMC members in the six sample centers asked what they prefer, they expressed their feeling to ABE, by relating the designation '*Alternative*', *inferior quality of ABE center inputs*, as low quality. However, they had good perception of boarding school. The same is true to WEOs and REB participants. This perception might have been emanated for lack of awareness on the purpose of alternative modalities and the derailed implementation of the modalities from the designs. The following quantitative performance indicators augment the above discussions.

4.5.2. Attainment effect of learning centers of modalities.

4.5.2. 1. Attainment effect of ABE.

The attainment effects of the modalities were analyzed using the common indicators of intake, total enrollment, and continuation. Net Intake Rate (NIR) is the proportion of new entrants in the first grade of primary education (level 1 or grade 1 in our case,) at the official entry age (7 years in Ethiopia). Net Enrolment Ratio (NER) is another indicator that is used to measure the extent of

the proportion of children enrolled in the official age group (age 7-10 in our case) in a certain level of education structure (1st cycle primary education in our case).

Table 29: Status of sample ABE Centers by 2014/15

Indicator	Agro-pastoralist sample center	Transhumant pastoralist sample centers	Mobile school	At The region level	ESDP IV region target
NIR	86	83.8	75	66	100
NER	73.5	78.9	76.7	64	80
Percentage of out of school children	32.1	29.64	42.37		

Source: computed from data collected from each sample house hold, and region plan documents (see annex-X)

As seen from Table 29, the achievements of the Region in general and the sample ABE centers in particular were found to be lower than the target set for 2014/15. Notwithstanding this, in contrast to the Regional average for 1st cycle primary education, seemingly, ABE centers in all the three groups (agro-pastoralist, transhumant and mobile school) performed better than the Region's average. Comparing the three groups, the Agro-Pastoral areas fixed ABE centers performed better in attracting new entrants in level one as measured by NIR than in transhumant pastoralist areas for the same.

Conversely, in terms of NER, transhumant pastoral areas have performed better. In congruent to this, more numbers of out of school age children (primary school age children dropped out or not enrolled at all) were found in agro-pastoralist (32.1 %) areas than transhumant areas (29.64%). This is may be because unlike transhumant pastoralists' areas' many agro-pastoral areas' ABE centers had no level three. they used ABE centers as a satellite school for smaller children. When children reached level three they accorded to go to nearby formal schools. The assumption of WEOs was that when children grown enough to walk long distances, it would benefit them to learn in formal schools, where they believed better quality education was offered. However, they seemed to have not succeeded. The decision of parents to send their children to school is not only stimulated by quality of education but also, perhaps most importantly, the suitability of instruction time to their ways of life. Thus, denying opening full

ABE grades in nearby homestead is also adding additional challenge on children to access education.

Although the performance of ABE Centers in terms of enrollment seemingly better than the Regional level's average, It is not sufficient to judge the centers' effectiveness by looking at only enrollment indicators unless continuation of the enrolled students is ensured. Thus, Table 30 organized to portray the trends of repetitions and dropouts of ABE students.

Table 30: Dropout and Repetition Rates for ABE Centers from 2011/12 to 2013/14

Academic year	Agro-pastoralist fixed centers		Transhumant fixed centers		Mobile school		1 st cycle formal school at regional level	
	RR	DR	RR	DR	RR	DR	RR	DR
2011/12	39.08	16.69	33.81	21.14			8	16
2012/13	34.87	22.18	31.66	14.84	2.7	48.65	6.2	23
2013/14	46.35	19.75	29.26	21.44	12.5	32.81	13.18	20

The ESDP IV of the Region had targeted the dropout and repetition rate for 1st cycle primary education in 2013/14 not to exceed 13.18 and 7.4 for RR and DR respectively. As depicted in Table30, however, both Fixed and Mobile ABE centers, stood far lagged to the regional target of formal school achievement. Of course, the DR for formal school was similar to ABE.

Looking at the data of the sample ABE centers two problems were vivid. One, more than 50-70% of children enrolled in ABE centers were found either dropped out or repeated. This means that the ABE were found more than two times inefficient to that of the formal schools, 24-33%. Two, as moving from level one to three, RR and DR showed increasing, for example, disaggregated data, of RR for 2013/14 by level shows that increasing rather than decreasing, 28.03 for level one, 32.07 for level two, and 38.51 for level three. In similar vein, the DR also shows the same trend: increase from 18.45 for level one to 28.05 for level two, whereas, the trend

in formal school was the other way around, decreasing as moving from lower grade to higher grade. For example, the highest repetition for formal 1st cycle primary education was grade 1(10.9%) and followed by grade 2 (6.7%) for the same year. The possible explanation for that uncommon trend was that as children grow older, their involvement in house chore increases thereby taking their time for education.

Moreover, dropout and retention rates in ABE centers as well as in formal 1st cycle primary education show irregular trend. This indicates that the strategies used in the mode of deliveries, such as sensitization, efforts of dropout return committee, negative and positive enforcement on parents by different mechanisms did not yield as desired.

The high dropout and repetition rates were attributed two reasons. Inflexibility of instruction time and low quality provision of education in ABE centers. Interviewees of dropout students and out of schoolchildren's parents affirmed that students used to enroll at the beginning of every academic year (September) due to the pressure and sensitization of higher officials, whereas, later parents withdrew students from school for household responsibility and take them when they moved from their homestead. As discussed above, in section on 'Teacher deployment', facilitators' professional skill was found to be low. Further, they did not attend in their job regularly so that students and parents were found to have lost hope on ABE centers' teaching learning. When I asked an interviewee (intv 7) for the causes of students' dropout, he said, "I better say facilitators made students dropped out than students dropped out". In Agro-pastoralist areas, some children, whose parents had keen interest in their children's education, were found to go long distance to formal school leaving ABE center in their village where they thought better education service was available. Thus, unless efficient strategy is devised to reduce the existing dropout and repetition situation, the survival rate to level three, of the 2013/14 level one enrollment cohort, would be about $\frac{1}{4}$ of the cohort, 24.9%. A "synthetic

cohort method” is applied to calculate this rate. The calculation assumed a group of students who are enrolled together and proceed to level three repeat up to two times before dropout forever. Thus, it is possible to say that ABE centers had low retention capacity and incur high wastage for it is improbable for students to retain their literacy if they discontinue before completing basic education.

4.5.2.2. Attainment effect of boarding schools

Table 31: Admission of Boarding Schools

Year	Samara girls boarding	Dewe boarding	Dalifage boarding	Komame	Total
2011/12	51				51
2012/13	57	75	50	35	217
2013/14	33	20	6		59
2014/15	37	13	8		58

Source: the schools' compiled data

As portrayed in Table 31, the admission of the boarding schools declined by 73.27% from 2011/13 to 2015/16 mainly for fund constraint. For example, the Dalifage boarding had started with 77 children, however, after a year the woreda decided to limit the capacity to 50 students for fund problem albeit the demand from the pastoralists reportedly found to be high.

Table 32: Region Education Bureau Boarding School enrollment from 2011/12-2014/15

No	School	Woreda	Year Established	Gross enrollment					
				2011/12	2012/13	2013/14	2014/15	2015/16	Capacity
1	Gewane	Gewane	2001	14	--	--			
2	Dalifage	Dalifage	2003	31	--	7			300
3	Asahile	Abaala	2001	17	26	-			400
4	Hinele	Aysaita	1997	30	-	-			300
5	Samara girls boarding	Samara-logia	2009	172	207	133	156		300
6	Dewe	Dewe	2012	0	75	75	75		75
7	Dalifage	Dalifage	2012	0	50	50	50		50
8	Komame	Semurobi	2012	0	35	35	35		35
total				264	393	300	316		1460

Source: Afar REB compiled data and reports

With regard to the total beneficiary, according to Afar REB (2014) assessment and WEOs interviewees, the boarding schools had the capacity to accommodate 1460 students.

However, as depicted in Table 32 below because boarding schools were costly, in 2014/15 the schools were limited only to serving 316 children, which was 21.64% of their capacity. Of the total 316 students, 22.47 %(71)) 1st cycle primary, 51.26% (162) 2nd cycle primary and 26.27% (83) were secondary education students. Participants of interview and FGDs perceived that in relation to the demand for it, the total number of students benefiting from the schools was found to be low.

Table 33: Dropout and Repetition of Boarding Schools

	Samar girls boarding		Dewe boarding		Dalifage boarding	
	RR	DR	RR	DR	RR	DR
2011/12	21	6				
2012/13	34	2		9.3		
2013/14	27	7				

Source: computed from data collected from the school

As shown in the Table 33, the Samar Girls' Boarding School RR and DR were high as compared to the regional target. The other three schools reportedly had not repeaters and dropouts except seven girls (9.3%) of Dewe boarding students in 2012/13. According the WEOs interviewees, the girls dropped for inconvenience of the lodging for female largely for absence of latrine. As regards Samara Girls' boarding school repetition, teachers explained that the main factor for high dropout was low entry capacity of students. According to the teachers, students selected from rural ABE centers had not been joined the school with required competency.

4.5.3 Equity effect of learning centers of modalities.

One of the objectives of alternative modalities was promoting equity provision of primary education. For this purpose, the effect of learning center of modalities on participation between girls and boys and on ethnicity was analyzed in the following section.

Table 34: Gender parity Index of Sample ABE Centers in 2014/15

level	indicator	Parity index by livelihood				Regional target
		Transhumant pastoralist areas ABE	Agro pastorals areas ABE center	Mobile school	Regional level	
1 st cycle primary	NIR	1.00	0.99	1.01	0.88	1.00
	NER	1.00	1.01	1.02	1.01	0.99

*calculated from data collected from field and data compiled for 2014/15 Afar REB education abstract

The effect of modalities on participation of girls and boy is measured in GPI. The GPI measures progress towards gender parity in education participation and/or learning opportunities available for girls in relation to that of available to boys. It was calculated by dividing the Net intake Rate and Net Enrollment Rate of female participation separately by corresponding - participation rate of boys.

As it can be seen from Table 34 above, the ABE centers in both agro-pastoralist and pastoralist areas found to have met the target of the region for end of ESDP IV period except for slight deviation of the NIR for agro-pastoralist. Beside this, the Table indicates that the GPI for NIR was better than the Regional level (0.88). In terms of NER for the 1st cycle primary education, the transhumant areas ABE centers maintained the parity. whereas, the Table portrays that agro-pastoralist and mobile centers as well as the regional level GPI surpassed the parity which indicates that the percentage of female students, within the age bracket of 7-10, who attended in 1st cycle primary education were higher than the percentage of male. In general, the data shows that the centers were effective in attracting the girls in contrast to boys, which had been the challenges for years.

Table 35: Enrollments of Afars and non-Afar by 2015/16

indicator	level	Afar	Total region	GPI Afar
NIR	Admission to 1 st grade	63.07	65.08	0.83
NER	1 st cycle Primary	58.24	59.99	0.88
	2 nd cycle Primary	12.80	16.58	0.71
	Total Primary	37.57	40.30	0.87
GER	Total Primary	55.33	60.03	0.85
Primary CR	Grade 8	11,42	15.99	

The participation of Afar indigenous was compared with participation of the total enrollment in the Region. According to the 2007 Nation Housing and Population Census, 90.03 % of the population living in the region was Afar indigenous. In line with this based on the projection of the Afar region education bureau , the participation of the indigenous school age children in terms of NIR, NER, GER and PCR was computed. The enrollment disaggregated by Afars and non-Afar was collected from schools via the Afar National Regional State Education Bureau.

The data indicates that of all 177,106 students of the primary education (1-8) participants in 2015/16 academic year, 83.22% (147,390) were Afar indigenous. When contrasted with the proportion of the school age population disaggregated by ethnicity, the Afars participation in terms of NIR, NER, GER and PCR were found lower than non-Afars. Moreover, the gap of participation was wider in 2nd cycle in contrast to 1st cycle. Especially the gap of participation in the last grade of primary education, grade 8, as measured by primary completion rate was found to be very wide.

Amidst of this, although the participation of Afar indigenous did not reach par to non-Afar residents , the gap between the Afar indigenous and others as well as between Afar girls and boys was becoming narrower from year to year. According to IPS (1999), in 1998 the share of Afar from the total regional enrollment had been 32.4 %(18.1% girls and 41.5% boys, GPI=0.44). In 18 years, the total enrolment was boosted from 5494 to 147390 with an average annual growth rate of 20%. The rate of participation of girls (50.58%) and the boys (59.64 %) is also narrowing down to 0.85 GPI in gross enrollment. Similarly, the gap of participation in NER

in primary education decreased from 2006/2007 (MoE,2008a) to 2014/15(FDGE MoE,2016) from 62.7 to 35.1. the NER of Afar in 2006/2008 when the pastoral education strategy conceived had been 16.1 while the national average had been 79.1. In 2014/ 15 the Afar NER was increased to 59.2 while the nation average increased to 94.3 for the same

4.5.4. Competency of ABE students to pursue 2nd cycle primary education

Table 36: Perception of Participants on ABE

Description	Expert		Facilitator		Total	
	frequency	%	frequency	%	frequency	%
Better than the formal school	1	1.1	4	4.7	5	2.9
Equal to conventional formal school	2	2.2	13	15.3	15	8.6
Inferior to formal school	81	90	61	71.8	142	81.1
I cannot decide	6	6.7	7	8.2	13	7.4
Total	90	100	85	100	175	100

WEOs experts and facilitators were asked about the equivalency of ABE with that of formal primary education in terms of quality. As depicted in Table 36, the overwhelming majority of respondents, 81(90 %) of experts and 61(71.8 %) of facilitators perceived that the ABE provision was inferior to formal school provision.

Interviewees and FGDs also agreed on the views of experts and facilitators. One of the Dewe Boarding School focus group discussants said, “I have learned up to grade three in my village. Now I am in grade 6. Upon coming here, I realized that I had not gotten education for three years in my village”. Similarly, one outspoken Kebele chairperson articulated that

If I can, I prefer my children learn formal school in urban. Here, teachers do not teach regularly. WEO does not give due attention. No teaching materials are available in the centers. It seems a barn, not school. They [WEO officials] want the numbers of children enrolled for report. My child started schooling and Quran three years ago, now he has completed Quran but he can write neither Afar language nor Amharic. (informal discussant)

2nd cycle primary school directors whose school admitted ABE students (from fixed and mobile ABE) also affirmed that they found ABE students not competent to follow the 2nd cycle education as compared with those who were transferred from formal 1st cycle primary schools. Albeit their deficiency in all subjects, according to the directors their capacity in Amharic and English languages were worsening. This is may be for the facilitators were Afar natives from primary school dropout for different reasons, their proficiency in Amharic and English language as second language might be low.

The incompetency of ABE graduates for 2nd cycle primary education was well known by REB and WEOs. Nevertheless, no uniform mechanisms or strategies were devised at the regional level to make the student competent; rather WEOs and/or schools have taken different strategies in what they thought pertinent depending on their situation. This includes making the ABE graduates in level three pursue grade 4 in formal schools , administering entrance test for the students and back to lower grade those who failed to achieve the minimum test score, admit all ABE graduates in grade 3, and accepting in grade five who ever certified by ABE center(for example Samar Girls' Boarding School) .

4.5.5. Achievement of boarding school students in regional examination.

With regard to boarding school, students as well as teachers felt that the education provision of boarding school was configured at good quality as compared to formal school in the Region. As a result, Samara girls' boarding teachers asserted that with the exception of some students who joined with low capacity from ABE, students that came from formal school were better to follow the 2nd cycle primary education. It was also learnt that the boarding school students who transferred to secondary school from all the three sample boarding schools were subsumed in the top and middle level students. This means they were competitive with their counterpart came from formal school.

To enhance what has been discussed above with quantitative data, Samara Girls' Boarding School students' three years National Examination achievement score, from 2012/13 to 2014/15, on primary school leaving examination at grade 8 were analyzed. The regional students mean test score values were taken as a comparison or test value. Analysis was made using One Sample t-test.

In 2012/13 and 2013/14, the average score of the Samara Boarding students ($\bar{X} = 38.73$ and 40.67 respectively) were lower than the regional average ($\bar{X} = 48.88$ and 44.68 for the same years respectively). The data show two important points. One, the achievement of the Afar region students in general in grade 8 National Examination was below the minimum passing mark (50%) set by the 1994 Education and Training Policy that indicates the low quality provision of education in the Region. Two, apparently, the Samara Girls' boarding school students' achievement scores were lower from the region's average though they were not statistically significant. Of course, the low quality basic education provision is not only the case of Afar but also the country in general. As GEQAEA General Education Quality Assurance and Examinations Agency (2008) disclosed in the three national learning assessment conducted in 1999/2000, 2003/04 and 2007/08 for grade 4 and 8, no region achieved the minimum acceptable standard (50%) in composite mean score of students. Woodhead, Ames, Vennam, Workneh, & Streuli (2009) also disclosed, in Ethiopia, the basic education completers were found to be unable to read a simple sentences(e.g. the sun is hot) in the language used at school. In similar vein ,the Early Grade Reading Assessment carried out in 2010 revealed significant percentage of children were found to be illiterate after two or three years of learning (USAID/ Ethiopia, 2010). As long as the low quality of primary education was evident in the country, the basic quest here is to ensure whether the mean difference between boarding school students and regional average

was significant. In order to test whether the mean scores the students achieved were substantially different from a mean of the Region, a One-Sample t-test was conducted for each year.

Table 37: One Sample t-test for the Mean Score Difference of Boarding School students on Primary School Leaving Examination

Year	Number boarding School examine	Mean difference	df	t	Sig(2 tailed)	Cohn's d
2012/13	48	-10.15	47	-9.847	.000	2.87
2013/14	60	-4.0133	59	-5.280	.000	1.375
2104/15	19	.134	18	.183	.857	

As depicted in Table 37, t- tests computed for 2013/13 and for 2013/14 shows that there is a difference between the mean test scores of the boarding school and region's average. However, the computed effect size shows that the difference is minimal. In 2014/15 the Boarding School student mean score ($\bar{X}=51.47$) exceed the regional average score ($\bar{X}=51.34$). The t-test, however, shows that the mean difference between boarding school student and the region's average still was not statistically significant. Thus, both the qualitative and quantitative data indicate that the boarding school students were found to be competitive to the formal school students. This indicates that boarding schools were found to be effective in providing comparable quality education to that of formal schools.

Chapter Five: Summary, Conclusions and Recommendations

5.1. Summary of Findings

The main purpose of the study was to assess the viability of the alternative modalities in Afar National Regional State alongside the strategies and standards designed to promote primary education in pastoral areas of Ethiopia. To meet the overarching purpose of the study, three basic research questions were addressed: (1) What designs of the Alternative Modalities, developed by MoE, are relevant to provide learning opportunity to education for children of pastoralists in Afar National Regional State? (2) How are the modalities being implemented in Afar? (3) How effective are the learning centers/ schools of modalities towards achieving the objectives of pastoralist areas' education strategies?

In order to answer the research questions, mixed methods approach and concurrent embedded design were employed. The qualitative approach was used to generate and analyze data on respondents' experiences and insight about the modalities, whereas, the quantitative approach was employed to enhance the qualitative data backed with typical and wider coverage data. Data were collected from 58 schools and offices involving 291 individuals and relevant documents. Qualitative data were analyzed in narrative form using comparison and content analysis techniques while descriptive and inferential statistics were employed for quantitative data analysis.

5.1.1. Challenges to provision of education for children of pastoralists.

5.1.1. 1. Challenges of children of pastoralists to access primary education.

The following challenges were identified if the alternative modalities had been opted to follow conventional formal mode of delivery.

Mobility: Though the study found the movement of pastoral children varied from area to area and family depending on the labor need, availability of water, and wealth of families, in general, the mobility patterns of pastoral communities have been found to have significant impact on children learning if formal mode of delivery had been opted. Pair wise comparisons of WEO experts and facilitators responses by livelihood using non-parametric Kruskal – Wallis test shows that the impact of mobility on transhumant pastoralist areas for educational participation of children was found to be more significant than agro-pastoralist areas. In agro-pastoralists areas, children can stay in homestead consecutively for 8 months or thereabouts from October/November to June. Their stay in one host area ranges from 2-3 months. As regards most of transhumant areas, their stay in homestead consecutively ranges from 2 months to 8 months from July/August to February. Their stay in one host area ranges a week to 3 months.

Child Labor: The impact of child labor on educational participation of children was found to be significant. Community participants in both areas perceived child labor as irreplaceable. Typically, in pastoral production system four to five individuals were found essential. In general, the one-way ANOVA undertaken showed that the impact of child labor on education in transhumant and agro-pastoralist areas is similar. The impact differs by labor need of household depending on the diversified livestock breeding and cultivation in a household.

Curriculum Relevance: Mainstream educational objectives designed for sedentary community therein the curriculum content adopted for ABE program were not attributed for low educational participation of pastoral children. With regard to medium of instruction, teaching- learning in Amharic at early grades in pastoral rural areas was found to be difficult for students as well as for teachers to communicate.

Poverty: The low economy level of many of pastoralist parents limited their capacity to fulfill required educational essentials for their children, to arrange the continuation of their

children learning in homestead while they migrate, and to afford sustenance and lodging for their children to pursue further level of education in a school away from them not available in their homestead.

Challenges of Girls: parental selection for education in favor of boys in basic education was found to be minimal. The impact of religious faith on girls' education was also found to be non-existent. However, parents were found reluctant to send their daughters to a school far away from them, especially when their daughters reached puberty. Among the factors that made parents reluctant to send their daughters to continue further education include the cultural marriage system and fear of cultural alienation by children.

5.1.1.2. Challenges of providers to make education accessible for children of pastoralists.

Funding problem: Constructing standard school meant for conventional formal school in pastoral areas of Afar was found to be costly. Besides small class size, the attributing factors that raise the cost include shortage of raw materials such as water, construction wood and cost increment for transportation of industrial materials and hardship compensation for working force as a consequence of remoteness and harsh climate of pastoral areas.

Staffing: Securing qualified teachers and retaining them in pastoral areas were found to be difficult. Shortage of qualified teachers was attributed to availability of better job opportunities for educated Afar ethnic group members in towns and other sectors with better remuneration, position and living conditions. Moreover, the turnover of better-qualified facilitators as well as formal schoolteachers teaching in rural areas was found to be high owing to inconveniences of rural pastoral areas for urban life aspiring educator.

Difficulty to manage schools in pastoralist areas: Supporting, follow up and monitoring schools in pastoral areas from distant, the woreda education offices, was found to be difficult.

The problems were attributed to lack of accessible transport services coupled with dispersed schools' location, mobility of pastoralists, difficulty to walk on foot to schools under hot weather conditions and the schools lack of access to communication means such as postal service, road etc.

5.1.2. Relevance of the designs of modalities to learning opportunity

5.1.2.1. Suitability and feasibility of the strategies to learning opportunity

School establishment

Constructing low cost FABE centers from local and industrial materials and maintaining three Kilo-meters school-home distance for children village was found to be suitable and feasible. However, three criteria, meant for establishment of FABE, were found to attenuate the effect of the modality for disregarding many children who can avail from it more suitably than other modalities. Those were settlement of community at least eight consecutive months in one area, minimum apparent intake of 30 children, and availability of water point within 3 km distance from the site of the center.

For mobile school, the strategy to use portable schools or temporary structure and portable education materials were found to be appropriate. It was designed for the facilitator to follow the group who migrate in preponderance whereas nothing was designed for those students who could not get teacher until the end of the academic year. Though mobile school appeared to be suitable for communities who move for more than 4 months in a year, at the existing situation, education managers and CMC members perceived as difficult to succeed in providing quality education. It is mainly attributed to lack of capacity of education offices to monitor and support schools, and to obtain qualified teaching force willing to teach as per the design .

The design of establishing low cost Para-boarding schools to children of pastoralists to enable them pursue their second cycle primary education was found to be appropriate. However, it was found disregarded 1st cycle primary education students for those who have no other opportunity.

Establishing of low cost hostel also found to be valuable for those students whose parents can afford their sustenance but have difficulty in accommodation in schools where they can learn.

Instruction time: Flexibility of instruction time, for both fixed and mobile ABE, subject to the decision of beneficiaries was found to be appropriate. However, determining the academic year into two semesters within Ethiopian calendar (September to August), with the intention to correspond to the conventional one year academic calendar, was found not to be apposite.

Teaching force:

Recruiting facilitators from community has advantages to coordinate the community and reverse the worsening turnover problem. However, at the existing situations, finding better-qualified teachers from local community for ABE was found to be difficult for shortage of educated Afar in remote pastoralist areas. Better qualified teachers had also better job opportunity in towns for scarcity of educated Afar in the region. Further, the strategy defied the endeavor of the region to avoid dropouts. on one side, it was designed to offer pocket money for native Afar children to avoid secondary education dropout; on the other, this strategy sought some secondary school dropout students for ABE teaching.

Given the low qualification level of facilitators, enabling facilitators to complete their secondary education through distance and/ or summer program was found to be acceptable. Nonetheless, the design to offer a teacher status for facilitators, after completing their secondary education and professional training, was not found to be efficacious in attracting and retaining

better-qualified facilitators for Afar native educated had better opportunities other than teaching position in rural areas.

Management

Structure: Coordinating alternative modalities by expert level at woreda and regional level was found not commensurate to the size and complexity facets of managing pastoral schools due to innovative and diverse nature of alternative modalities.

Concentration of decision-making: Involving community in different forms such as CMC and dropout returnee committee in the management of ABE and Para-boarding schools was found to be important. However, the design of giving responsibility to CMC for the management of ABE and Para-boarding school for the issues that require daily base action was found not to be apposite. Further, it was unveiled that the ABE center coordinators' roles and responsibilities were not clearly described.

5.1.2.2. Acceptability of input standards to learning opportunity for quality education.

Children and parents agreed on the purpose of the curriculum, aiming at education similar to formal primary school and leading to further level of formal education that may open career out of pastoralism. Although adapting the curriculum contents of core subjects to suit the pastoral areas contexts is found to be acceptable, it lacks to ensuring the relevancy by developing curricula peculiarly valuable to pastoralist areas. Although using Afar language as medium of instruction for all subjects is believed to be valuable for the right of children to learn in mother tongue as well as for pedagogical advantage, there was a feasibility problem in acquiring required teaching force to teach in all ABE levels for all subjects..

Providing basic education in four years and using the formal school students' textbooks for pastoral school age children was found to be acceptable. The arrangement of three-year

education for age 11-14 children was, however, not accepted by all implementers for it is costly to arrange two sessions for the two groups and its debilitating effect on quality education.

The standards of facilities prescribed for ABE, such as classrooms, playgrounds, office, store, separate latrine for female and male, facilitator house, light were found to be acceptable. However, in the furtherance of equal opportunity to quality education, nothing was designed how to maintain vertical and horizontal equity principle of financing education for schools/centers to secure adequate material, technical and human resources.

In the furtherance of providing equivalent education between ABE and formal school students, the total instruction time allotted for ABE was found to be inadequate. According to Afar Education Bureau Standards, the total hours for formal schools was 947 hours whereas, according to the standard of ABE set by the MoE the total instructional time for ABE was 540 hours .

The entry-level qualification set for ABE teaching position was found unacceptable. The entry level of teachers for 1st cycle formal primary teachers issued by the MoE was college diploma of three years pre-service training, whereas, for the same profile output expected from ABE students, the entry level for facilitator's position issued by the MoE was grade 8-10 with three months pre-service training.

5.1.2.3. Learning opportunities for pastoral children to pursue secondary education.

Three strategies were found in place to enable pastoral children to complete their secondary education. These were providing financial support for students, expanding secondary schools and establishing boarding schools. However, they were found to be not adequate. This is because, one, the financial support disregards some of the rural student who deserved. Two, the support

was not sufficient to the needy, three, expanding formal secondary and standard full boarding school is unaffordable to reach pastoral children characterized by scattered population.

5.1.3. Implementation of the modalities.

5.1.3.1. Implementation vs. Design.

School establishment

The establishment of mode of delivery schools found derailed from the design. As per the strategy, though mobility pattern study is a sine qua non for opening schools in pastoralist areas, WEOs failed to do so. WEOs used to establish formal school when the numbers of school age children in target areas were found to be relatively large and the woreda secured capital budget to construct formal school, otherwise fixed ABE. They resorted to formal school for whenever budget secured to establish formal school.

As regards to construction of the schools, although the cost varies depending on the availability of resources in different woredas, in general in reference to formal standard school, the school construction for ABE was found to be low cost. Per student/year school construction expenditure for FABE was 1.2 times and Mobile school 4.5 times cheaper in contrast for 1st cycle primary standard school.

The quality standard of the school constructions were not upheld evenly. Some of the schools were constructed as per the MoE standards, from both local available and industrial materials, whereas the majority of FABE centers were constructed poorly- not conducive for teaching –learning- from industrial products and/ or local available materials such as stones, log of wood, sticks, with or without roof, wall cover, and noise control.

As per the standard, ABE centers should have basic facilities such as classrooms, playgrounds, office, store, separate toilets for female and male, facilitators' house, and light service. However, none of the sample fixed ABE centers achieved those facilities as required.

With regard to mobile school, though tents were purchased, facilitators preferred to use tree shade and carry only blackboard and chalk. Moreover, in six mobile schools, which had been opened in the region in 2008 but closed for different reasons, one of the problems had been the difficulty to assemble and disassemble the tents.

The boarding school establishments were not put up in accordance to the strategy. Of the four existing and the other four closed boarding schools, only one of them had somewhat a Para-boarding nature, lodging service for students shouldered on parents. However, it was learnt that the woreda had the intention to upgrade that school to standard boarding school. Further, no hostel was established.

Students' profile show that only 23 % of Samara Girls Boarding Students, enrolled for 2015/16 academic year, were selected from disadvantaged pastoralists community areas, others were found from well-off family such as merchant, government officials and jobholders. While, the other existing two boarding schools, where the management vested directly in the respective WEOs, selected their students from peripheral pastoralist areas.

Recorded expenditure for the boarding schools established by REB was found to be not cost effective in both capital and recurrent expenditure as compared to Dewe and Dalifage boarding schools. Per student expenditure spent for Samara Girls' Boarding School construction can serve 25 students of Dewe boarding school. Similarly, per student recurrent expenditure of Samara Boarding School was more than 5 times to that of Dewe and Dalifage schools.

ABE Curriculum and instruction time

Curriculum development: The 1st cycle primary education textbooks of each subject were condensed to three years by subject experts and were translated into Afar language by native Afar educators. No need assessment or consultation of pastoralists was undertaken to develop and adapt the formal curricula contents to milieu of pastoralists; once textbooks have been prepared; no feedback was collected from facilitators and students, and improved.

Amidst of this, the contents of subjects found comprised the four dimension of curricula: foundation skill and information that serve across location and overtime, status that enable students to learn in higher cycle of formal learning, socialization and, localization that reflect the realities of the region.

Medium of instruction: Provision of instruction in ABE had no uniformity in woredas. Some woredas have been offering the 1st cycle primary education in three years using Afar language as a medium of instruction and certified for grade 5, some woredas have been providing ABE in Amharic four years like formal schools but not giving Aesthetic and Physical Education.

Moreover, starting Amharic as subject in the last two grade of ABE has brought difficulty for students to follow 2nd cycle primary education competently using Amharic as medium of instruction.

Textbook preparation: Text books were not prepared as designed. Aesthetic and physical education subject contents were not prepared in an integrating manner or separately by their own. Consequently, the subjects were not offered as designed. Textbooks for level four were not also prepared as designed.

Instruction time: Instruction time across the sample centers had not been flexible. Both MABE and FABE centers were found to be guided by the conventional school calendar prepared by REB on yearly base. ABE students did not use the allotted instruction time effectively for

various reasons. Further, failing to determine the maximum eligible absence of instruction days for dropout to resume their learning believed to have affected the quality of the teaching – learning.

Teaching force deployment

Obtaining qualified facilitators willing to teach in ABE centers was found to be critical problem. To this effect, some woredas hired facilitators who did not satisfy the minimum standards, grade 8-10 education level.

To develop facilitators, no pre-service training had been provided for the last five years. Upgrading facilitators, to complete their secondary education, had been begun with the support of an NGO. However, it was discontinued due to termination of the project. On- job trainings provided for the last five years were also found to be insignificant.

Management

. In both WEO and REB levels, the alternative education job responsibilities were entrusted to experts. The experts' responsibility found to be unwieldy and manifold. An expert in WEOs or REB was in charge of coordinating the provision of Adult Education, Kindergarten, ABE in Fixed center and Mobile school, boarding schools and Special education.

CMC members did not assume their responsibility as designed. Most of the roles of CMC were rather assumed by Kebele administration. Similarly, WEO and REB had not assumed their roles and responsibilities as desired.

It was found that the regional government has tried to devise different strategies to get children enrolled and minimize discontinuation of enrolled students. These include imposing penalty on parents who failed to send their children to schools, sensitizing communities, involving and working with development partners, and placing schools/center and social service works at chosen places, undertaking school feeding in collaboration with WFP and establishing

dropout returnee committee from teachers and community. However, those strategies could not result in success as envisaged.

5.1.3.2. Strategic management practice of the region.

Plans:

The ABE strategies, standards and implementation guidelines prepared by the MoE were not communicated to WEOs, schools and ABE centers as deemed to be. In similar vein, communicating plan documents of region to WEOs and schools, and WEOs plan documents to schools were not also common in Afar.

Plan In REB and WEOs, two types of plans were common: five year' strategic plan and annual plan. At department levels, preparing tactical plan such as facilitator development, curriculum development was uncommon. In the strategic plan preparations, pastoral education modalities had not been given due attention to put pursuant to the pastoral education strategy rather implementers tended to bias towards formal school mode of delivery.. Moreover, in planning, the senior management involvement at woreda and regional level and participation of stakeholders was found to be minimal.

Standing use plan preparation: Some implementation guidelines such as ABE standard, supervision guide for ABE, implementation guideline for mobile school were found prepared by the MoE. At regional level, though not compiled and documented, the entry-level qualification for facilitator position, remuneration of facilitator, implementation guide of mobile school were found contextualized. However, some issues that require implementation guide had no guideline.

Implementation of plans

Sources and funding system: The main funding source of ABE and boarding schools is government. For operating cost of the ABE centers and boarding schools, WEOs and donor agencies combined pool, known as General Education Quality Improvement Program (GEQUIP), allocated per student base regardless of the social background of students and internal income generating capacities of the schools, for both formal and ABE students. The contribution of community in cash as well as in kind for ABE and boarding school was found almost non-existent. Information gained from the KETA shows that budget allocation for mobile schools was on need base.

Sufficiency of budget: Budget for ABE was found to be insufficient for low capacity of the woredas and low income generating capacity of the schools. It was found that 60% or thereabouts of woredas total budget went to salary. In general, the expenditure spent for education in the region was found low in reference to the ESDP IV plan target and compared to other regions' expenditure. In ESDP IV period from 2010/11- 2014/14, the commitment of the region to education in total government expenditure was not only lower than the target of the plan and total regions of the country expenditure but also showing declining trend.

Within the sector, however, the share of primary education in total education surpassed the ESDP IV target and the average of all regions' expenditure in the country. Per student recurrent expenditure of the region for primary education was found to be high, more than double figure recorded by all regions' per student expenditure for the same spending.

Availability of modes of deliveries:

Alternative modalities were not made accessible adequately for those who deserve them. Where 85.74% of the residents of the region are pastoralists, the main mode of delivery (60%) of the primary schools was formal schools. Furthermore, data collected from the 35 Fixed ABE

centers show that more than half (57.14%) of FABE centers failed to satisfy the design, Instead they seemed satisfy mobile school criteria, however,, only two mobile schools were made available in the region.

ABE centers have been found weathering to formal school when fund to construct standard schools and teachers were secured.

With regard to accessibility of 2nd cycle primary schools, WEOs interviewees and REB participants believed that only a few ABE graduates had gotten access to 2nd cycle primary school. In 2014/15 for 1031 primary schools students including ABE, there were only 190 formal schools, of which four boarding schools were made available for 2nd cycle learning. None of the sample ABE centers had been upgraded to 2nd cycle primary education level.

Availability of required inputs

Teacher: Most of the facilitators did not possess the required qualification for teaching, whereas, the boarding school teachers had the required qualification. More than 1/3 of the sample woredas' ABE facilitators had below grade eight educational levels. Moreover, 67% of the facilitator had been deployed to teaching with no or little (below 2 months) training.

Facilities and educational materials: All ABE centers have been poorly furnished with the required teaching materials and facilities. Although 10 kinds of teaching aids are required for 1st cycle primary education, none of the centers was able to obtain in full. 22.85% of the Centers had no single teaching aid; none of them had 1:1 textbook ratio. Most of ABE students were found to sit on stone, bare floor or log of tree. The Overwhelming majority of ABE centers had no toilet, playgrounds, store, office and facilitators' house as specified in ABE standard. With regard to Samara girls' boarding school, it was learnt that there was no problem concerning teaching materials and facilities.

Apart from mid-year consultative meeting involving WEOs and REB officials, periodic evaluation of pastoral education strategy related to the design, implementation and results were not accustomed in the region.

The education management of the region was characterized by low commitment demonstrated by underfunded the ABE, coupled with the prevalent of low accountability and inherent biases towards formal mode of delivery. It was also found that REB lacked to exercise accountability over WEOs for the decentralized educational management system of the country. Moreover, clan-affiliated social relation of pastoralists found impinged on the modern bureaucratic administration system for effect of primordial loyalty

5.1.4. Effectiveness of the modalities.

5.1.4.1. Attainment effect.

Because the centers were established near to children's village, ABE centers enabled to enroll most of the school age children in their respective catchment areas. However, most of the students found to drop out before the end of the academic year and very few of them transited to 2nd cycle primary education level.

In contrast to the regional average for 1st cycle primary education, ABE centers performed better than the regional average in terms of NIR and NER but failed to meet ESDP IV targets. In NIR, though the ESDP target was to hit 100% for 2014/15, agro-pastoralist ABE centers achieved 86, transhumant 83.81, and mobile school 70.59. While the target of ESDP IV in NER was 80, agro-pastoralist areas, transhumant and mobile school achieved 73.54, 78.91, 76.27 respectively, whereas, the region average stood at 64.

Dropout and repetition rate indicated that ABE centers were found inefficient more than two times in contrast to that of the formal schools. The three consecutive years' data, from

2011/12 to 2013/14 Every year shows that 50-70% of the enrolled students were found either dropped out or repeated whereas the formal school dropout and repetition was found to be 24-33% for the same. In similar vein, survival rate to level three, of the 2013/14 level one enrollment cohort was found to be 24.9%. The Samara Girls' Boarding School RR and DR were also found high as compared to the regional target.

Participants in the interview and FGDs believed that in reference to the demand for boarding school and hostel, the total number of students benefiting from the schools were low. In 2014/15 the seven boarding schools in the region were found to give service for 316 children, which is 21.64 % of their capacity. Of those, 51.26% of students were 2nd cycle primary students while 22.47 % were 1st cycle primary students and 26.27% were secondary education students.

5.1.4.2. Equity effect.

Gender parity between girls and boys in terms of NIR and NER show that the ABE centers were found effective in attracting girls for enrolment. In both indicators parity found meet except slight deviation in agro-pastoralist area centers (GPI =0.99).

Though the participation of Afar indigenous did not reach par to non-Afar residents , the gap between the Afar indigenous and others as well as between Afar girls and boys was narrowing down from year to year. In 1998, the share of Afar from the total regional enrollment had been 32.4 % with 0.44 Gender Parity Index [GPI] in gross enrollment. In 2015/16 academic year, the share of Afars participation reached 83.22% narrowing with GPI of 0.85. Of course, still the indigenous Afar participation did not reach par to other residences' in the region. The Afar ethnic student children primary education participation was found 63.07 for Net Intake Ratio [NIR], and 36.75 for NER(grade1-8), 11.4 for PCR respectively while the regional average was 65.08 for NIR, 39.46 for NER (grade1-8), and 15.99 for PCR.

5.1.4.3. *Achievement effects.*

Participants of the study perceived ABE was inferior to formal school. CMC members and some WEOs implementers construed '*Alternative*' as a last recourse strategy to providing education with low cost for funding problem to establish standard primary school and acquiring qualified primary school teachers. 90 % of experts and 71.8 % of facilitators perceived that the basic education provision in ABE was inferior to formal school provision. Similarly, ABE students were found not competent enough to follow the 2nd cycle primary education as compared to formal school students.

With regard to boarding school, 2nd cycle primary education boarding school students who pursued their secondary education were found to be competent to follow their secondary education. Comparison between the Samara Girls' Boarding School students and the total region students' three years' achievement score (2012/13-2014/15) on primary school leaving certificate examination at grade eight also showed minimal or no significant difference. In 2012/13 and 2013/14 the boarding student score was below the region average. The one sample t-test as measured by effect size (Chen's $d=2.81$ and 1.87 respectively), however, showed the differences were minimal. In 2014/15 the boarding student score became above the regional average but t-test ($t(18), .183, P=.857$) shows there was no significant difference.

5.2. Conclusions

The following conclusions were drawn based on the analysis made and the major findings.

The existing designs of alternative modalities to provide learning opportunity to primary education are wanting to relevance.

Despite the availability of relevant designs, such as low cost establishment of learning centers, flexibility of instruction time schedule, supporting needy students, to provide learning

opportunity to pastoral children, there are also some strategies and standards not relevant, i.e. lacked either suitability, organizing by age group (age 7-10 and 11-14).

One, some of the strategies lacked suitability to address the prevalent challenges of educational provision for pastoral children in Afar region.. these include settlement of pastoralist for eight consecutive months for establishment of FAGE as criteria, academic year calendar bounded from September to August, disregarding mobile school students who move separated from the larger group, exclusion of first cycle students in Para-boarding, management structure, Two, there also some strategies that are difficult to implement in Afar context. These include recruiting better teachers from community, entrusting responsibility to CMC to follow up day-to-day functions of ABE and para-boarding schools, getting qualified teachers for mobile school who can teach go with of pastoral children movement. Three, some of the standards set by the MoE lacked acceptable to provision quality primary education. Minimum entry qualification requirement of facilitators for teaching position, three months pre-service facilitators' training, Official instruction time allotted for ABE, condensing the four year formal school curriculum into three unmatched to formal school standard and found to be substandard to quality teaching.

Viable strategies were not put in place to enable pastoral children pursue secondary education

Since education is one of the fundamental human rights, government has the prime obligation to provide access to quality primary education for all children regardless of their background, and at least to make secondary education available. In this regards, strategies put in place lacked to address the demand: One, the financial support scheme and boarding school selection disregarded some eligible children. Two, the establishment of costly standard boarding school and providing financial support for pastoral children were found to be not viable for future as the demand is supposedly to increase ensuing primary school expansions. Three, the

construction of standard secondary school could not be reachable to children of pastoralists homestead for it is unaffordable for sparsely populated pastoralist areas. Four, all the three schemes did not consider mobility and child labor. Thus, it is possible to say that opportunities put in place for pastoral children to pursue their secondary education were not adequate.

Due attention has not been given to the implementation of alternative modalities as were designed

The effectiveness of a strategy depends, inter alia, on the internalization of the objectives of the strategy and the commitment of implementers to put them into effect. However, one, amidst most woredas have not been abided by the strategy and standards set(such as flexibility of instruction time, medium of instruction, establishment of boarding school, resorting to formal mode delivery from ABE and boarding school), MoE and REB took no notice of preempting the actions. Two, pertinent mode of deliveries were not made available for those who deserved. Three, almost all of the ABE centers had not acquired essential education materials and teaching force as were designed. Four, for the last five years no budget was allocated for pre-service training and for up grading of facilitators to complete their secondary education.

The modalities were not effective

From the outset, the objective of introducing various alternative modalities had been to increase the participation of pastoral children, to maintain quality, promote equity, and eventually realize the Millennium Development Goal of education. However, although FAFE centers and mobile schools were found to be successful in initial enrollment of the school age children, narrowing the gender disparity, and contributing to narrowing the gap between Afar indigenous and others, residing in the region, in enrollment, the modalities were found unable to retain those enrolled and to produce competent 2nd cycle learners. With regard to boarding schools, they ended up with provision of equivalent education to that of formal schools to a few.

The ineffectiveness was attributed to partly due to deficiency of the strategies and input standards, and partly to implementation problems.

At the prevailing situation, the Regional State education sector lacked the strategic management capacity to put the modalities into effectiveness.

The region found lacked capacity to make the modalities effective for the following reasons: one, the practice of participatory planning, communicating strategies and plans to lower level, monitoring and evaluation of the Region and woredas were found not good enough. Two, the top managements are characterized by low commitment and lack of accountability. Three, the region lacked to develop essential standing use plan. For example, no fund allocation policy to maintain equity provision of quality education in the region, no mobility pattern study guide. Four, moreover, no viable strategies developed to overcome the dire shortage of essential resources and technical persons. For example, securing sufficient budget and, acquiring qualified teaching force, trainer who can train and develop course materials in Afar language and qualified supervisors who can support, control and evaluate facilitators' professional work.

In a nut shell, this study uncovered that the existing modalities, due to deficiency of design and implementation problems, were not found to be viable to ensure the provision of quality education for all children of Afar pastoralists.

5. 3. Recommendations

Based on the results identified and conclusions reached upon, the following suggestions are forwarded.

Enhance students' completion rate by improving the modalities suitable and accessible to pastoral children

The focus of the region in expanding learning centers and schools at primary level ended up with initial enrollment success. Nonetheless, unless the enrolled students continue their education and complete with required profile, availability of schools by itself is of no avail. Thus, the deficiencies of the strategies to modalities need to be rectified and improved. To that end, first, the practice of weathering to formal school from ABE mode of delivery should be reconsidered. Rather, it is advisable for Afar REB to make modalities address the problems of pastoral children to education adequately. In doing so,

In FABE, to address the mobility, as long as the students are able to attend eight and above months in a year in their homestead, no need to take settlement of eight consecutive months as criteria. Further, to address the child labor problem, it needs to use two shifts in each school: Daytime for those children whose parents have the willingness to send their children at daytime and, evening class for those who have household responsibility at daytime. This overcomes the existing practice of parents to send their children by turn. However, to make this strategy effective, light service, as designed in pastoral education strategy, must be fulfilled and teachers' commensurate pay need to be given due attention.

Construction of cost effective centers from local and industrial product is likely to continue. However, the distinction between low cost and cost effectiveness must be made clear.

Focus must be on cost effectiveness. Otherwise, the notion of low cost may mislead implementers to construct substandard facilities.

In areas where pastoralists leave their homestead for migration for more than four months in a year, it needs to establish fixed centers where pastoralist children can stay for about 3 months consecutively. This strategy enables students to complete one or two modules at one place. It is also manageable for education managers to track learners and deliver education materials. This is suggested because the current strategy of mobile school, moving the facilitators continuously as pastoralists move, was found not only not implemented but also was found to be difficult to put into practice at present working disposition of the region. Data collected on mobility pattern show that in normal pattern (year) pastoralists stay 2.5 months and above at least at two places, in homestead and/or host area, no nomadic pastoralist group in Afar.

In boarding school strategy, it needs to weather from standard costly boarding school to cost effective Para-boarding or full boarding school in harmony with the culture of the community, depending on the circumstance of the community. For burden of the budget on government, parents need to share cost to their ability. Further, it is worthy to note that the boarding school can serve for three kinds of students. One, for those students whose parents are willing to send at daytime and where there is no school (1st cycle primary, 2nd cycle primary and, secondary education) for different reasons. Two, to those students whose parents want continue learning while parents migrate with their herding but no capacity to afford sustenance up to their return, three, as the night session(discussed above) learning to those students who have no chance of learning in day school because of child labor. The boarding strategy can address the problems of child labor, mobility, poverty, cultural constraints, and cost burden of government. Experience of Karamojang in Uganda show the third strategy can be feasible. For Karamojang UNISON

(2009, p.34) noted, “The same physical structures are used as classrooms and dormitories during daytime and at night respectively.”

For 2nd cycle primary and secondary education students whose parents can afford their sustenance but their problem is accommodation, the region needs to establish low cost hostel. For those who cannot attend daytime school, introduce ODL in the region for 2nd cycle and secondary education. This approach allows addressing the problems of work responsibility of the children, mobility, and cost implication for construction of school in low-density population.

Redesign the management of alternative modalities from Region to Kebele level

So as to fast tracking the teaching-learning process and for effective implementation of educational initiatives that will be undertaken by government, the organizational structures of education in the region need to be extended to Kebele level (the lowest administrative unit of the regional state) and redesign the management of alternative modalities at woreda and regional level. This is suggested because, on the one hand, currently managing school in pastoral areas from the woreda education office was found to be difficult. On the other, entrusting responsibility to CMC members for the management of ABE center was found not to be effective. In this case, the MoE and the region can learn from Asian and African countries especially from the experience of Kenya and Nigeria.

At woreda and regional level the structure was found to be mismatched to the job need. Robey and Sales (1994) pinpointed that unless the organizational design aligned with the design factors (strategy, size, technology, and environment of the organization); it is hardly possible to avoid certain recurring problems with other measures. Thus, besides strengthening controlling and follow up of learning center with different mechanisms such as using mobile technology. One, REB, in consultation with the Region Capacity Building and Civil Service Bureau needs to redesign the structure from region to Kebele level. Currently, in Afar, in each Kebele two or

more schools are available. Two, roles and responsibilities of ABE coordinators at center level need to be clearly described with commensurate benefits.

Let regions develop new curricula or subjects peculiarly valuable for pastoralists

In Ethiopia, subjects in primary and secondary schools are the same across the country. Regions have only the description to adapt the contents to their realities. However, curriculum relevance cannot be achieved only by adapting contents of core subjects, but also it needs to develop new curricula that have peculiarly valuable by the target groups. This helps to attract learners and make the education more relevant. To that effect, regions can undertake need assessment and come out with new a subject that is/are valued by the pastoralists. This may include Quran learning/Arabic language literacy, animal husbandry. For example, in this study, it was found that for students are occupied in Quran learning at dawn and evening, WEOs faced difficulty to arrange instruction time at these times. Some of the students were also dropped out from school for Quran learning. Therefore, arranging Quran teaching /Arabic language literacy, as non-compulsory, besides the formal curriculum teaching at early grades may have paramount impact on pastoral children learning. This strategy may cause to more alternations of instructional schedule for children and induce parents to send their children to school.

Enhance acceptability of alternative education modalities by changing the negative feelings of beneficiaries and implementers on ABE and by righting the input standards

As mentioned above, it was found that many community members and the implementers at woreda level construed *alternative approach* as substandard mode of delivery. This conception needs to be reformed by continuous awareness creation on the rationale of alternative modalities through workshops, short-term trainings and incorporating management of nomadic education into teacher training curricula.

Above all, to maintain quality and achieve parity of esteem with formal school, it needs to reorganize the arrangements of curriculum and instruction time, allocation of funding, and deployment of teaching force. One, organize the academic year in three terms instead of two terms and offer in modular approach to complete one or two subjects at a time and award certificate for successful completion of that module. For example, from grade one subjects, first offer reading and writing and computation in mother tongue, then followed by mathematics and English, and in the third term social studies. This helps to continue students their education from where they discontinue for different reasons.

Two, study the feasibility of acquiring required teaching force that can teach in Afar language and design in a way that can be effective. The alternatives include using Afar language as a medium of instruction in certain grade levels, using for certain subjects, using for all subjects in all primary education grades step by step starting from grade one, or offering only as subject.

Three, to promote equitable quality education in ABE, offer the same core curriculum of formal school in the same instruction time allotment for both school age and older children.

Four, avoid limits of completing one grade in one year as of formal school rather let the total curriculum instruction time and convenience time of children to learning determine the number of years to complete the four year 1st cycle formal primary education. To this effect, completing 1st cycle primary curricula (grades 1-4 of formal school) may take more than four years.

Five, in allocation of resources, set funding formula that ensures equity of quality education for all children in the region considering the social background of students and revenue generating capacity of the schools. In the furtherance of equivalence between alternative modality and formal school, applying vertical and horizontal principle of financing is fundamental- equal funding for equals and differentiated funding for those unequal.

Six, with regard to teacher deployment, as long as equal opportunity to quality education is to be in place, required qualifications (grade level and training time) for formal and alternative modalities teaching need to be the same. For same profile of students in conventional and alternative mode of delivery school, schools and learning centers should be equitably staffed. Otherwise, the Sustainable Development Goal [SDG]4 that focuses on equity and quality will not be real.

Develop strategies to acquire qualified teaching force and expertise for curriculum development

One of the critical problems of the Region was inability to attract and retain qualified teachers. Thus, REB needs to assess the future demand and supply of teachers and devise strategies on how to obtain, develop and retain qualified teachers to meet the demand. The strategy needs to aim at short term and sustained/ programmed solutions. This may include attractive remuneration and fringe benefits, subject wise teaching than self-contained and seeking volunteer teachers or student campaign in summer as temporary solution to mitigate the challenges, and programmed solutions such as developing Alternative Modalities' Teacher Development Program. Similarly, acquiring experts who can prepare textbooks in Afar language was found to be another major problem. Thus, the REB needs to devise strategies how to acquire or develop educators who can develop, adopt and improve curricula contents in the Afar language to ensure the relevance of curriculum for pastoral children.

Suggestions for further research

To enhance the result of this study further research is recommended in three issues: on the working culture of the region, mobile school and wider scope study on provision of formal and non-formal education for pastoralists in Ethiopia.

Among other things, lack of commitment coupled with absence of accountability was among the major management problems of the region. In similar vein, at kebele and woreda level, the influence of clan- affiliated social relationship was found to constrain the seamless functioning of the modern bureaucratic management system. Unless these challenges are solved, whatever policies and strategies developed will have no avail beyond shelving. Thus, the region in particular and concerned academicians need to undertake study on working culture of the region so as to develop strong positive working culture.

On one side, in Afar at existing situation, it was found that mobile school seemed unmanageable. The sample mobile school was found to be ineffective and other six mobile schools were closed for management problems. On the other, as discussed in the literature part, mobile school is the option for those who move frequently although for many countries its management was found to be difficult. Thus, before scaling up the present mobile schools, it is advisable to undertake field experimental study to develop suitable strategies then piloting by the REB.

Furthermore, this study was limited to Afar in three alternative modalities for provision of formal school curricula for pastoral children. However, the problem is pervasive to the country and wider in scope for non-formal education as well. Thus, there is a need to conduct study in wider scope in country level and in the region to draw a comprehensive solution for provision of education and training for pastoralist groups in Ethiopia.

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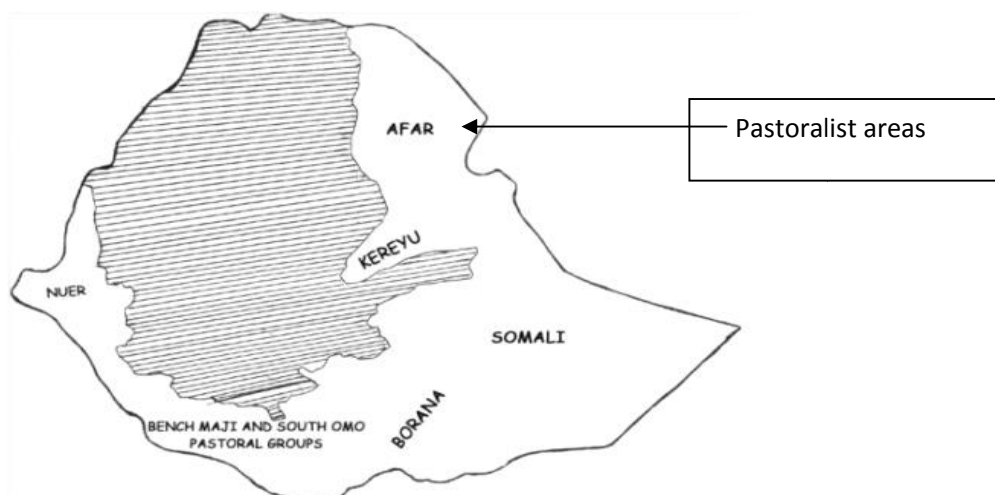
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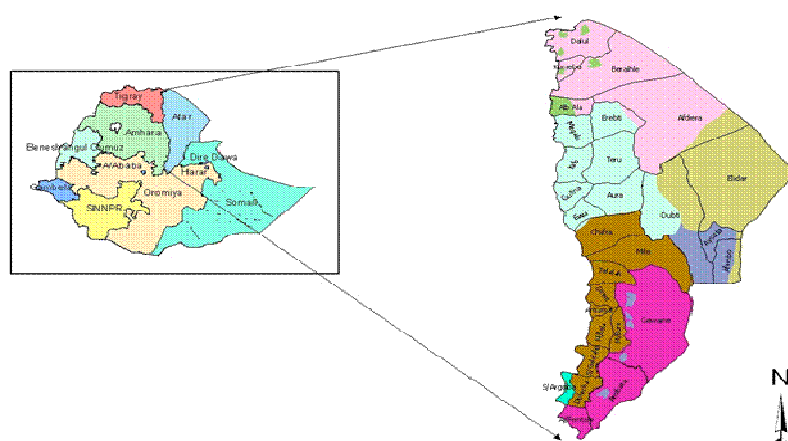
Annexes

Annex I: Location of some of the pastoralist groups in Ethiopia



Source: PFE, IIRR& DF (2010). Pastoralism and land: Land tenure, administration and use in pastoral areas of Ethiopia.

Annex II :Afar Livelihoods Zone Map



Legend

- LZ 1:Asaale Pastoral (Camel, shoats, camel pack animals, salt mining & trade)
- LZ 2:Asaale Agropastoral (Rain and flood fed farming; livestock; salt mining and trade)
- LZ 3:Teru Pastoral (Cattle, camel & shoats)
- LZ 4:Elidaar Pastoral (Camel, shoats, camel pack animals for salt & border trade, salt mining)
- LZ 5:Awsa Ke Gewane Agropastoral (Farming, Livestock, Border trading & Agricultural labor)
- LZ 6:Aramis Ke Adaar Pastoral (Cattle, shoats, camel)
- LZ 7:Namalefane Ke Baadu Pastoral (Cattle, camel, shoats and agricultural labor)
- LZ 8:Chenno Crops (sedentary- mixed farming,Cattle & Shoats)

Source: Afar Region DPFSB (2006,).Afar regional state, Ethiopia: livelihood zone map (p.3)

Annex III: Selected centers

Zone	Woreda	ABE	Mobile school	boarding
Teru Pastoral	Teru *	Adkoma**		
		AKiedas		
	Gulina*	Alina		
		Debeyra		
		Havvanagura		
		Bekero **		
	EWA	Artao		
		Heraybuya		
		Hida		
	Awra	Amidrwa		
		More		
Aramis - Adaar pastoral	Ada'ar	Kabu	Kefil Abaco	
		Ganduli		
		Fursi-Handeg		
	Chifra*	Medane		
		Dermetu		
		Bulbula**		
		Sebebulu		
		Ferhole		
	Dewe*	Gendengbe		Dewe boarding
		Anadai**		
		Gerudi		Dalifage boarding
	Dulecha	Amelelo		
		Endagogulu		
		Bestekle		
		Adeleli		
Awsa - Gewane Agro-pastoral	Amibera*	Alta Amibera		Samara Girls' boarding
		Eremado/Gebere		Hinele boarding
		Dinamo		
	Fentale	Arba hara		
		Didga/Erfoda		
	Gewane*	Biforro		
	Aysaita	Demali		
		Ouledadur		
		Derela		
Total Awsa - Gewane Agro-pastoral	4	9		
Total sample	12	35	1	4
Total regional	32	353	2	

Annex IV: Reliability of questionnaires

variables		Facilitators (N=14)		Woreda experts(N= 20)			Facilitators and Woreda experts(N=34)		
	No. of items	N0 of items below 0.35	Cronbach's alpha if items(ITC) deleted	No. of items	N0 of items below 0.35	Cronbach's alpha if items deleted	No. of items	N0 of items below 0.35	Cronbach's alpha if item (ITC) deleted
Challenges at point of reception	9						9	1	.749
Challenges at point of delivery	6			6	1	.824			
School facility	5						5		.870
Instruction time and curriculum	6						6		.78
Teaching force	3						3		.835
Management	2						2		.675
implementation	6						6	1	.816
educational materials	4	3	.129*						

* All the four items are discarded for it did not satisfy the minimum acceptable level of reliability test

Annex V- Instruments

Introduction for FCGs and Interview

Thank you all for coming to participate in this focus group discussion.

My name is Ahmed Ebrahim I am carrying out research on *Modalities of Primary Education provision for Pastoral Children in Ethiopia: The Case of Afar National Regional State*. Your information helps me to identify whether the ABE is relevant to provide quality primary education for pastoral children.

Please note that the content and information will be confidential. So don't hesitate to give any information related to the topic. Its use is for academical purpose. You have right to decline to answer any question or the whole discussion. Can I record our discussion?

FGD with ABE CMC Members (FGD I)

1. Why is it necessary to open fixed/mobile ABE center for your community instead of convention formal primary school?
1. How suitable are the strategies and guidelines developed by MoE to overcome the problems you mentioned?
2. Let us discuss about the demand for education and the purpose of alternative modalities in your community
4. Where and how do the children of this school continue 2nd cycle primary education?
5. Let us discuss about the implementation of the ABE
6. How do you judge the effectiveness of the center in reference to the objectives set?
7. In your opinion, what do you think of the appropriate strategy to be designed to provide quality education for this community's children?

Thank you for your participation

Focus Group Discussion with Samar Girls' Boarding School Teachers (FGD II)

1. Why is necessary to open boarding school for girls' instead of providing in their village?
2. Do you think your students are the right target?
3. How do you view the cost effectiveness of the boarding school?
4. How do you view the quality and relevance of education in the school?
5. What major challenges and constraints do you observe for the success of the boarding school?
6. How do you view the contribution of the school for pastoralist children learning?
7. In your opinion, what do you think of the appropriate strategy to promote quality and relevant primary education for pastoral children?

Thank you for your participation

Focus Group Discussion with Boarding School students (FGD III)

1. Why do you come here instead of learning in your village?
2. How is the boarding school convenient for your learning?
3. How enthusiastic are parents and children for boarding school? Why?(fear of insecurity, household chores etc)
4. For what purpose do you want education? Do parents share your objective?
5. Where and how do you pursue your secondary education?
6. How do you view the quality and relevance of education in the school?
7. What are the major problems in the school (student service, teaching learning, parents related)?
8. What do you suggest for pastoral children education? Government's and parents' responsibility

Interview Guide WEO Heads and Non Formal Education Officers (Interview I)

1. Why is necessary to open alternative modalities for pastoralist children?
2. What are the purpose/objectives of alternative modalities for pastoralists? Do parents accept?
3. How adequate are the input standards to meet the objectives the alternative modalities?
4. What strategies are in place for pastoral children to complete general secondary education?
5. Let us discuss the implementation of the modalities: What are the efforts so far made by you towards the achievement of pastoral education strategy objectives?
6. What challenges you encountered and how did you manage?
7. Would you tell me the effectiveness of each modality (participation, equity, quality)?
8. Would you tell me the future direction of the modalities? What else would you tell me?

Interview guide for KETA (NGO) Managers (Interview III)

1. What is the impetus to open mobile school?
2. What is your view on mobile school guideline prepared by MoE and the region?
3. How do you explain the demand of the pastoralists for your project, value placed on education?
4. Where and how can students pursue the next level education?
5. Would you tell me the management of your mobile schools?
6. What are the challenges encountered you in managing the schools?
7. How do you judge the effectiveness of your center/school?
8. what do you think of the appropriate strategy to promote quality education for pastoral children ?

*Thank you***Interview Guide for Boarding School Heads** (Interview IV)

1. Why is necessary to open the boarding school?
2. How is the educational program organized? (curriculum, instruction time, school, teacher)
3. What are the boarding services the school providing?
4. How the management of the school is organized (structure, employees)?
5. How do Parents and pastoralist children perceive boarding school?
6. Let us discuss about the planning and implementation of the school?
7. What mechanisms were designed to get students complete of secondary education?
8. What challenges did you encounter?
9. How do you view the contribution of the school? Why is it closed? (For Hinele)
10. In your opinion, what do you think of the appropriate strategy for pastoral children education?

Interview Guide for Dropout students (Interview V)

Woreda-----Center-----

1. When and at what grade have you dropped out from school?
2. Why did you drop out of school?
3. Do you have the intention to resume your education? Why, How?
4. What do you suggest for the education of pastoral children?

*Thank you***Interview Guide for Parents of Out of school children(OSC)**(Interview VI)

1. What do you think of the value of education for your children and for your family?
2. How many of your children do not attend schooling? Why?
3. Do you have the intention to send your children who are not enrolled? Where and how?
4. How do view mobile, hostel, standard boarding school, low cost boarding school if accessible for your children?

Interview with 2nd Cycle Primary school directors ,teaches Students Transited From ABE, heads (int VII)

Woreda-----school----- Catchment ABE centers of the school -----

1. How do you judge the competency of the students transited from ABE to attend your lessons in contrast to other students? What is the base of your judgment?
2. What do you think of the possible contributing factors for that difference, if any?

3. What do you suggest to mitigate the problems you have raised?
4. Is there anything more you can tell me about education of pastoral children?

Thank you

Addis Ababa University College of Education and Behavioral Studies

Department of Educational Planning and Management

Questionnaire for Woreda Education officers- (Quest –I)

Dear Sir / Madam,

This questionnaire is designed to assess the relevancy of modalities meant to providing education to pastoralist children in the Afar National Regional State. I earnestly believe that you are one of the key partners in this regard. Hence, kindly I request you to fill in this questionnaire and return it on time.

I, hereby, like to assure you that all information you provide herewith will be treated confidentially and used purely on an aggregated level and under no circumstances be used for any other purposes than this particular research undertaking. You have the right to decline to answer any or all the research questions. Please do not write your name anywhere on the questionnaire.

Alternatives are given for the following questions. Choose one of the alternatives you believe appropriate by marking “X” on the box provided. Write your idea or required information for open ended question in the space provided.

Part I

Personal information

1. Bureau /office ----2. Position -----3. Service in the office-----4. Sex-----
5. Qualification----- 6. Age:- a) below 20 ☐ B) 20-25 ☐ C) 26-30 ☐ d) 31 and above ☐

Part II

1. The following are considered as the challenges to provide quality education for pastoral children in formal mode of delivery. Rate the extent the problems are critical in your area. Rate 5 if the problem is very high, 4 if the problem is high, 3 if it is medium, 2 if it is low and 1 if it is not a problem.

no	item	5	4	3	2	1
Challenges at point of reception						
1	Mobility of pastoralists					
2	Unpredictable disruptions of service					
3	Insecurity such as conflict disrupt the rigid school- program					
4	children's involvement within the household's economy					
5	school-related costs are perceived as difficult to meet as pastoral households					
6	parents are reluctant to send girls away from the familiar contexts					
7	Parental exclusion: parents give priority for boys to girls to send to school					
8	The Amharic medium of instruction is a problem for teaching-learning					
Challenges at point of delivery						
9	Scattered population is a problem for realizing economies of scale					
10	Building schools in pastoral areas is costly because of remoteness					
11	securing qualified teachers in pastoral areas is difficult					
12	There is turnover of well trained teachers in harsh climate of pastoral area					
13	There is turnover of well trained teachers because of remoteness of pastoral areas					

2. What other critical problems are evident in your areas? (specify) -----

3. The following are the pastoral education strategies and standards developed by the ministry of education with the assumption they are capable of solving the challenges facing pastoral children for primary education. Rate the suitability of the strategies. If you strongly agree rate 5, Agree (A) = 4, Undecided (U) = 3, Disagree (D) = 2, and Strongly Disagree (SD) = 1.

no	item	5	4	3	2	1
Establishment of Schools/facilities						
1	Build low-cost fixed ABE center where the community is settled for at least 8 consecutive months in a year					
2	Establish mobile school to those communities that move from place to place for more than 4 months in a year					
3	Establish low cost Para- boarding schools for ABE students to continue 2 nd cycle primary education					
4	Build ABE centers within 3 km radius of children's village					
5	Provide support (stationary, clothing etc) for needy is an appealing					
Instruction time						
6	Make the instruction timetable flexible not to contradict with children labor					
7	Let communities decide the instructional calendar(instruction time)					
8	Make older children(age 11-14) to complete the 1st cycle formal school curriculum in three years(level 1-3)					
9	Make 1st cycle school age(age 7-10) children complete the formal school curriculum					

	in four year (level 1-4)					
	Curriculum organization and language					
10	Use the same textbook of conventional basic education schools for school age children (age 7-14) who complete basic education in four years					
11	localize ABE curriculum equivalent to that of formal basic education for those children (age 11-14) to complete 1 st cycle primary education in three years					
	Teaching force deployment					
12	Upgrade the educational level of facilitators through distance or evening class to get complete secondary education is a solution for shortage of qualified teachers					
13	Provide pre-service training for facilitators					
14	Give the status teacher (for salary) after completing secondary education and professional course attracts (retains at work) facilitators					
	Management of learning centers					
15	Entrusting the responsibility of managing ABE CMC					
16	At regional and Woreda level Manage the pastoral education program under one department					

4. The following are guidelines prescribed by ministry of education to offer ABE for pastoralist children without affecting the household responsibilities of children. Rate how often standards/strategies have been implemented as they were designed. Rate 5 if implementing always, 4 if being implemented fairly often, 3 if implemented sometimes, 2 if being implemented rarely and 1 if never implemented.

No	item	5	4	3	2	1
1	Providing support (stationary, clothing etc) for those who have difficulty to pursue their education because of object poverty					
2	Making the instruction timetable flexible not contradict with children household responsibility					
3	Let communities decide the instructional calendar(instruction time)					
4	Upgrading educational qualification level of facilitators					
5	Entrusting the responsibility of managing ABE centers to CMC					

5. How do you view the equivalency of ABE to formal school education in terms of quality?

- a) Equal to conventional formal school ☐ b) Better than the formal school ☐
 c) Inferior to formal school ☐ d) I cannot decide ☐

6. What are the major problems in ABE? -----

7. What measures have been taken to overcome the challenges? -----

Addis Ababa University
College of Education and Behavioral Studies
Department of Educational Planning and Management

Questionnaire for ABE Facilitators - (Quest –II)

Dear Sir Colleagues

This questionnaire is designed to assess the relevancy of modalities meant to providing education to pastoralist children in the Afar National Regional State. I earnestly believe that you are one of the key partners in this regard. Hence, kindly I request you to fill in this questionnaire and return it on time.

I, hereby, like to assure you that all information you provide herewith will be treated confidentially and used purely on an aggregated level and under no circumstances be used for any other purposes than this particular research undertaking. You have the right to decline to answer any or all the research questions. Please do not write your name anywhere on the questionnaire.

Alternatives are given for the following questions. Choose one of the alternatives you believe appropriate by marking “X” on the box provided. Write your idea or required information for open ended question in the space provided.

Thank You

Part I

Personal information

1. Woreda----2.Center---- 3. Position-----4. Service in the center----- 5. Sex----- 6.Education qualification (grade)-----
 7. Age: a) below 20 ☐ B) 20-25 ☐ C) 26-30 ☐ d) 31 and above ☐

Part II

1. The following are considered as the challenges to provide quality education for pastoral children in conventional school. Rate to what extent the problems are critical in your area. Rate 5 if the problem is very high, 4 if the problem is high, 3 if it is medium, 2 if it is low and 1 if it is not a problem to education.

No	item	5	4	3	2	1
1	Mobility of pastoralists					
2	Unpredictable disruptions of service					
3	Insecurity such as conflict disrupt the rigid school- program					
4	Child labor					
5	school-related costs are perceived as difficult to meet as pastoral households					
6	parents are reluctant to send girls away from the familiar contexts					
7	parents give priority for boys to girls to send to school					
8	medium of instruction is a problem for teaching-learning					

2. What other critical problems are evident in your areas? (Specify) -----

3. The following are the pastoral education strategies developed by the ministry of education. Rate the suitability of items of the strategy to solve the above problems. If you strongly agree the suitability of the strategy rate 5, Agree (A) = 4, Undecided (U) = 3, Disagree (D) = 2, and Strongly Disagree (SD) = 1.

4.

no	item	5	4	3	2	1
1	Build low-cost fixed ABE center where the community is settled for at least 8 consecutive months in a year					
2	Establish mobile school to communities that move from place to place for more than 4 months in a year					
3	Establish low-cost Para-boarding schools for second cycle education					
4	Provide support (stationary, clothing etc) for the needy students					
5	Provide support (stationary, clothing etc) for needy is an appealing					
6	Make the instruction timetable flexible					
7	let the beneficiary community decide the time of learning					
8	Make older children(age 11-14) to complete the 1st cycle formal school curriculum in three years(level 1-3)					
9	Make school age(age 7-10) children complete basic education in 4 years					
10	Provide same textbook of conventional basic education schools for school age children(age 7-10) to complete basic education in four years					
11	Localize ABE curriculum for age 11-14) to complete in three years					
12	Upgrade the educational level of facilitators through distance/or summer					
13	Provide pre-service training for facilitators					
14	Give the status teacher after completing secondary education					
15	Entrusting the responsibility of managing ABE centers to CMC					
16	Manage the pastoral education under teaching- learning process					

4. The following are guidelines prescribed by ministry of education to offer ABE for pastoralist children without affecting the household responsibilities of children. Rate how often standards/strategies have been implemented as they were designed. Rate 5 if implementing always, 4 if being implemented fairly often, 3 if implemented sometimes, 2 if being implemented rarely and 1 if never implemented.

No	item	5	4	3	2	1
1	Providing support (stationary, clothing etc) for the needy					
2	Making the instruction timetable flexible					
3	The communities decide the instructional instruction time					
4	Upgrading educational level of facilitators through distance and /or summer					
5	Entrusting the responsibility of managing ABE centers to center management committee					

5. How do you view the equivalency of ABE to formal school education in terms of quality?

- a) Equal to conventional formal school ☐ b) Better than the formal school ☐
 c) Inferior to formal school ☐ d) I cannot decide ☐

6. What are the major problems in your ABE center? -----

7. What measures have been taken to overcome the challenges? -----

Annex VII: Mobility Pattern (from CMC members or other knowledgeable person)

1) Woreda----- 2) center----- 3. Livelihood-----

2) season/months stay homestead during normal time

No	Duration from----- to -----	Reason not to move	What happens during disaster	remark
1				
2				

No	Movement time from--- to -----	Destinations	Reason for moving away from home	Children's fate	What happens during disaster
1					
2					

Woreda----- date-----

[illegible]

Woreda----- center-----date-----

year	Below 7		Age 7		Above age 7	
	M	F	M	F	M	F

[illegible]

year		Number of students enrolled						5(transited to 2 nd cycle)	
		Level 1		Level 2		Level 3 enrolled			
		M	F	M	F	M	F	M	F
	enrolled								
	enrolled								
	promoted								
	repeated								

[illegible]

5. Boarding school students' family background

No	Student name	age	grade	Family occupation	address		Available schools near to home		remark
					Woreda	kebele	School name	Home to school distance in km	

6. Expenditure of the center/schools in 2007(from the schools & WEOs)

Woreda-----Center/school----- year established-----date-----

No	Cost item	Expenditure in birr	remarks
1	Buildings/facilities*		
2	Educational supplies		
3	Other Program inputs		
4	personnel		
5	Teacher		
6	Other administration cost		
7	Boarding service		
	total		

7. Materials and facilities in ABE center(from ABE coordinator)

Materials and textbooks	Level one	Level 2	Level 3	Level 4	remark
Textbook student ratio					
Black board					Available or not available
facility	adequate	Partially	lacking	remark	
desks					
Play grounds					
Teaching aids					
Separate toilet for girls and boys					
Classrooms					
Pedagogical center					
offices					
staffroom					
Teachers' house					

Annex VI: Skewness and Kurtosis**a. Challenges**

	Mean	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
mobility	3.84	.614	-.499	.184	.939	.365
disruption of service	3.27	.688	-.406	.184	-.852	.365
insecurity	1.95	1.108	.706	.184	-.868	.365
child labor	3.94	.845	-.400	.184	-.213	.365
cost difficult for parents	3.34	.691	-.137	.184	-.379	.365
parents reluctant to send girls	3.58	.924	-.268	.184	-.360	.365
parental exclusion	2.82	.558	-.041	.184	-.101	.365
medium of instruction	3.16	.856	-.092	.184	-1.207	.365

b. Strategies

	Mean	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
low-cost fixed ABE center	3.77	1.162	.300	.184	-.397	.365
mobile school	3.87	1.232	.035	.184	.123	.365
low cost Para- boarding schools	3.89	1.167	.294	.184	.246	.365
Build ABE centers in 3 km radius	4.00	1.083	.127	.184	.687	.365
Provide support	4.17	1.012	.180	.184	.855	.365
instruction timetable flexible	4.06	1.110	.146	.184	.483	.365
communities decide instructional calendar	3.82	1.185	-.294	.184	-.301	.365
older children complete in 3 years	2.80	.916	-.045	.184	-.476	.365
school age children complete 4 year	3.47	1.249	-.388	.184	-.967	.365
Use the same textbook as formal schools	3.95	1.074	-.336	.184	.379	.365
Localize ABE curriculum	2.47	.650	.252	.184	1.500	.365
Upgrade facilitators	4.20	.965	-.110	.184	.428	.365
Provide pre-service training facilitators	4.10	1.148	-.137	.184	.348	.365
Offer status for teacher position after completing secondary education	2.56	.602	-.032	.184	.061	.365
Entrusting the responsibility to CMC	3.98	1.075	-.349	.184	.296	.365
Assignment expert	2.71	.660	.020	.184	-.260	.365

c. Implementation

	Mean	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
support for needy	2.57	1.162	.360	.184	.618	.365
flexibility of instruction time	1.83	.626	.135	.184	-.519	.365
communities decide the instructional time	1.59	.866	.337	.184	.804	.365
Upgrading facilitators	1.78	.598	.125	.184	-.450	.365
Entrusting the responsibility for CMC	2.55	1.492	.362	.184	.268	.365

Annex VII: Afar Region 2015/16 (2008 EC) Primary Student Enrolment

Cycle (grades)		Afar indigenous student			Others		
		M	F	T	M	F	T
1 st cycle(grade 1-4)	Net Intake	13895	10,846	24,741	1,792	1,741	3533
	Net Enrollment	45458	36,305	81,763	6,141	5,367	11,508
	Gross Enrollment	68031	52,427	120,225	10,518	8,885	19,403
2 nd cycle(grade5-8)	below age 11	1316	873	2,189	149	145	294
	Net Enrollment	10125	6,008	16,133	3,537	3,461	6,998
	Gross Enrollment	16799	10,366	27,165	5,179	5,134	10,313
	Grade 8 enrollment			3788			2087
Primary (grade1-8)	Net Enrollment	56,899	43,186	100,085	9,827	8,973	18,800
	Gross Enrolment	84830	62,793	147,390	15,697	14,019	29,716

Annex VIII: Mobility pattern of sample learning Centers I catchment areas Inhabitants

**Teru livelihood Transhumant
pastoralist mobility pattern**

	woreda	center	stay homestead		move to other place			remarks
			season/time	duration	season/time	duration	children movement	
1	Teru	Adkoma	.June- Oct, march 30-may15	5months, 2.5months	Oct30-March30, May15-June30	5months,2.5months	some	
2		kiedas	.june-oct,march30-may15	5months, 2.5months	Oct30-March30, May15-June30	5months,2.5months	some	
3	Golina	Alina	July-Dec/feb30,	7-8months,	Feb-July	4-5months,	some	
4		Debeyra	July-Sep,,March-April	3months,2months	Oct-Feb, May-June	5months,3months	some	
5		Havanagura	August-Febr	5-7months,	July,Dec-Jan, March-April	1,month,0-2months,2months	some	
6		Bekero	July-Dec/feb30,	7-8months,	Feb-July	4-5months,	some	
7	Ewa	Artao	august-march/April	7-8months	April-,august	4months	some	stay July and august to save Pasteur
8		Herabuya	Sep-December	4months	Feb-June/ august	4months	some	if there is sugum rain they can return home
9		hida	Sep-Dec	4months	Feb-June/Aug	2months,8months	some	
10	Awraja	Amidrwa	July- Dec	6months	Feb-June	6months	all	they travel long pausing at many destinations by feeding tress
11		Moore	July-Dec	6months	Feb-June	6months		

Aramis - Adaar pastoralist mobility pattern

No	woreda	center	Stay home	duration	Movement to other place			remark
					season	duration	children movement	
12	Adaar	Kabu	July/august-Nov/Dec	4-6months	Dec/Feb-June/July	6-8 months	all	
13		Ganduli	July-Nov/Dec	4-6months	Dec/Feb-June/July	6-8 months	all	
14		Fursi-handeg	July-Nov/Dec	4-6months	Dec/Feb-June/July	6-8 months	some	
		Kfle Abaco	July-Nov/Dec	4-6months	Dec/Feb-June/July	6months	all except a few olds	
15	Chifra	Medane	July-Sept,	3 months	Oct-Feb, May-June	9 months	some	
16		Dermetu	July/Augst-Feb, March	7 months	March-June	5months,	some	
17		Bulbula	August-march	7months,	April-July/August	5months	some	
18		Sebibula	July-Nov/Dec	4-6months	Dec/Feb-June/July	6-8 months	some	
19		Ferhole	august-march	7months,	April-July/august	5months	some	
20	Dewe	Gendeng ube	July-March/April	8-9 months	May/April/may-July	4-5months,		
21		Anadai	July-march/April	8-9 months	may/April/may-July	4-5months,		In sugum rain they can return home. for the last 3-4 years no sugum and 'Dedaa' rain.
22		Gerudi	July-march/April	8-9 months	May/April/may-July	4-5months,		
23	Dulecha	Amalele	Oct-April/may	6-7months,	May-sep	5 months,		July and august stay out of home to go away from insects
24		Endagogulu	Oct-April/may	6-7months,	May-sep	5 months,		
25		Bestekle	Oct-April/may	6-7months,	May-sep	5 months,		
26		Adeleli	Oct-may	7 months	May/June-sep	5months		

C. Awsa and Gewane Agro pastoralist mobility pattern

No	woreda	center	Stay home		Move to other places			remark
			season	duration		duration	Children movement	
27	Amibera	Altaamibera	Oct/Nov-June	8-9 months	July-Oct/Nov	4 months	only older children, cow and camel herder move	stay away home for flood and quality grass, in December and February they move to farm to feed cotton residues
28		Eremodo/Geberere	Oct-June	9months	July-sep/Oct	3 months	only older children, cow and camel herder move	stay away home for flood and quality grass, in December and February they move to farm to feed cotton residues
29		Dinamo	Oct-June	9months	July-sep/Oct	3 months	only older children, cow and camel herder move	stay away home for flood and quality grass, in December and February they move to farm to feed cotton residues
30	Fental	Didga/Erfor da	Oct/Nove-June	8months	July-Oct/Nov	4 months	some	stay away home for flood and quality grass, in December and February they move to farm to feed cotton residues
31		Arebhara	Octo-April	8months	May/June - October	5 months	some	stay away home for flood and quality grass, in December and February they move to farm to feed cotton residues
32		Birforro	Octo-April	8months	may/June - October	5 months	some	>>
33		Demali	October - June	8-9month	June/ July - Oct/Nov	4 months	some remain with old relatives	>>
34	Aysaita	Oulendadur	Oct-June/Jul	8-9 months	Octo-Feb, July-august/sep	3-4months	some remain with old relatives	>>
35		Derela	October - June	8months	Oct-February, July-sep	4 months, 2 months	some remain with old relatives	>>

Annex IX: letter of permissions

To whom it may concern

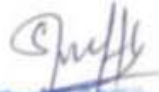


Ref- 21422/25
Date- 23/10/07

Subject: Letter of permission to conduct research

Ato Ahmed Ebrahim has asked our bureau authorization to conduct research in our region on the provision of primary education for pastoral children as part of for his PhD study. Accordingly, the Afar National Regional State Education Bureau grants its permission for Ato Ahmed Ebrahim to engage in dissertation research that will use "Afar National Regional State pastoral children Education" as a subject in the research. The research will include the analysis of documents available, interview, focus group discussion, questionnaire, school age children head count from different echelon of the bureau (from bureau to schools) as well as the pastoral communities.

Thanks,


Bileto Saqula
my name is Bileto
A.C. M.A.




Ahmed Ebrahim

Tel 0912137926

June 22, 2015

Afar National Regional State Education Bureau

Samara

Request to obtain authorization to conduct research in the region for doctoral studies

I am studying towards PhD in educational policy and leadership at Addis Ababa University. This letter seeks authorization to conduct research in the region. My area of focus is viability of alternative modalities for provision of primary education for pastoral children in Afar region.

As part of the research I need to collect data from regional education bureau, Woreda Education offices, fixed alternative education centers, mobile schools, boarding schools, formal primary schools and communities of the catchment areas of the schools to be selected. The data collection involves interview, focus group discussion, questionnaire, observation, head count of school age children, and document review. The results of the study will be expected to inform both policy and practices. In doing my research, I commit myself to be ethical and professional.

I therefore seek permission from the regional education bureau to collect data from the aforementioned data source offices, schools and communities.

With regards,

Ahmed Ebrahim

Authorization granted/not-granted



[Signature]
 Tashu Aemsew
 Biko Saqala
 MY HONORABLE
 ILC MA

Woreda education office letter of permission

Date: 07/11/07
From: Ahmed Ebrahim
Tel 0912137926
Samara

Aysaita Woreda Education Office

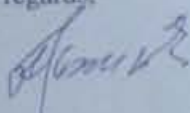
Aysaita

I am conducting my research towards my PhD at Addis Ababa University. Kindly be informed that I have obtained a written permission from the Afar National Regional State Education Bureau to conduct the research on the viability of alternative modalities to provision of primary education for pastoral children in Afar region.

As part of the research I need to collect data from the WEO and ABE centers/schools and the communities around the catchment areas of the learning centers, and formal primary schools in your Woreda. The data collection will involve interview, focus group discussion, questionnaire, observation, head count of school age children, and document review.

I therefore seek permission to collect data from the aforementioned data source areas under your jurisdiction.

With regards,



Ahmed Ebrahim

Consent granted/~~not granted~~


Musa Yason
019 7711111
2/11/07



Annex X: school age children and student count in ABE 2014/15

A: School age children for 1st cycle primary education in the sample ABE centers

livelihood	age 7		age7-10	
	M	F	M	F
Teru	98	66	298	204
Aramis-Adar	237	223	1224	1071
total transhumant	335	289	1522	1275
Awsa-Gewane	161	145	425	395
Kifle Abaco	5	8	35	24

B: out of school children by livelihood in the sample ABE centers

livelihood	age 7-10								age11-14			
	enrolled in other school		dropout from 2nd cycle school		dropout from sample center		never enrolled		dropout from 1st cycle		never enrolled	
	M	F	M	F	M	F	M	F	M	F	M	F
Teru	2	4	1	0	27	16	50	34	26	27	24	26
Aramis-Adar	37	37	22	23	50	59	144	102	32	32	32	22
total transhumant	39	41	23	23	77	75	194	136	58	59	56	48
Awsa-Gewane	28	17	9	4	48	33	31	33	5	11	18	27
Kifle Abaco					6	5	6	4	1	1	2	

C: 2014/15 intake

livelihood	year below7		age 7		7+	
	M	F	M	F	M	F
Teru	14	6	74	47	64	56
Aramis-Adar	27	31	207	195	146	87
total transhumant	41	37	281	242	223	143
Awsa-Gewane	63	66	140	124	89	75
Kifle Abaco	4	1	3	3	3	6

2014/15 enrollment

livelihood	Below age 7		Age7-10		Age 11-14		Age14+	
	M	F	M	F	M	F	M	F
Teru	13	6	217	150	91	61	4	4
Aramis-Adar	6	3	981	859	233	181	34	1
total transhumant	19	9	1198	1009	354	272	38	5
Awsa-Gewane	29	38	323	280	96	71	15	10
Kifle Abaco			25	20	9	6		

D-Enrollment level 1-3

	2011/12						2012/13						2013/14						2014/15					
	level 1		level 2		level 3		level 1		level 2		level 3		level 1		level 2		level 3		level 1		level 2		level 3	
livelihood	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Teru	188	109	104	57	65	34	290	195	90	49	41	28	229	159	98	72	68	39	155	97	99	80	75	45
Aramis- Adar	412	338	312	160	113	66	322	288	370	314	261	200	351	284	456	406	338	289	381	313	454	389	445	368
total transhumant	600	447	416	217	178	100	612	483	460	363	302	228	580	443	554	478	406	328	536	410	553	469	520	413
Awsa- Gewane	240	171	88	58	11	18	207	203	96	74	85	49	195	163	108	79	62	36	269	247	130	99	64	53
Kifle Abaco							46	15	7	6			25	14	20	5	7	8	10	10	17	7	7	4