Primary and Alternative Basic Education among the Karayu pastoral community of East Shoa Zone: Relevance, Practice and Challenges

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Abstract: *The purpose of this study is to assess the challenges, practice and relevance of the school calendar and traditional full-time formal primary and ABE curriculum to the Karayu pastoral livelihood. The study used an exploratory sequential design of the mixed methods research approach, collecting data from 212 participants in the Fantale district, using key informant interviews, focus group discussions, questionnaires, and observation. Quantitative data were analyzed using descriptive statistics while qualitative data were analyzed using a thematic analysis technique. The result generally revealed that the enrollment rate both in ABEs and primary schools of Karayu pastoral community is low; gender equity is far from being achieved as more males were enrolled compared to females; the gender parity index for GER and NER is less than 1.0, and is also less than the regional average of 0.86; gender gap for GER and NER is positive both in ABEs and primary schools; there is a high proportion of repeaters and dropouts both in primary schools and ABE centers, where the rates are higher for males than for females; the average promotion rate in primary schools is less than the regional average of 82.2%, where this rate is higher for females than for males. The finding also indicated that the existing traditional and full-time face-to-face contact school-based curriculum of both the ABE centers and primary schools as well as the school calendar are not compatible with the real-life experiences, nature of mobility, and cultural norms of the Karayu pastoral community. The Karayu community faces a significant shortage of standard curriculum materials, facilities, and teaching force, compromising education quality and efficiency. To address this, there is a need* for culturally sensitive, pedagogically sound, and ecologically feasible education and flexible policies.

Key terms: pastoral education, mobility, ABE, formal primary education, relevance, practice, challenges, school calendar.

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Introduction

Contexts to the Study

Recent estimates indicate that about 120 million pastoralists and agro-pastoralists live worldwide (Abduselam, 2019), of which 41.7% reside only in sub-Saharan Africa (Petros, 2015). In East Africa, pastoral dry lands cover huge areas, which account for 60-100% (Ali, 2019). Studies also indicate that over 30 million people in the great horn of Africa (Somalia, Ethiopia, Kenya, South Sudan, Eritrea, Djibouti, Sudan, Tanzania and Uganda) practice pastoralism and agro-pastoralism as a major source of livelihood (Ochieng & Waiswa, 2019).

In Ethiopia, there are more than 12 million pastoralists and agro-pastoralists that makeup about 12% of its total population (Petros, 2015). They occupy 65% of its total land mass with more than 29 nationalities, of which 97% of them live in low land areas of Afar, Somali, Oromia, and SNNPR (Abduselam, 2019). According to the Intergovernmental Authority on Development (IGAD) and International Center for Pastoral Areas and Livestock Development (ICPALD) estimate of 2013, Ethiopian livestock production accounted for about 47 per cent of agricultural GDP. Livestock in pastoral regions of Ethiopia also accounts for an estimated 40 per cent of the country's total livestock population (IFAD, 2016). Not only this, while struggling to improve their survival and development through the practice of pastoralism, the pastoral households are also central to the maintenance of peace and stability of the communities (Ochieng & Waiswa, 2019). What this suggests is that pastoralism is a sustainable means of livelihood, where pastoralists make significant contributions to the national economy.

Relatedly, many policy contexts or directives were created to develop and expand the education system that addresses or suits pastoral livelihood. The first policy context was the United Nations' declaration in 1948 of education as a fundamental human right. This declaration states that any individual irrespective of age, gender and social status has the right to education (Dyer, 2016; UNDP, 2010). In fact, contrary to this declaration, pastoralists still face marginalization and discrimination in terms of experiencing low levels of school enrolment (Abduselam, 2019), poor attendance (Ochieng & Waiswa, 2019), poor academic performance (Raymond, 2016; Tolessa, 2013), and poor transition to higher levels of education (Ali, 2019).

The second policy context was the 1990 World Declaration on Education for All (EFA). In keeping with the grand development narratives of education as a public and individual good, the 1990 World Declaration on EFA drew attention to *removing educational disparities* within countries, in which the needs of particular groups, especially of nomad pastoralists, were stressed and highlighted (Article 3) as well as learning through a *variety of delivery systems* and the adoption of supplementary alternative programs (Article 5) were encouraged (Krätli & Dyer, 2009). A repeated EFA call, noting nomads as a group requiring special attention and that need to be targeted, was made a decade later in 2000 in Dakar. The Dakar Framework for Action stressed that the education systems have to be inclusive, actively seeking out children who are not enrolled and responding flexibly to the circumstances and needs of all learners (Ali, 2019). A further decade later, the 2010 EFA Global Monitoring Report from UNESCO, with the motto of reaching the marginalized, called for urgent action to address the continuing, extreme education deprivation of the mobile pastoralists (Dyer, 2016).

The third policy context for addressing pastoral education is the 2000 Declaration and the launch of Millennium Development Goals (MDGs). Particularly, Goal 2 of the MDG mainly focused on ensuring that all children, particularly girls, children in difficult circumstances and those belonging to ethnic minorities, have access to complete, free and compulsory primary education of good quality by 2015 (Tolessa, 2013). It should be recognised that the efforts at attaining EFA and MDGs have provided an impetus for many African countries to push for Universal Primary Education (UPE) ((Ali, 2019; Serem & Ronoh, 2012), though UPE is not realized yet by the target set, 2015 (Abduselam, 2019; Befekadu, 2006; Krätli & Dyer, 2009; Tolessa, 2013). The primary reason for educational policies and programs to be concerned about the education of pastoralists is the new challenge raised by globalization to the attainment of universal primary education (Krätli, & Dyer, 2009). Aside from the rights-based argument for the importance of UPE, policy documents have frequently justified the need for investment in education by pointing at the poverty-alleviating benefits that are associated with it (UNESCO cited in Serem & Ronoh, 2012).

In addition to ratifying the UN declarations on education, the Ethiopian Government's initiatives to adopt and take a series of actions to address the pressing needs of its pastoral communities in its 1994 constitution (Tolessa, 2013), Education and Training Policy of the 1994 (Birhanu, 2017), General Education Quality Improvement Program (GEQIP) (Abduselam, 2019), education sector development program (ESDP I-V) (CfED, 2017; Solomon, 2006), and development of ABE Implementation Framework (Birhanu, 2017; Petros, 2015) as well as pastoral area education strategy (PAES) documents (first version in 2008 and revised version in 2019 (MoE, 2008, 2019) can also be taken as another policy context to the expansion of pastoral education. In this vein, many evidences were generated from empirical studies supporting the

initiatives taken by the Ethiopian government at creating access and expansion of pastoral education through the ABE and formal primary education system. For instance, a study by the Minority Rights Group International (MRG, 2022) indicated that the government of Ethiopia has responded with a number of initiatives, such as the previously mentioned ABE programme, mobile schools and distance learning, to provide more accessible and appropriate educational services to the pastoral communities in the country. A study by Anbisa (2020) also suggested that the Borena district and Zonal education offices use multiple education delivery approaches such as formal schools, satellite schools (affiliated with a formal school), alternative basic education centers, and adult education delivery to improve access to schooling for pastoralist community children. Similarly, a study by Pact Ethiopia (2008) also revealed that the modality of the formal school being used is reaching thousands of children in pastoral areas. At the same time, a study by Petros (2014) confirmed that all the series of Education Sector Development Programs (ESDP) were targeted to increase the primary enrolment rate in under-served pastoralist regions of the country. However, the issue of quality and relevance of the formal school modality to the contexts of pastoralist livelihood remains a serious challenge. For instance, Pact Ethiopia (2008) reported that the modality of formal schooling is still a barrier that prevents access to education and leaves pastoralists either without education or provides them with education that is not relevant to their lives. Similarly, the finding by Anbisa (2020) implicates that there is still a need to diversify the education delivery approach and pay attention to making the education system relevance to the pastoralist community.

Being informed by the 2010 EFA Global Monitoring Report called for urgent action to address the mobile pastoralists' extreme education deprivation, and to create quality, relevance, equity and access to

education for the disadvantaged nomadic pastoralist communities (Birhanu, 2017; Dyer, 2016; Ngugi, 2016), various *innovative approaches* to pastoral education such as Alternative Basic Education, Open and Distance Learning, and Pastoralist Field Schools have been adopted (Krätli & Dyer, 2009). Alternative Basic Education (ABE) is embedded within such strategies as *Non-Formal Education* (NFE), *mobile schools* and *family learning* approaches (Krätli, & Dyer, 2009; Ngugi, 2016). For mobile pastoralists, a mobile school is a provision that can move a school in the form of a tent, bus or boat, or a couple of boxes on the back of a camel or donkey (Ngugi, 2016). The assumption behind mobile school is that if educational provision is responsive to their needs and priorities as well as if the distance between the child and the educational provision is minimized, mobile pastoralists are more willing to enrol both boys and girls (Dyer, 2016). However, creating truly mobile provision for highly mobile learners carries with it further challenges of identifying, training and retaining teachers and monitoring and quality assurance (Dyer, 2016). According to Krätli and Dyer (2009), the family learning approach combines NFE (adult literacy and numeracy program) for parents with basic education for children. This *inter-generational learning style* plays a strong role in knowledge transfer within nomadic communities, offers a good fit with the existing socio-cultural norms and avoids the negative trade-off involved with school-based education.

Open and Distance Learning (ODL) is an *education delivery model* that has the potential to surpass the difficulty of school-based education, enable the participation of learners who have complex patterns of movement, offer learning without barriers of time, place, pace or methods of study and deliver on EFA commitments (Dyer, 2016). Most distance education systems simply use *radio* and *television* as a replacement for the teacher, adapting messages that come from a school-based understanding of learning (Krätli & Dyer, 2009). Moreover, education

within an ODL approach has the potential for very flexible service provision; allows children and adults to learn together, both at the *camp* and in the course of their daily activities; integrates a formal curriculum; enables as many nomadic pastoralists as possible to take advantage of learning opportunities in their lives and can address the current trade-off between the full-time face-to-face contact formal education and productivity (Serem & Ronoh, 2012).

The Pastoralist Field Schools (PFS), also known as *schools without walls*, are a relatively new adaptation of the Farmer Field School (FFS) model developed by the Food and Agriculture Organization (FAO) of the United Nations in South Asia in 1989 as a means of empowering farmers to develop their solutions to problems that research and extension could not provide an answer for (Dyer, 2016). PFS has been adapted to the *mobility of pastoralists* to develop pastoralists through observation, experimentation and capacity building, and help them to become more resilient and less vulnerable (UNICEF, 2017). The overall PFS process is guided by a *learning curriculum* developed in a *participatory approach* tailored to seasonal livelihood activities and challenges (Raymond, 2016). The PFS approach was adapted to the Ethiopian context in 2010 by FAO in collaboration with the Government of Ethiopia to enhance both pastoralists' conceptual understanding of the underlying basic science, relations and interactions in their given context and their capacities to take joint action in response to collective analysis (Abduselam, 2019; Krätli, & Dyer, 2009). However, ABEs and *formal schools* are the only approaches being practised in the context of Ethiopian pastoral areas, whereas the other two innovative approaches: ODL and PFS were not put into actual use (PAES, 2008, 2019; Ali, 2019).

Numerous literature sources (e.g., Dyer, 2016; Krätli, & Dyer, 2009; Petros, 2015; Tolessa, 2013; UNICEF, 2017) indicate that the traditional,

full-time, face-to-face contact and *school-based* formal *curriculum model* is not appropriate to pastoral livelihood and pattern of mobility. It is rather in conflict with the household *functional-mobility patterns* and pastoralist style of life (Raymond, 2016). According to Dyer (2016), as formal education is a highly contested resource in *theory* and *practices*, it often contradicts the experiences of mobile pastoralists and their traditional livelihood. Ali (2019) also pointed out that the formal education system that promotes a *national curriculum*, *standardized pedagogy* and *rigid calendar* can lead to a conflict between the traditional values of pastoralist peoples and *state policies* as promulgated through the educational system. In addition, as pastoralists have their unique customs, norms and traditions, they have strong fear that formal education eliminates their *traditional cultural elements* (Petros, 2015; UNICEF, 2017). Similarly, Tolessa (2013) stressed that since the history of modern education is largely a history of school-based education, this seems to separate pastoral children from their livelihood and the interests of their household. It also deprives one rights to add another, and is one of the reasons why parents don't enrol their children or withdraw them from school before they complete it (Ali, 2019; Krätli & Dyer, 2009). Thus, as a solution, some sources (e.g., Birhanu, 2017; Krätli, and Dyer, 2009; Petros, 2015; Solomon, 2006; Tolessa, 2013; UNICEF, 2017) suggest that adopting a culturally responsive curriculum model (that addresses the indigenous knowledge, traditional norms), pedagogically sound and ecologically feasible (that addresses the mobility context of pastoralists) appropriately addresses the pressing needs, mobility patterns, local customs and realities of the pastoral community. It is also noted that making the *centralized national curricula* relevant to the pastoral groups is not achieved simply by adding relevant topics from the same centralized perspective (CfED, 2017). Rather a curriculum becomes relevant to pastoralist children by tackling the *foundation subjects* (e.g., communication skills, literacy, numeracy, competency in national

languages, critical and analytical skills, foundational understanding of natural sciences, history, geography, including basic general information) from the perspective of pastoralists' daily reality and pre-existing knowledge as constructed by pastoralists themselves (IFAD, 2016; Krätli & Dyer, 2009; Serem & Ronoh, 2012; Solomon et. al., 2008).

Of course, despite decades of efforts, addressing the pressing educational needs of the nomad pastoralists as well as achieving access, equity, quality and efficiency in the education of the pastoral groups failed both globally and locally (Befekadu, 2006). In connection with this, studies consistently reported that the lack of basic infrastructure in the areas (MRG, 2022) significantly hinders reaching remote pastoralists and significantly lowers the uptake of primary school education (Petros, 2014). Evidences also show that the *gender parity index* for the pastoral community is well below the national average (Dyer, 2016) and in almost all pastoral communities, the proportion of children who get a primary education is very small (Petros, 2015). Research also consistently reported that the lowest participation of pastoralist children in schooling is associated with a lack of flexible educational programs (Dyer, 2016); early marriage and lack of interest in modern education (Ali, 2019); child labour, poverty and finance (Birhanu, 2017); shortages of the required manpower, educational and physical facilities (Serem & Ronoh, 2012); lack of *flexible calendar* and absence of primary schools built around seasonal herding (CfED, 2017; Petros, 2015). Raymond (2016) also suggested that girls have limited opportunities to undertake formal education due to *marginalization*, resulting in high rates of illiteracy; and low rates of enrolment, retention and completion at all levels of education compared with boys (Abduselam, 2019; Ali, 2019; Ngugi, 2016; Solomon et al., 2008; Tolessa, 2013).

Statement of the Problem

Ever since the UN declaration of education as a basic human right in 1948, several efforts have been made globally and nationally to universalize primary education as well as to improve access, equity, quality and efficiency of basic education. However, such a strong advocacy could not go beyond the *publication of documents* to realize the right to education for many target beneficiaries. This is particularly true for the marginalized pastoral communities across the globe, where the Ethiopian pastoral group is not an exception. This marginalization of the pastoral groups, which is historical and associated with their *mobile lifestyles*, results in low levels of school enrolment, attendance, academic performance and transition to higher levels of education (Raymond, 2016). This clearly shows that the reality on the ground (at the grass-roots level) is very far from what is advocated in various documents, particularly in the context of pastoral communities. In other words, there is a huge gap between the practice and theory of pastoral education, especially in the context of the Karayu pastoral community.

Similarly, though many opportunities such as the UN declaration in 1948 of education as a fundamental human right, the 1990 World Declaration on Education for All (EFA), the launch of Millennium Development Goals (MDGs) by 2000, the 1994 constitution, and Education and training policy; General Education Quality Improvement Program; and series of ESDPs (I-V) of the government of Ethiopia were created at different times to address the educational needs of the diverse pastoral groups, the pastoralists of Ethiopia in general and Karayu pastoral community in particular have not still acquired the education system/program that reflects their livelihood contexts, indigenous knowledge, mobility patterns and cultural elements. At the same time, despite their national and local economic contributions, the Ethiopian pastoral groups have not yet been

provided with an appropriate educational system, standard curriculum and flexible school calendar/timetable that considers their livelihood, mobility patterns and cultural elements at the grass-roots level (Ali, 2019; Birhanu, 2017; Tolessa, 2013).

Moreover, even though various innovative approaches such as Alternative Basic Education, Open and Distance Learning, and Pastoral Field Schools were adopted globally to bring schools closer to pastoral children (Krätli & Dyer, 2009), thousands of children in the pastoral regions of Ethiopia in general and in Karayu pastoral community in particular have not still got access to and are dropping out of school. What this makes clear is that it is high time to think outside of the *conventional box* or *comfort zone* and find ways to develop a flexible education system or link formal school-based education to the contexts and processes of *informal learning*, which is the customary learning style of the pastoral groups.

Besides, there are no empirical/research data indicative of whether the existing ABE and *formal school-based curriculum* is reflective of, and whether the different approaches to the education delivery (ABEs, formal schools, ODL & PFS) were appropriate to the pastoral communities' pressing educational needs or not. Moreover, the appropriateness, adequacy, quality, relevance, access, efficiency, effectiveness and challenges to delivering education to the Karayu pastoral community have not been examined so far and are supported by adequate empirical data. Therefore, the current study is an attempt to address such gaps and adding some new knowledge to the existing literature in terms of the practices and challenges of pastoral education in the context of the Karayu community.

Research Questions

The study aims to address the following basic questions:

- How are ABE and primary school education practised (in terms of expanding *access, equity, quality and efficiency*) in the context of the Karayu community?
- Are the existing full-time face-to-face contact ABE and formal primary school curriculum and *school calendar* relevant to the contexts of the Karayu pastoral community?
- What factors hinder the proper implementation of ABE and primary school education in the context of the Karayu pastoral community?

Methodology

Research Design

Since the major purpose of the current study is to assess the relevance of the existing formal, traditional and full-time school-based curriculum, level of implementation and challenges faced in implementing the pastoral ABE/formal primary education, a *mixed methods research approach* was adopted. The selection of this approach was also based on its appropriateness to the study's research questions and the need to generate both quantitative and qualitative data in a single research (Bazeley, 2004; Bryman, 2006; Greene, 2008; Johnson and Onwuegbuzie, 2004). Specifically, the current study employed sequential exploratory design (QUAL-Quan.) as it allows giving priority to the qualitative data with supportive evidence from the quantitative data. This means the focus is on qualitative data where quantitative data are used primarily to augment the qualitative data.

Description of the Study Site

The Karayu Oromo are an Oromo clan inhabiting the Awash Valley banks of the Abadir and Merti areas in central Ethiopia. They are pastoralists. Karayu neighbours the Afar in the east, Arsi in the south, Boset woreda in the west and Argobba people in the north. The Karayu Oromo live in the Fantale district of the East Shoa zone, and have a total population of *81,740*, of which 43,266 are males; 38,474 are females; 20,522 reside in urban areas; and 61,218 reside in rural areas (CSA, 2007). They are, in fact, the only pastoral community in the East Shoa zone.

The Karayu Oromo mainly live in rural areas where they make a living primarily from raising animals along with some farming. The typical dwelling is a *tukal* or a circular hut made of acacia branches covered with grass mats. The cone-shaped roof has an opening that allows smoke to escape. Villages are made up of 10-80 families. Their staple diet includes durra (a cereal grain), maize, beans, rice, milk, meat, and wild fruits. Coffee and tea are both popular beverages. The Karayu Oromo family is headed by an authoritarian father who has the right to expect total obedience. Men usually have only one wife, and children are considered a necessity. The more children and grandchildren a man has, the greater his prestige. Some Karayu Oromo have moved to the towns, attracted by employment opportunities and modern schooling. Others have entered national security forces, the industrial labour force, or fields of trade, transportation, and education.

The majority of the Karayu Oromo are Muslims; however, they still practice their traditional religion, called Waqqeffannaa. These ethnic religionists worship a supreme being named Waqa. Wadaja feasts are organized on various occasions, and they sacrifice livestock in Waqa's

honour. Adults fast during Ramadan (the Muslim holy month), but few celebrate other Muslim festivals.

Sample Selection Procedures

The sources of data for the current study were primary schools and ABE centres, education experts working in the Fantale district of East Shoa Zone, the school communities (teachers, students, PSTA, principals, supervisors) of the selected pastoralist schools and ABE centres as well as parents, elders and pastoral community representatives. In order to generate valid and reliable data to answer the basic research questions posed in the study, samples need to be representative of the target population. Because of this, both random and non-random sampling techniques were employed to triangulate the sample selection procedures. Onwuegbuzie and Collins (2007) suggested that a sampling scheme consisting of non-random sampling for the qualitative component and random sampling for the quantitative component is the common combination in mixed methods research design.

Accordingly, education experts, community representatives, principals, supervisors and PSTA members were purposively selected as samples of the current study based on their experiences, exposures and relevance to pastoralist communities' livelihood and their educational practices. The existing literature (e.g., Bazeley, 2004; Onwuegbuzie & Collins, 2007) suggests that in mixed methods studies, because of the complexities of data it generates, samples for qualitative investigations tend to be smaller and drawn purposively. Similarly, in primary schools and ABE centres, teachers, parents and students were randomly selected as samples of the current study based on Neuman's (1997) guideline. As suggested by Neuman (1997), if the study population is 1000 or under, the sample ratio of 300 (about 30%) individuals, for a

population of 10,000 the sample size of 1000 (about 10%); and for populations over 150,000, smaller sampling ratios (1%) are acceptable representative sample for the quantitative part of a study.

Given this, the first 14% (five primary schools) of the sample size was fixed from the target population of 36 primary schools; and 9% (three ABE centres) was fixed from 33 ABE centres. Secondly, out of the total 68 teachers (of the five selected schools) and 12 ABE facilitators (of the three selected ABE centres), 44% (30 teachers and 5 facilitators) were fixed as samples of the study. Lastly, out of 300 students from the selected primary schools and ABE centers, 25% (75 students) were fixed as samples of the study. Generally, the current study employed a total of *212* samples ((20 teachers: M = 15, F = 5; 15 ABE facilitators: M= 12, F=3; *75* students: M= 45, F= 30; *12* education experts: M= 12; *20* parents: M= 16, F= 4; *10* community representatives: M= 10; 8 principals: M= 7, F= 1; 4 supervisors: M= 3, F= 1; and 68 PSTA members [48 from Primary schools: M= 40, F= 8; and 20 from ABE Centres: M = 16 & F =4). Out of these *212* participants, *110* were respondents of the questionnaire, *34* were KI informants, and *68* were Focus Group Discussants (56 males & 12 females in 12 sessions of 5 to 8 participants).

Data Collection Instruments

To generate adequate, valid and reliable data, the study employed both qualitative and quantitative data-gathering tools. For the qualitative part, key informant interviews and focus group discussions were employed. For the quantitative part, a questionnaire scale, document review (annual education statistical abstract) and observation checklists were employed.

As a result, a *questionnaire* consisting of two sub-scales*:* curriculum issues (12 items), and challenges (18 items) was developed to generate

quantitative data from primary school teachers and ABE centre facilitators as well as grade 7 and 8 students. At the same time, the 2011 and 2012 Education Statistics Annual Abstract of Oromia Regional State were reviewed to capture data related to *the* gender parity index (GPI), gender gap (GG), gross enrolment rate (GER), and net enrolment rate (NER) as *good indicators for access or equity* of education as well as dropout rate, repetition rate and promotion rate as *good indicators of internal efficiency*. Likewise, an *observation checklist* consisting of 28 items was developed to generate data on the physical dimensions and facilities as well as the adequacy and quality of the educational materials from the sample primary schools/ABE centers. Similarly, a *key informant interview guide* consisting of 13 unstructured items was developed to generate in-depth qualitative data from community representatives, education experts, principals and supervisors about the relevance, practices and challenges of pastoralist education in the study site. Moreover, a *focus group discussion guide* consisting of 13 unstructured items was developed to generate detailed qualitative data from PSTA members and parents.

Generally, to establish the *content validity* of all the data-gathering instruments developed by the researcher, a panel of eight subject matter experts (SMEs) was invited to judge the appropriateness, adequacy and proper wordings of the items, where the comments were used to refine the final data collection tools. Moreover, *reliability* was established specifically for the quantitative questionnaire scale by conducting a pilot test on 55 primary school teachers, ABE facilitators and senior students who have similar characteristics to that of the main study samples. As a result, the internal consistency reliability in terms of Cronbach alpha was computed to be *.88* for the full scale, indicating that the questionnaire tool is eligible for research and assessment purposes.

Procedures of Data Collection and Analysis

Once the tools of data gathering were refined, sharpened and translated into the target (Afan Oromo) language; assistant data collectors were trained on how to administer the questionnaire tool. Similarly, a letter of ethical approval was secured from the School of Psychology, Addis Ababa University's Research Ethics Committee, the researcher first consulted the education experts in the education office of Fantale district on how to contact the study participants and facilitate the data collection process. Then, in collaboration with one focal person from the district's education office, the researcher contacted the study participants to get their free consent to participate in the study, explained the purpose of the study and fixed the actual data collection schedule.

Hence, after arranging all the necessary logistics for data collection, data were collected in a face-to-face approach, where field-notes and audio recordings were taken by the researcher while conducting KII and FGDs; on average, the interview took 50 minutes and the FGD took 90 minutes.

At the same time, to analyze the quantitative data generated through questionnaire scales and observation checklists, descriptive statistics (frequencies, figures, graphs, percentages, mean and standard deviation) were employed. Similarly, to analyze the qualitative data (field notes, words or transcripts) generated through KII and FGD, the thematic analysis technique was employed as it allows for transcribing the raw data; codifying and categorizing the transcribed data, and identifying the emerging themes. To secure confidentiality both in the transcription and analysis of the qualitative data, codes such as P_1, P_2, P_3… (participant$_1$, participant$_2$, participant$_3$…) were used to represent the study participants involved in KII and FGD instead of using their real names.

Results

Introduction

This part of the report deals with analyzing the data and identifying the study findings. Of course, before data analysis, the quantitative (questionnaire and observation) data were entered into SPSS – computer software for research in the social sciences, and further screened, edited and coded both before and after data entry. Similarly, the qualitative KII and FGD data were transcribed verbatim to condense or reduce huge raw information and make them manageable and suitable for data analysis.

While cleaning the data, some missing data were detected and treated via the *mean replacement method.* Generally, *110* properly completed questionnaire data; 34 KII data; 12 FGD data (of 68 discussants); and eight observation data (*5* on pastoral primary schools and *3* on ABE centres) were analyzed in this study. Once data were cleaned and prepared, the analysis, as presented below, was organized in light of the basic research questions posed in the study.

Demographic Characteristics

Table 1. The Study Participants, Gender and Level of Education

Variables		***Figure***
Study Participants	Education Experts	12
	Principals	8
	Supervisors	4
	Primary School Teachers	20
	ABE Center Facilitators	15
	Students (grades 7-8)	75
	Parents	20
	Community Representatives	10
	PSTA Members (in 8 primary schools and ABEs)	48
	Total	***212***
Gender	M	161
	F	51
	T	***212***
Level of Education	Can't read and write	10
	Can read and write	15
	Primary Education	65
	Secondary Education	25
	College Diploma	50
	First Degree	47
	Total	***212***

The data summarized in Table 1 indicates that the sources of data are so diverse and the study participants are eligible and appropriate to provide rich, reliable and valid data. It also reveals that adequate numbers of the study participants are fairly represented in terms of gender and level of education. It also implies that the results obtained from these samples can be generalized to the wider population from which the samples were drawn.

Analysis of Quantitative and Qualitative Data

Equity of ABE and Primary Education in Karayu Pastoral Community

Table 2. Gross and Net Enrolment Rate, GG, and GPI as Indicators of Access/Equity

GER	Gender	Number	NER	Gender	Number
Grade 1-8 Enrolment Age 7-14	M	6157	Grade 1-8 Enrolment Age 7-14	M	5579
	F	4750		F	4457
	T	10907		T	10036
ABE Enrolment Age 7-14	M	595	ABE Enrolment Age 7-14	M	585
	F	375		F	374
	T	960		T	959
GER 1-8 Regular and ABE	M	93.0	NER 1-8 Regular and ABE	M	85.0
	F	73.5		F	69.3
	T	83.5		T	77.3
Gender Gap (GG) from GER		19.5	Gender Gap (GG) from NER		13.0
The Gender Parity Index (GPI) from GER		0.79	Gender Parity Index (GPI) from NER		0.82

Source: 2012 Education Statistics Annual Abstract of Oromia

The data presented in Table 2 shows that the GER in primary schools (M = 6157, F = 4750) and ABEs (M = 595, F = 375) is higher for males than for females. Similarly, NER in primary schools (M = 5579, F = 4457) and ABEs (M = 585, F = 374) is higher for males than for females. At the same time, GER (M = 93.0, F = 73.5) and NER (M = 85, F = 69.3) both in primary schools and ABE centres are *low* (because the expectation is 100%) and substantively higher for males than for females. Furthermore,

the gender gap (GG) for GER (19.5) and NER (13.0) is *positive* (greater than zero). Moreover, the gender parity index (GPI) for GER (.79) and NER (.82) is less than *1.0* and is less than the regional average of *0.86*. Generally, the data presented in Table 2 shows that *gender equity* in the enrolment of male and female children is yet to be reached and girls have less access to education compared to boys both in formal primary schools and ABE centres of the Karayu pastoral community.

Table 3. Dropout, Repetition and Promotion Rates as Indicators of Internal Efficiency

Dropout Rate			Repetition Rate			Promotion Rate		
M	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**
15.4	14.4	14.9	5.7	4.5	5.2	78.9	81.1	79.9

Source: *2012 Education Statistics Annual Abstract*

As indicated in Table 3, the weighted mean value reveals that there is a high proportion of student dropout (14.9) from the ABE centres and formal primary schools of the Karayu pastoral community, where the rate is higher for males (15.4%) than for females (14.4%). Similarly, high proportion of students repeat classes (5.2%), where the rate is higher for males (5.7%) than for females (4.5%). Moreover, the average promotion rate of ABE and primary school children is 79.9%, where the rate is higher for females (81.1%) than for males (78.9%) and is less than the national average of *82.2*%. The result generally indicates that the *internal efficiency* of both the ABE and primary education is a severe problem in the context of the Karayu pastoral community.

Similarly, for the question of *how you view access, equity, relevance and efficiency* of *ABE & primary education in Karayu pastoral community*, the FG discussants and KI informants said that as most of the pastoral

children are still out of school due to travelling long distances every day; as more female children are not still enrolled in the school system; as there are no adequate educational, physical and manpower resources both in primary schools and ABE centres; as pastoral children are forced to attend the *full-time* face-to-face contact school-based curriculum; and as there are high dropout and repetition rates due to the *incompatibility of the school calendar* as well as low retention rates, obviously access, relevance, and efficiency of ABE and primary education for children of Karayu pastoral community is low.

For instance, one FG discussant said:

Compared to boys, girls are not enrolled both in primary school and ABE education in our locality. One reason is the long distance from the ABE/school to home. Another reason is that parents do not value education. At the same time, the curriculum content taught at primary schools and ABE centres does not reflect pastoral contexts and livelihood. Furthermore, due to the incompatibility of the school calendar, most children drop out of the education system.

Similarly, one KI informant said:

Most of the ABE centres and primary schools have a severe scarcity of resources (educational materials, physical facilities, financial, and human). Most of the ABE and primary school teachers are not well-trained, experienced and skilled. Student drop out is high due to the mobility of the entire Karayu pastoral community during the severe drought seasons in search of drinking water and sufficient grazing land for their livestock. In such severe circumstances, it is really difficult to expand access to, maintain efficiency and deliver quality education for children of the Karayu pastoral community.

Relevance and Adequacy of the Existing ABE/Primary School Curriculum

Table 4. Relevance of the Existing ABE/Primary School Curriculum Contents and Materials to the Contexts of Pastoral Community

Item	Responses			
		Low	Mo de-rate	Hig h
Adequacy of the curriculum materials used (children's text books, teaching aids, and play materials)	F	81	18	11
	%	74	16	10
The extent to which the existing ABE/primary school curriculum materials have been used by teachers and facilitators	F	77	23	10
	%	70	21	9
The extent to which the existing primary school/ABE curriculum contents are appropriate for pastoral children	F	78	24	8
	%	71	22	7
The extent to which contents of the school-based curriculum re-late children's previous (home) experience with current learning	F	75	30	5
	%	68	27	5
The extent to which contents of the existing ABE and Primary education cater for children's holistic development (language, social, physical, cognitive, aesthetic, affective, and intellectual)	F	84	16	10
	%	76	15	9
The extent to which the preparation of existing primary school/ABE curriculum materials facilitates an active learning approach	F	71	29	10
	%	65	26	9
The extent to which the existing curriculum materials in the pas-toral primary school/ABE centre are inclusive of music, art, sci-ence, nature, math, language, social studies, and motor skills	F	77	21	12
	%	71	18	11
The extent to which the contents taught are relevant to pastoral livelihood, indigenous knowledge, cultural values, contexts and beliefs	F	80	20	10
	%	73	19	8
The extent to which school-based curricular activities provide opportunities for active learning	F	85	14	11
	%	78	13	9
The extent to which the pastoral primary school/ABE curriculum contents are vertically linked to the full-time formal primary school curriculum contents	F	80	19	11
	%	73	17	10
The extent to which the pastoral primary school/ABE curriculum contents are logically sequenced	F	79	24	7
	%	72	22	6
The extent to which the existing school calendar is appropriate to pastoral way of life & mobility	F	85	14	11
	%	78	13	9

Source: *The current data (2021)*

As presented in Table 4, the majority of the respondents rated all items on the scale as low. Consequently, the data showed that the curriculum contents being taught in the pastoral primary schools and ABE centres are not relevant to the livelihood, indigenous knowledge, cultural values, contexts and beliefs of the Karayu pastoral community (73%); and are not vertically linked to the full-time formal primary school curriculum contents (73%). At the same time, the existing primary school/ABE curriculum contents are not appropriate to pastoral children's real-life experiences (68%); do not cater for children's holistic development (language, social, physical, cognitive, aesthetic, affective and intellectual) (76%); and are not logically sequenced (72%). Moreover, the data revealed that the existing school calendar is not appropriate for the pastoral way of life & mobility (78%); and that the curriculum materials (children's text books, teaching aids & play materials) do not adequately exist in the primary schools/ABE centers (74%) of Karayu pastoral area.

Likewise, in response to the question of *how do you assess the relevance of the curriculum contents taught in the ABE centre/ formal primary schools of Karayu pastoral community,* the FG discussants and KI informants said that the curriculum contents taught in the ABE centres and primary schools of Karayu pastoral area are the replica of the national and conventional curriculum used in the formal primary schools. The informants further noted that this national and standard curriculum puts all the disadvantaged (those who are from typical rural settings, have no access to preschool education and readiness skills) and advantaged (those who passed through preschool education, from urban settings and have readiness for formal schooling) children in the *same box* at the entry point, it does not reflect the pastoral children’s unique experiences, way of life and cultural values.

For instance, one FG discussant said:

It is the centrally and nationally prepared standard or formal curriculum that is being taught in the primary schools of pastoral areas. The primary school teachers are expected to adapt the contents of this curriculum to pastoral children's experiences. To my knowledge, there is no separate standard curriculum that is reflective of the pastoral communities' real-life situations.

Similarly, one KI informant said:

The existing curriculum content taught at the primary school and ABE center is the formal school-based curriculum that does not fit with the practical experiences of the pastoral community. As we all know, pastoral communities have different values and belief systems, different cultural backgrounds, and unique livelihood contexts that require a unique curriculum that is compatible with real-life situations and contexts. However, since a curriculum that fits the needs and contexts of this group is not designed so far, pastoral children are forced to attend the formal school-based curriculum both in the primary schools and ABE centres.

Appropriateness of the existing school calendar to the needs and contexts of pastoral community

In reply to the question '*does the delivery of ABE & formal primary education have a flexible school calendar that addresses the mobility contexts and the way of life of the Karayu pastoral community*,' the FG Discussants and KI informants said that the calendar for pastoral ABE centres and primary schools is a *direct replica* of the fixed, highly structured, full-time, and formal school-based calendar designed for the regular and conventional students in the formal school system. As to the

study participants, this inflexible, rigid, structured and full-time-based calendar is not compatible with the needs, contexts and practical life experiences of the pastoral children.

For instance, one FG discussant said:

As education is given at fixed ABE centres and primary schools, it is not responsive to the nature of mobility of the pastoral community, meaning it is not mobility-centred. At the same time, the ABE /primary education is given in a full-time highly stringent nationally developed and scheduled calendar, where this rigid, full-time and fixed calendar is not relevant to the mobility nature, herding characteristics and highly scattered living arrangements of the pastoral community.

Similarly, one KI informant said:

The ABE centres and primary schools operating in our locality lack flexible schedules to accommodate the local conditions and needs of learners and parents from the pastoralist communities. The pastoral community needs an education system and calendar that fits into their mobility nature and herding schedule. To the contrary, the existing education system and calendar are most appropriate for formal school education, but not for pastoral education.

Availability and Adequacy of Physical and Educational Facilities in Primary Schools/ABE Centres of Karayu Pastoral Community

Table 5. Availability and Adequacy of Physical Facilities

Item		Responses		
		Low	**Moderate**	**High**
Safety of the primary school/ABE centre for children	F	5	2	1
	%	63	27	10
Cleanness and attractiveness of the primary school/ABE centre classrooms	F	5	2	1
	%	68	22	10
Availability of separate toilets for boys & girls	F	4	2	2
	%	46	30	24
Availability of separate play grounds for kids & older children	F	5	2	1
	%	73	20	10
Availability of standard, clean and conducive class-rooms	F	5	2	1
	%	68	22	10
Availability of functional drinking water and electricity system at primary schools/ABE centres	F	6	1	1
	%	80	10	10
Availability of good blackboard in primary school/ABE centre classrooms	F	6	2	0
	%	71	29	0
Availability of suitable desk/table, or bench/chair for primary school/ABE centre children	F	5	2	1
	%	67	25	10
Conduciveness of classroom furniture for active learn-ing	F	5	2	1
	%	63	27	10
Maintenance of classrooms in primary schools/ABE centres	F	6	2	0
	%	70	30	0
Availability of the primary school/ABE centre fence	F	4	2	1
	%	54	36	10
Availability of chairs and tables for teachers in the pri-mary school/ABE centre classrooms	F	6	1	1
	%	80	10	10
Availability of basic health service/first aid kits	F	7	1	0
	%	90	10	0
Availability of school feeding program	F	6	1	1
	%	80	10	10
Availability of basic facilities for children with special needs (e.g., Ramp, Visual aids, hearing aids)	F	8	0	0
	%	100	0	0

Source: *The current data (2021)*

According to the observation data captured from five primary schools and three ABEs (as summarized in Table 5), all items of the scale were rated by the majority of the field/site observers as low. In aggregate, the data generally showed that the existing physical facilities are inadequate or

below the expected standard and that the ABE centres and primary schools as well as their classroom environment are not safe places and conducive for children's learning both in ABE centres and primary schools of Karayu pastoral area.

Table 6

Availability and Adequacy of Educational Facilities and Materials

Item	*Responses*			
		Low	*Moderate*	*High*
Playing tools	F	7	1	0
	%	90	10	0
Toys	F	7	1	0
	%	90	10	0
Musical instruments	F	7	1	0
	%	83	17	0
Clay materials	F	7	1	0
	%	85	15	0
Plastic materials	F	7	1	0
	%	85	15	0
Shapes (triangle, circle, square)	F	6	2	0
	%	68	32	0
Balls	F	4	4	0
	%	51	49	0
Models (car, animals, planes, human & plant structures)	F	7	1	0
	%	83	17	0
Letters (shapes, illustrative pictures)	F	5	2	1
	%	60	34	10
Numerals (shapes, illustrative pictures)	F	5	2	1
	%	63	27	10
Painting materials (colours, markers, inks)	F	5	2	1
	%	57	33	10
Drawing materials (drawing papers, pictures, pencils)	F	5	2	1
	%	64	26	10
Student textbooks, teachers' or facilitators' guides and reference materials	F	6	2	0
	%	80	20	0

Source: *The current data (2021)*

According to the field observation data presented in Table 6, all items of the scale were rated by the majority of the field/site observers as low (ranging from 57% to 90%). In sum, the data clearly showed that the existing educational materials and facilities are inadequate or below the expected standard both in the ABE centres and primary schools of the Karayu pastoral area.

Likewise, in response to the question *of whether the primary schools/ABE centres in the Karayu pastoral area are well equipped with the necessary physical facilities, educational materials and human resources*, the FG Discussants and KI informants said that almost all primary schools and ABE centres in Karayu pastoral community of Fantale district have severe scarcity of physical facilities, educational materials as well as the teaching and administrative work force.

In connection with this, one FG discussant said:

Most of the ABE centres and primary schools in our locality have a severe scarcity of manpower (well-qualified, experienced and skilled primary school teachers and ABE facilitators). Not only this, there is also high attrition of the school teachers and ABE facilitators in the district in search of better jobs since no attractive incentive mechanisms (attractive salary, promotion, upgrading training, land for constructing houses, transportation allowance, housing allowance) are in place for them.

Similarly, one KI informant said:

As far as my close observation is concerned, the ABE centers and primary schools in the district are running short of the necessary educational materials (text books, facilitators'/teachers' guides, references, teaching aids) as well as basic physical facilities like drinking water, separate toilets for boys and girls, play grounds and materials, and standard chairs and tables.

Challenges Faced in Providing Quality ABE and Primary Education for Karayu Pastoral Community

Table 7. Challenges Faced in Providing Quality ABE and Primary Education

Items		Responses		
		Not Serious	**serious**	**Extremely serious**
Poor linkage between ABE program and primary school	F	28	29	53
	%	25	26	49
Lack of adequate, qualified and well experienced teaching force for the level	F	30	18	62
	%	27	16	57
Absence of adequate instructional materials	F	18	30	62
	%	16	27	57
Inadequate support from school leadership to the primary school/ABE centre program	F	17	35	58
	%	15	32	53
The inappropriateness of the contents of the primary school/ABE curriculum to pastoral children	F	14	35	61
	%	13	32	55
Poor relations between the primary school teachers and teachers of the ABE centres	F	39	34	37
	%	**35**	31	34
Poor relationship between the primary school/ABE centre teachers and parents	F	14	37	58
	%	13	34	53
Under estimating parents'/communities' role in decision-making/management of the primary school/ABE centre program	F	24	35	51
	%	22	32	46
Lack of supplies/resources (material and finance)	F	19	18	73
	%	17	16	67
Lack of parents/communities' awareness about the importance of primary school/ABE centre program	F	18	22	70
	%	16	20	64
Absenteeism of children	F	15	23	72
	%	14	21	65
Children's drop out from the primary school/ABE centre program	F	15	23	72
	%	14	21	65
High turnover of teachers/facilitators from the primary school/ABE centre	F	15	25	70
	%	14	22	64
Poor organization of the primary school/ABE centre classrooms	F	14	27	69
	%	13	24	63
Lack of sensitivity to children's varied abilities, needs, feelings and problems	F	15	25	70
	%	14	22	64
Distance of the primary school/ABE centre from the child's home/resident	F	19	17	74
	%	17	16	68
Lack of standard curriculum specifically designed to meet the needs of the pastoral community	F	15	23	72
	%	14	21	65
Lack of a flexible school calendar that can address the mobility context of the pastoral community	F	18	22	70
	%	16	20	64

NS = not serious; SP = serious problem; ESP = extremely serious problem

Source: *The current data (2021)*

According to the survey data summarized in Table 7, all items of the scale were rated by the majority of the questionnaire respondents as *serious* and *extremely serious problems*. Specifically, the data presented in Table 7 revealed that poor linkage between ABE program and primary school; under estimating parents'/communities' role in the management of the primary school/ABE centre program; inadequate support from school leadership to the primary school/ABE centre program; poor relation between the primary school teachers and facilitators of the ABE centres; lack of adequate, qualified and well experienced teaching force for the level; absence of adequate instructional materials; inappropriateness of the contents of the primary school/ABE centre curriculum to the needs of pastoral children; lack of supplies/resources (human, material and finance); lack of pastoral parents/communities' awareness about the importance of the primary school/ABE centre programs; absenteeism; dropout of children from the primary school/ABE centre program; high turnover of teachers/facilitators from the primary school/ABE centre; poor organization of the primary school/ABE centre classrooms; lack of sensitivity to children's varied abilities, needs, feelings and problems; long distance of the primary school/ABE centrer from the child's home/resident; lack of standard curriculum specifically designed to meet the needs of the pastoral community; and lack of flexible school calendar that can address the mobility context of the pastoral community are the serious problems in maintaining the quality and relevance of the primary school and ABE education in Karayu pastoral area.

Similarly, in response to the question of *what major factors impede the provision of ABE and primary education in the Karayu pastoral area*, the FG discussants and KI informants said lack of standard curriculum materials designed specifically for the pastoral community; incompatibility of the existing school calendar; lack of adequate

educational materials, physical facilities as well as qualified, skilled and experienced teachers/facilitators for the level are the serious problems confronting the quality and relevance of ABE and primary education in Karayu pastoral area.

For instance, one FGD participant said:

Lack of adequate in-door and out-door play facilities, shortage of qualified teachers/facilitators for the level (as most of the ABE facilitators are eighth to tenth grade completes)*, and lack of standard curriculum materials are the challenges facing the implementation of pastoral education in our locality.*

Similarly, one KI informant said:

In our locality, most of the primary schools and ABE centers are scanty. They do not have adequate physical facilities (play materials, play grounds, water supply, electric system, classroom facilities, toilets); educational materials (text books, teachers' or facilitators' guides, reference materials); and well-qualified, skilled and experienced teachers/facilitators for the level. On top of this, the existing face-to-face and full-time school calendar is not compatible with the pastoral livelihood.

Generally, the contents of the above two quotations strongly substantiate or support the quantitative data generated through the questionnaire tool in regard to the challenges of pastoral education in the context of Karayu community.

Discussion

The theoretical conception of the current study is rooted in *education as a right for children* and the *indigenous epistemology* perspectives, as any modern educational intervention needs also to reflect or address the real contexts and indigenous knowledge of the pastoral community. Thus, it is on the basis of this theoretical conception of the right of pastoralist children to have access to quality and relevant basic primary education on the one hand and in the light of the basic RQs as well as the reviewed literature on the other hand that the interpretation of the current study's results was conducted as shown below.

Practice

Access and Equity

The reviewed documents [statistical reports & abstracts] suggested that gross enrolment rate (GER), net enrolment rate (NER), gender parity index (GPI), and gender gap (GG) are good indicators of access or equity in education (OEB, 2011). Consequently, the finding of the current study revealed that both GER and NER are *low* (less than 100%) in primary schools and ABE centers; and substantively higher for males than for females. Since the expectation for GER and NER is 100%, the observed result indicates that all the eligible or appropriate school age children were not enrolled either in the ABE centres or formal primary schools in the context of Karayu pastoral community.

The value of GER can exceed 100 per cent, and, when it occurs, it means that some children above or below primary school age are in primary school. As an indicator of over-age or under-age enrolment, the GER of greater than 100% is frequently seen in developing countries to address

the backlog of students who didn't attend schools because of different reasons, such as financial needs, family issues, or absence of schools in the nearby areas or to address backlog of students due to repetition or late entry (OEB, 2011). Of course, NER should never exceed 100% under normal circumstances, implying that all school-age children of the level have joined schools. If all children of primary school age are enrolled in primary school, the primary NER is 100 per cent. A primary NER below 100 per cent means that not all children of primary school age are in primary school; some may be out of school, some may be in preschool, some may be in secondary school or other forms of education.

It is clear that the enrolment approach has played a significant role in addressing children who did not get the chance to join either primary education or ABE education. In the current study, the finding that both GER and NER are less than 100% clearly implies that a large number of children have not yet joined the school in the context of Karayu pastoral community. This might be attributed to a lack of attention to strengthening the sector, low community participation, low supervision and low follow-up at the grass-roots level, less interest and motivation of teachers/ facilitators, and low participation of various stakeholders to promote the ABE program or primary school education in the district.

Furthermore, the current finding also concludes that the gender gap (GG) is *positive*; and that the gender parity index (GPI) is less than *1.0* and is less than the regional average of *0.86* both for GER and NER. This finding indicates that a greater number of boys than girls of the appropriate school age (eligible school-age population) are by far enrolled both in the ABEs and primary schools and that girls have gotten less access to ABE and primary education as compared to boys, in the context of Karayu pastoral community. As a rule of thumb, the gender gap is expected to be *zero*, which indicates that both sexes have gotten

an equal chance to join the school, where a *negative* gender gap indicates that female participation is greater than that of male and a *positive* gender gap indicates that male participation is greater than that of female. Similarly, it is only when the GPI is greater than or equal to 1.0 that female children are said to have gotten more access to primary education than their male counterparts (OEB, 2011).

Generally, the finding of the current study concludes that *gender equity* in the enrolment of ABE centres and primary schools is yet to be reached and girls have less access to education compared to boys in the context of the Karayu pastoral community.

Of course, the current finding is consistent with the existing literature. For instance, Tolessa (2013) suggested that the zones that had relatively low Net Enrolment Rate in 2010/2011 were all in *semi-arid pastoralist areas* of Oromia. The MoE (2010) also confirmed that despite the remarkable expansion of primary education and tremendous increases in enrolment in the last two decades, a very large number of school-aged children in Ethiopia continue to be out of school in pastoral regions. Moreover, according to Pact Ethiopia (2008), the enrolment in education of the Ethiopian pastoralists is among the lowest and requires direct, specific, and targeted attention toward enabling pastoral children to get access to quality education. Research also revealed that the participation in education of the pastoral groups has not reached the level of expectations (Ayalew, 2005), and even most of those enrolled do not complete the eight years of education (UNESCO, 2002). Similarly, a study by Befikadu (2006) revealed that keeping *gender equity* is still a serious problem of the ABE program in Oromia pastoral areas as parents are reluctant to send girls to schooling, taking away from the familiar contexts where they can be protected and controlled. In general, education has not yet been expanded in the pastoral region; the

education system is not appropriate and pastoralist-oriented; countless number of girls is under-enrolled in formal education compared to boys in pastoral regions (Petros, 2015).

Efficiency

The existing literature indicated that the promotion, repetition and dropout rates are the paths of student flow from grade to grade and characterize the efficiency of the education system. Accordingly, the result of the current study revealed that there is high proportion of repeaters and dropouts both in the primary schools and ABE centres of the Karayu pastoral community, where the rates are higher for males than for females. Similarly, the promotion rate for ABEs and primary schools is less than the regional average of *82.2*%, where the observed rate is higher for females than for males. The dropout rate is the proportion of pupils who withdraw from the education system for more than one year. Similarly, a high level of repetition rate can be interpreted as a high level of repetition of grades. Generally, dropping out of the school system and repeating a grade exerted a severe problem on the education system. One major problem is that, if they have been readmitted or repeated the same grade, both dropouts and repeaters have wasted the resources and occupied a school space, which the other new comers could use. The other serious problem with the dropouts is that, if they had dropped out in early grades, dropouts might have failed to acquire the minimal levels of literacy and numeracy.

Generally, the findings (low promotion rate, high repetition rate and high dropout rate observed in the current study) indicate that the *internal efficiency* of both the ABE and primary school education is low and even *below the expected standard* in the context of Karayu pastoral community, and needs urgent attention.

The current finding is consistent with the existing literature. The promotion, repetition and dropout rates are used for evaluating, monitoring and projecting the efficiency of student flow in the pastoralist education systems (OEB, 2011). Cognizant of the problems related to promotion, repetition and dropout rates in the pastoral areas, the General Education Quality Improvement Program (GEQIP) gives priority to reducing repetition and dropout rates as well as improving completion and progression to basic and primary education (Tolessa, 2013). Although the past decade has witnessed rapid progress towards universal primary education, countless numbers are admitted but drop out before completing their primary education in the pastoral areas (Raymond, 2016).

Quality

According to the existing literature, there are two main indicators of quality in education: one is the structural quality indicator (which refers to the availability of physical facilities, educational materials, manpower and financial resources) while the second is the process quality indicator (which refers to the existence of good and trusting inter-personal relationships among the school community as well as absence of physical, emotional and psychological threats in the teaching-learning process).

Consequently, with the focus on structural quality, the current field observation data revealed that the existing physical facilities are inadequate and that the ABE and primary school environment and classrooms are not attractive, motivating and conducive for children's learning both in ABE centres and primary schools of Karayu pastoral area. It is generally believed that a well-facilitated, appropriate, conducive and attractive environment plays a major role in retaining and

motivating learners; in changing the feelings, attitudes and thinking patterns of learners; and in facilitating the entire teaching-learning process, whereas the reverse may have adverse effects.

Similarly, the current field observation data indicated that the existing educational materials and facilities (including student text-books, teachers' or facilitators' guides and reference materials) as well as manpower resources are inadequate both in the ABE Centres and primary schools of Karayu pastoral area. Generally, the inadequacy of education materials, qualified teaching force and physical facilities witnessed in the present study is far below the standard set for pastoral and semi-pastoral areas' Alternative Basic Education Centres (MoE, 2011), where this might result in poor quality of education at the level, poor student outcomes, and poor service delivery of the ABEs and primary schools.

In support of the current finding, the primary schools' and ABE centres' facilities availability information of Oromia Education Bureau (OEB, 2012) indicated that most of the ABE centres/ primary schools in the pastoralist areas of Oromia do not have adequate physical facilities, electric facilities, drinking water supply, and toilet services. In connection with this, the Pastoral area education strategy (MoE, 2008) recommends the recruitment and selection of ABE facilitators (giving priority to females) who have better qualifications than the locally available educated manpower, and offering them adequate pre-service and in-service training, most of the ABE facilitators lack basic training on the subject matter content/knowledge and pedagogical skills as well as the commitment and motivation to teach at the level. Moreover, as evidenced by the current data, most of the directions, assumptions, and principles put in the two documents: the pastoral area education strategy (MoE, 2008) and the revised national pastoral education strategy (MoE, 2019)

were practised at the grass-roots level in the ABE centres or primary schools of Karayu pastoral area. Furthermore, in support of the present finding, the education statistics annual abstract of OEB (2011; 2012) indicated that most of the ABE centres/primary schools in Oromia pastoral areas have the lowest Pupil-Teacher ratio; lowest textbook distribution; lowest student-textbook ratio; least qualified, experienced teachers and facilitators for the level and the highest teacher attrition rates. This could be attributed to low attraction and retention of teachers in the area (lack of adequate incentives both for teachers and students); poor living conditions/environment for pastoralists, teachers, students and their livestock; poor infrastructure in the area; lack of permanent settlement/resident area for pastoralists, teachers and students; and lack of sustainable schooling system.

Relevance

The finding of the current study generally revealed that the existing ABE centres and primary schools in Karayu pastoral area endorse full-time face-to-face contact and a formal school-based national curriculum that is prepared as a standard for regular and conventional schools. This means that the ABE centres and primary schools currently operating in Karayu pastoral area do not have standard and flexible curriculum materials such as syllabi, student textbooks, and facilitators'/teachers' guides that are either adapted or designed to appropriately and specifically address the tangible contexts, real-life situations, practical experiences, and pressing needs of the Karayu pastoral community. The finding implicates that a curriculum to be designed specifically for pastoral community needs to reflect its cultural values, traditional norms, livelihood situations, indigenous knowledge, and local customs as well as address their mobility contexts.

Contrary to the principle of curriculum development, as evidenced in the current study, primary school teachers and ABE centre facilitators are requested to *select, sort out* and *adapt the contents, activities* and *tasks* that seem relevant and appropriate to the pastoral children at the level from the *existing formal school-based national curriculum*. One can imagine how challenging it is for facilitators and primary school teachers to select curriculum contents that are appropriate to and that match the age and developmental level of children by merely using their personal experiences and little insights they gained from the on-job trainings provided to them. As it is to be known, a curriculum document should be designed by the professional experts in the area, not to be left to subject specialists or to any other lay man. This is because designing a curriculum material requires professional expertise and an in-depth understanding of the cognitive maturity and age-appropriate developmental needs of children. Not only this, such a practice contradicts the pastoral area education strategy (MoE, 2008), which suggests that the Education Bureau of pastoralist regions bear the responsibility of preparing curricula for formal primary education, localized *alternative basic education* (ABE) curriculum that is equivalent to that of formal basic education and *non-formal adult education* in accordance with the Education and Training Policy, the curriculum framework developed at federal level, and by taking into account the socio-economic, mobility and cultural realities of the pastoralist population.

Similarly, the result of the current study revealed that the current school calendars and timetables used in the ABE centers and primary schools of Karayu pastoral community are a *direct replica of* the fixed, highly structured, full-time, and formal school-based national calendars and timetables designed for the regular and conventional students in the formal school system. This means that the existing practice in the ABEs

and primary schools of Karayu pastoral area standards are contradictory to the pastoral education strategy (MoE, 2008) that suggests that the ABE programs and primary schools delivering education for the pastoral community should make the time for learning flexible i.e., let the beneficiary community decide the time of learning and create a child-friendly teaching-learning environment. The implication is that this inflexible, rigid, highly structured and full-time-based school calendar and timetable is not compatible with the diversity of needs, mobility contexts and practical life experiences of Karayu pastoral children.

Generally, the current findings are consistent with the existing literature. For instance, Tolessa (2013) pointed out that a *formal school-based curriculum* is not compatible, even sometimes antagonistic, with the nomad pastoralists' livelihoods. Relatedly, as to Krätli and Dyer (2009), nomadic pastoralists who are forced to join a *school-based education service* experience a serious consequence of splitting their household (the production team) in a way that is functional to school attendance, but preventing those enrolled from being part of the production team or modify its herd management and livestock mobility patterns in ways that impact on their productivity. Moreover, the *pastoral area education strategy* (MoE, 2008) recognizes the failure of the national curricula being offered for pastoralists to take into account their socio-economic and cultural realities. Furthermore, CfED (2017) reported that ABEs and primary schools in pastoral areas should be delivered flexibly; class timetables should be agreed upon with the community; and the school calendar should be compatible with the herding schedule and productivity of the pastoral community, this is non-existent at the grassroots level.

Challenges

The finding of the current study showed that scarcity of *educational materials* (student text-books, teachers' or facilitators' guides & reference materials*)*, *teaching force* (who are professionally competent both in subject matter content & pedagogical knowledge) and *physical facilities* (classrooms, chairs, tables, models, games, playgrounds, symbols, representations); absence of *standard curriculum* specifically designed for pastoral community*;* long distance between the child's residence and ABEs/primary schools; and lack of adequate awareness among the pastoral community on the value of education are the major challenges hindering the proper implementation of the ABE and primary school education in the context of Karayu pastoral area.

The implication is that though the presence of adequate educational inputs, physical facilities, teaching force and standard curriculum is a good quality indicator, their absence, affects the provision of education negatively. These might be major causes for children's high dropout rate, absenteeism, and repetition rate as well. Similarly, the long distance (more than 5 kms.) that the Karayu pastoral children travel every day to attend the ABE or formal primary school education is contradictory to the government policy, which explicitly states that *every child should not move more than 3 km from his/her home for schooling.*

Generally, the current study is consistent with the reviewed literature. For instance, Serem and Ronoh (2012) reported that shortages of the required educational facilities de-motivate both teachers and learners and can ultimately cause lower attendance of the learners in the school. Similarly, CfED (2017) pointed out that lack of flexible duration, absence of primary schools built around seasonal herding, absence of flexible educational programs that match the interests of the target groups and

the mobility patterns of the pastoral communities are the obstacles in the provision of primary education to the pastoral communities. Raymond (2016) also suggested that as women and girls face marginalisation as members of pastoralist communities, they have limited opportunity to undertake formal education, resulting in high rates of illiteracy as well as low rates of enrolment, retention and completion at all levels of education compared with boys. Moreover, Birhanu (2017) reported that the lack of context-specific educational service delivery for pastoralists is one of the most evident processes of marginalization and exclusion of the pastoralist areas by governments and policymakers.

Implications

The result of the current study concludes that all the eligible school-age population were not enrolled; that basic educational materials and physical facilities are not available in adequate numbers; and that there is a low promotion rate, high repetition rate and high dropout rate in the ABEs and primary schools of Karayu pastoral area, where these might led to poor access, quality and internal efficiency at the level. Therefore, Oromia Education Bureau (OEB) in coordination with education planners, policy decision-makers, professionals and relevant stakeholders is advised to exert concerted efforts to expand ABEs and primary schools that are well-resourced or well-equipped with the basic educational materials, physical facilities, and manpower resources to improve access, equity, quality and internal efficiency of Karayu pastoral education system. It is also known from the current study that the availability of qualified and experienced primary school teachers as well as ABE facilitators is not adequate in the context of Karayu pastoral community. Hence, the government (OEB), in collaboration with other relevant stakeholders, is advised to give adequate attention to the selection, preparation, professional development (in terms of both

updating and upgrading) and retention (through designing various attractive incentive packages) of primary school teachers and ABE facilitators.

It is also found from the present study that there is *no standard curriculum* and flexible education system as well as *school calendar* and timetable in the real context of Karayu pastoral community. Thus, the government (OEB), in collaboration with other relevant stakeholders, is advised to design *culturally sensitive/responsive curriculum* (that aligns modern school-based education with the pastoral communities' indigenous knowledge, cultural values/norms, livelihood*)*, *pedagogically sound* and *ecologically feasible* education system (that addresses the practical experiences, and real-life contexts of Karayu pastoral community) as well as *school calendars* and *time tables* that address the mobility patterns and that are compatible with the herding schedule and productivity of Karayu pastoral community.

The finding of the present study also showed that the pastoral education of Karayu pastoral community is being implemented under severe and wide-ranging challenges that negatively affect the quality, efficiency and proper implementation of the program. Therefore, the government (OEB) in collaboration with other relevant stakeholders, is advised to exert coordinated and concerted efforts to create a conducive or enabling environment for the effective delivery of basic education services; narrow the distance between home and primary schools by bringing ABEs and primary schools to the natural habitats of the herding Karayu society; design attractive *incentive packages* like establishing *sustainable school feeding programs*, availing clean drinking water and food staffs for pastoral livelihood as well as increasing the awareness of the pastoral community on the value of education so as to improve the lives and educational practices of Karayu people.

On top of this, one has to keep in mind that pastoralists have their *indigenous knowledge* and *age-old system-based local informal education* for their households. Besides, the current nature of pastoralism and pastoral communities' lifestyle is changing. Therefore, the government (OEB) in collaboration with other relevant stakeholders, is advised to think '*outside the box*' and find ways to link formal school-based education to the contexts and processes of *non-formal learning*, so that non-formal learning can be harnessed and woven into mainstream education, rather than lost from the system. It is also advisable for OEB to develop policies and strategies which are based on local customs and practical knowledge of the pastoralist community; and *in the long term*, minimize the frequent mobility of the pastoral people by *arranging permanent settlements*, where pastoral people and their children could get adequate access to *basic infrastructures and social services* (like health care, schooling, electricity as well as water & food staffs both for themselves and for their livestock).

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