

Education for Pastoralist Community Children in Ethiopia: Where the Opportunity Cost Defines It All

Ambissa Kenea*

Addis Ababa University, College of Education and Behavioral Studies, Department of Curriculum and Instruction

Article History: Received: December 19, 2019; Revised: June 13, 2020; Accepted: August 3, 2020

Abstract: The major purpose of this study is to assess the status of children's schooling among a pastoralist community and sort out demand and supply related factors associated with schooling of children. By so doing, it intends to develop understanding of the situation of pastoralist children's schooling in Ethiopia. Mixed research design with data collected from multiple sources (including community leaders, school personnel and school children) using multiple methods (i.e. interviews, focus group discussion, observation and document review) has been used. Data was analyzed both qualitatively and quantitatively. The results show that the pastoralists see children's schooling as significant loss of labor from the herding economy. On the other hand, in recent years, the Government is encouraging the pastoralists to send their children to school due to its commitment to the 'Sustainable Development Goals.' This compelled the community to adapt some erroneous coping strategies including the rotational enrolment; turn-based attendance; selection of the 'less able' child for schooling; and division of roles between herding and schooling. None of these solutions are commensurate with the best interest of the child. This article concludes, the opportunity cost of schooling explains the access to education and quality of children's learning in the case community. Children's right to education does not seem to be part of the discourse. There are no promising strategies used to improve the community's demand for education of their children. The article concludes with a few empirical suggestions on how to improve children's access to education in pastoral communities.

Keywords: Education policy; Opportunity cost of schooling; Pastoralism; Schooling

Licensed under a Creative Commons. Attribution-NonCommercial 4.0 International License.



1. Introduction

Despite its continued commitment to continental and global education for all agenda, Ethiopia's educational performance has not been much of a success. For instance, Ethiopia organized the 1963 Addis Ababa Conference on education of the then free African states. The conference decided the year 1980 to be milestone to achieve universal primary education. However, Ethiopia's progress towards education for all lagged far behind by the target year, similar to most of the Sub-Saharan countries who signed the agreement (Kenea, 1995). Ethiopia has re-committed itself to the 1990 Jomtien and the 2000 Dakar targets which declared education for all by 2015 as a principal agenda (UNESCO, 2000). Nationally, the 1994 Education and Training policy has taken improving access, relevance, equity and efficiency of the education system as its central agenda (Transitional Government of Ethiopia [TGE], 1994). The policy underscored, among others, the expansion of education to historically underserved regions. Though official reports indicated good progress in terms of expansion of education to all, it seems that there is long way to go to realize the set targets. For instance, global monitoring reports disclosed that Ethiopia had not achieved the Millennium Development Goal's Education for All target (UNESCO, 2015). Similarly, a study conducted on the implementation of the education and training policy in 2002 revealed that the progress made in terms of expansion of education to the historically underserved areas is very weak (Ministry of Education [MoE], 2003). Beyond the official statistics (and reports), the reality on the ground is in fact more telling that the country is far behind when the educational situations of children in emerging regions (i.e. the low-land peripheral areas), those with disabilities, the urban and rural poor are concerned. Even in the agricultural central and northern regions, the effort to achieve the target of education for all with limited resources and the challenging living situation for the children made it very difficult that schooling could not result in learning (Kenea, Jilo, Hibo, Eman, and Tola, 2016; MoE, 2017). Ethiopia has also committed itself to the global sustainable development goals (SDGs). The fourth goal of the SDG, which underscores equity, is about 'ensuring inclusive and equitable quality education and promote lifelong learning for all.' Commensurate with that, Ethiopia is recently implementing the General Education Quality Improvement Program for Equity (GEQIP-E), which is hoped to provide technical and financial support towards inclusive expansion of access to acceptable quality education for all (World Bank, 2017). While there is widespread doubt on the performance of the country's education system in general (MoE, 2017), there are regions which are said to have been benefitted the least even from the efforts made so far. The pastoralist regions are among such worst losers. This article deals with the educational situation of children of pastoralist communities in Ethiopia by taking Borena pastoralist community as a case.

Pastoralism is an economic activity, a land use system and a way of life for people who derive most of their income from keeping domestic livestock using feeds available in the natural environment. According to Bernan (2002), pastoral communities inhabit all the habitable continents or zones of the world. In Ethiopia, pastoralists occupy the arid and semi-arid zones of the country located in lowland areas in the East, North-east, West, and South of the country. Pastoralism, as an economic activity, supports 12-15% of Ethiopia's over one hundred million population. Of the total livestock in the country, it is estimated that the pastoral sector raises 40% of cattle, 75% of goats, 25% of sheep, 20% of equines, and 100% of camels (Coppock, 1993; Desta, 2006). With this proportion, it seems obvious that pastoralism makes a very significant contribution to the national economy, employment, agricultural production, and food demand of peoples in Ethiopia.

Despite the visible and significant role of pastoralism to the national and regional economies in Ethiopia, the sector has been among the most marginalized in terms of availability and access to public services and development opportunities. For instance, the sector used to receive least attention in government development programs (Gebisa, 2015). And, education is one of the underdeveloped public services in the pastoralist areas (Dufera, 2006; Roschanski, 2007). There are some indicators for that including low enrollment rate, high dropout rate, and low progression and completion rates (Shibeshi, 2005; Oromia Education Bureau [OEB], 2014; MoE, 2014). The few project-based efforts

(e.g. the Pastoral Community Development Project¹) have been trying to improve the supply side of schooling by constructing schools and providing some educational inputs; but these efforts are far from adequate (Kenea *et al.*, 2016). Where supply is an outstanding problem, the demand side of schooling in pastoral communities is an equally important and worrying challenge.

From the points raised so far, it is possible to pinpoint three essential theoretical underpinnings regarding education for pastoralist children: one is that education is a right for the child, the other is the need to balance demand and supply and the third is addressing relevance (particularly through epistemic connection to the pastoralists' ways of knowing). For Tomasevski (2003), from the human rights perspective, governments are obliged to make education *available, accessible, acceptable* and *adaptable* (also referred to as the 4A's scheme) for all children. This scheme covers the whole continuum of supply of and demand for education. It underscores that availing schools is not enough. Schools should be reachable, and adaptable to various groups of learners. Considering issues of supply of and demand for educational services, Masino and Nino-Zarazu'a (2016) on their part contend that supply-side interventions alone are less effective than when complemented by community participation or incentives that shift preferences and behaviors i.e. the demand for educational services. Therefore, those who are mandated for educational provision are responsible for not only supply of schools (and all other inputs) but also work on creating/improving demand for schools. With similar tone, Kovach (2005) contends that formal education should appeal to the community's indigenous ways of knowing (also referred to as indigenous epistemology). Indigenous epistemology includes a way of knowing that is fluid and experiential, derived from teachings transmitted from generation to generation by storytelling - with each story is alive with the nuances and wisdom of the storyteller (Little Bear, 2000 and King, 2003; both cited in Kovach, 2005). As a traditional community, Borena has its own ways of knowing and ways to educate its next generation of citizens (Legesse, 2000). Theoretically, therefore, study of the schooling situation of pastoralist community children can be informed by the claims that education should address both the supply and demand related factors, the ways of knowing the community maintains from its tradition and should be seen as one of the fundamental rights of the child.

With the above background, this article aims to assess the status of children's schooling among the Borena community (as a case); sort out demand and supply related factors associated with schooling of the community's children and pinpoint issues for further research as far as schooling of children in pastoral areas is concerned.

2. Research Methods

2.1. Brief Description of the Study Setting

The Borena Oromo, a family of the Oromo nation that constitute over a third of the Ethiopian population, occupies Southern Ethiopia lowland bordering Northern Kenya. In fact, Northern Kenya is also occupied by the same community and 'there is no such boundary' between Ethiopia and Kenya for the Borena Oromos. In terms of administrative division, Borena constitutes one of the 20 zones in Oromia National Regional State. Yabello town, which is 570 km away south of Addis Ababa, is the capital of Borena zone. The zone comprises 13 districts. The 2007 census estimates a total population of Borena zone to 962,489. The Borena Oromos are dominantly pastoralists. The livestock population in the zone is composed of 1,771,588 cattle, 1,991,196 goats, 699,887 camels and 52,578 donkeys (CSA, 2008). The Borena cattle are more productive than other local cattle breeds, with quite high rates of reproduction, milk yield, and low mortality rate (Cossins and Upton, 1988). The Borena cattle are adapted to the arid and semiarid environment of East Africa (Haile, Ayalew, Kebede, Dessie, and Tegegne, 2011), particularly the semi-arid Borena rangelands (Homann, Rischkowsky, Steinbach,

¹ In 2003, the Government of Ethiopia initiated the Pastoral Community Development Program (PCDP), which is a fifteen-year Program designed to empower communities, district (woreda) and regional governments to better manage local development in pastoral areas, with the aim of increasing, stabilizing, and diversifying incomes, improving infrastructure, and increasing access to public services including education.

Kirk, and Mathias, 2004). Therefore, the study site is such an important one and it can serve as a case to study the situation of education among pastoralist communities in Ethiopia.

2.2. Research Design

As stated earlier, this study was planned to understand the status of and the factors that impinge upon educational provision for the pastoralist community children. The concurrent nested strategy of mixed research (Creswell, 2003) was believed to be most appropriate to the very purpose of the study. According to this strategy, both qualitative and quantitative data are collected at a single phase; yet there is one dominant method and the other method is embedded within the dominant method. Hence, in this study, the qualitative data was a dominant one with quantitative data as an embedded one. In other words, the quantitative data was used in a few cases to further substantiate data garnered through qualitative means. In the pastoralists' context, education is highly interlinked with other aspects of the public life: livelihood, social activities and expectations; value for children and childrearing practices among others. Therefore, it was felt that a mixed research design of this kind, which involves a thorough understanding of the whole research setting (and not just educational situation), is believed to be a desirable method for the study. Accordingly, data was collected from multiple sources using multiple tools: interview, focus group discussion and three weeks of direct observation staying among the community. Documents (i.e. attendance registers) were also reviewed to get additional evidences.

2.3. Sources of Data and Sampling Procedure

The sources of data included leaders of the pastoralist community, primary school children, teachers and principals, education experts at district, zonal, and regional levels. Since the principal strategy of the study is qualitative, and given the very nature of the quantitative data sought, no probability sampling procedure was used. Instead, sources which are thought to provide rich information were taken purposively (Bogdan and Biklen, 2003). Besides, accessibility was considered to select 12 primary schools from three selected districts of the zone (Borena) for the school visits. Accordingly, nine pastoralist leaders (three from each district); six group of Gada officials (two from each district); 12 groups of primary school children (each group having eight to ten members, one at each school); 12 primary school teachers; and 12 primary school principals were taken from the selected primary schools and their vicinities. Besides, three groups of education experts (one from each of Dilo, Moyale and Dire Districts); one group of Zonal Education Experts; and a pastoralist area education expert at regional level were used as sources of data. Attendance registers at the 12 schools and school visit were also used to generate quantitative information on the children's school attendance.

2.4. Instruments of Data Collection

Individual interviews were conducted with community leaders, teachers, principals and education experts at regional level. Focus group discussions (FGDs) were conducted with School children, Gada officials and education experts (at district and zonal levels). Since data collection process for qualitative data is expected to be flexible and emerging (Creswell, 2003), generic interview guides were prepared to facilitate the interviews. Three experts in the field of education and community development were consulted regarding the content validity of the generic interview guides. Quantitative data were used to verify two important concerns: the situation of students' attendance and the proportion of children a household sends to school. While the first one used school attendance (i.e. kind of document analysis), the second one emerged in the interview process whereby the children and community leaders who took part in the interviews/discussions were asked about their household members who got opportunity for schooling. Therefore, there was no separate instrument developed for the quantitative data collection. Afaan Oromo was used throughout the data collection process and later translated into English for reporting.

2.5. Data Analysis

Field notes were taken during all the interviews, FGDs and observations. A number of themes emerged out of reading and re-reading of the thick notes taken during the data collection process. Themes with meaningful connection to the objectives of the study were taken to structure the results section. Both raw scores and percentages were used to report on the quantitative results. The raw scores refer to the number expected (i.e. the number of pupils in the list) and the number of pupils counted in class during the school/classroom visits. Finally, the two type of data (qualitative, which make up a great bulk) and the quantitative data were integrated and reported. In the interest to maintain confidentiality, abbreviations were used to represent the respondents while reporting results from qualitative data: for instance, E1, E2, ... for community elders; O1, O2,... for Woreda Education Officers; ZE1, ZE2, ... for Zonal Education Experts; GO1, GO2, ... for Gada Officials.

3. Results

As mentioned above, the results of the study are organized under themes that came out of the comprehensive data collected from the various sources and discussed in light of the objectives of the study. The themes included the principal economic activity (livelihood); the idea of childhood and childhood responsibilities; the status of children's schooling; and major factors of schooling among the community.

3.1. Livestock: More than Sources of Livelihood

There is no question that herding is the principal economic activity for the pastoralist Borena population (Homann, 2005). However, livestock are more than just sources of livelihood for the Borena. Here is a comment of E1 (an elder from Moyale district, 67 years old) who said "For the Borena, herding is not just an economic activity. It is a matter of identity. We value our livestock more than any other thing on *Waq'a's* earth". This situation indicates that it is very difficult to stop the Borena from herding by sheer supply of alternative sources of livelihood (if at all that is possible in present day Ethiopia). Another respondent strengthened the same idea when asked about the impact of schooling on the livelihood: "When there are no children, e.g. when they are away for schooling purpose, then there will not be livestock. When there are no livestock, there will be no Borena because Borena are herders. Without our livestock, we are a different community" (E4, an elder from Dilo district, 55 years old). These two quotes reveal how strong the feeling these two elders hold towards their livestock. These are not just opinions of two persons; they are rather opinions of community elders through whom the prevailing attitudes of the community get expression. Therefore, it is possible to presume that these opinions represent the dominant discourse in the community.

As mentioned earlier, herd mobility characterizes the dominant economic activity for the Borena pastoralists. Then, there can be a number of questions including the following: who moves with the livestock? Do they have base-camp (if not all family members move)? How far do they move from the base-camp (if at all there is one)? How long should they stay away from their base camp? These and similar questions were points of discussion during the fieldwork. The reason for mobility was found to be almost the same across the Borena zone: drought, suitability for herd reproduction (from indigenous knowledge), and giving time for the pasture around the base-camp to mature. Regarding this, E2 (an elder from Moyale district, who is 59 years old) opined that "Livestock mobility is often in search of pasture and water. Hence, the main seasons of mobility are the extreme dry seasons and at the beginning of the main rainy season." Therefore, in April (beginning of major rainy season) and during any dry season, mobility of the livestock is expected. This is shared by almost all respondents.

However, mobility does not involve the whole household and the whole neighborhood. The respondents unanimously affirmed that herd mobility is common; yet it is only some family members (including children who are capable to keep the livestock) who move. The direction of movement is mainly determined by availability of water, pasture, and security. Duration at a place of mobility (called satellite camp) usually ranges from three to six months. When the situation at the base-camp is

not very harsh, some animals such as the lactating and young ones stay with the other household members (i.e. they do not move) for two reasons: to receive better care and provide food for household members who stay behind. Then, they will be under the care of the household members (mothers and younger children) who often do not move to the satellite camps. This, added to other supplementary activities such as the small farming and in some cases petty trade, would make those who stay at base-camp (home) busy throughout the year. This situation has obvious implications on availability of children for schooling.

3.2. Childhood and Children's Responsibilities

Among the Borena, children are sources of rest for their parents: the father rests due to his son(s), and the mother rests due to her daughter(s). The other is that children (particularly boys) are believed to ensure continuity of generation. As E8 (an elder from Yabelo district who is 61 years old) said, "If you don't have children, your name will not be there after you. If you have one, then you will continue to be here." Similarly, E6 (an elder from Dilo district who is 73 years old) opined, "If you don't have children, there is no one who would support you during old age and no one to inherit your legacies when you finish your days on earth." The elders communicated clear preference for boys particularly because boys are expected to make sure continuity of generation. Nevertheless, they still value having girl children because, apart from support to mothers, they are believed to bring son-in-law (soddaa): an outsider who becomes relative.

For the community, childhood is when children prepare for adult responsibilities while also taking important economic roles. Elders (fathers and mothers included) are expected to educate the children through traditional educational approaches. Like many African traditional societies, Borena has its own ways of educating its offspring. Asked about the reasons for traditional education, E5 (an elder from Dilo district who is 65 years old) noted that "We educate not to keep them deaf, it is our responsibility, so that they will not spoil or misuse resources." The conviction to educate children in the traditional means is expressed in many sayings. One such saying is this: *Dibichi yeroon qabamte hin diddu!* This roughly translated into 'a bull trained at the right time would pull the beam of plough² well.' The traditional lessons the Borena parents teach their children encompasses broad topics of economic engagement, cultural involvement and other social activities which is thought to ensure the continuity of the community with its traditions and values. Here are some representative opinions on the contents of traditional education. "The contents of informal family education for their children include herding, culture, and respecting elders. Educators are fathers and brothers for male children and mothers for female children" (E9, an elder from Yabello district, 79 years old). "Contents of what families teach their children at home include good habits, respect, culture, herding, watering, and milking, among others. Educators for boys are fathers and for girls are mothers" (GO_1, a former Gada Official, Moyale district; 72 years old).

The methods used by Borena parents to educate their children include demonstration, advising, counseling, punishing (reprimanding), controlling, and evaluating. Based on these traditional educational experiences, Borena fathers identify the strengths and weaknesses of their children. Accordingly, when the local administration (locally called the *Ganda*) asks them to send their children to school (by also allowing them to keep some for herding) they know whom to send to school (or to give for teachers, to use a respondent's language).

On the other hand, from the several discussions conducted with community members, it was learned that every household member in the pastoralist community of Borena, including young children, is busy right from the day he/she start walking up right. There is clear division of responsibilities for typical household in Borena. However, depending on the size of the household and the amount of livestock they own (which is also a sign of social status), there can be some variations. Here are some

² Beam of plough is a tool tied to a yolk and pulled by two oxen and used for tilling the land. It is part of the traditional farming system widely used in small holding farms in Ethiopia.

typical roles for members of households as reported by the elders as well as community leaders in the study districts:

Father (or head of household) is basically responsible for coordination and guiding the major economic work. For instance, he oversees the animals at the place where they are, deals with access to water points, and coordinates the whole activity. Where the elder son is matured enough (e.g. over 20 years of age), he will take this responsibility from the father - now it will be time for the father to rest.

Normally, the wife (or mother) is responsible for the activities at the base-camp (e.g. small farming near the base-camp). That means the wife does not move to the satellite camp unless the person has multiple wives (which is recently very uncommon among the Borenas).

Children are also expected to take part in the household activities. If the family has good number of animals, at least three children are required: for cattle, for camel and goats and for younger and newly born animals. These are not expected to graze together (in a field) because the kind of plants they consume and their capacities are different. There are also children who have to travel between the satellite camp and the base-camp to take milk to the family at the base-camp and to take 'cooked food' for those at the satellite camp.

Such division of labor clearly indicates that all the members of the household of a pastoral community are fully occupied. What is the impact of this on the education of children? This will be discussed in the next section.

3.3. The Status of Children's Schooling among the Borena Community

The Ethiopian Government takes 2.5 – 3kms home-to-school distance as a standard target for the optimum physical access of schools, particularly in rural areas. In the pastoralist community, that is very difficult due to the sparse settlement pattern. Hence, to get a reasonable number of students to be served by a school, schools need to be constructed at locations far apart. Regarding this ZE-1 (a school supervisor at Zonal Education Department who served at various capacities in the pastoral districts for 8 years) reported that the school catchment area is currently 8-10kms in the pastoralist districts of the zone. That means there are children who use the schools from a distance of 10kms. Unless they stay close (near) to the schools, the children may be required to travel about 20kms every school day. Due to economic reason, it is often very difficult for Borena children to stay away from home for schooling purpose. This situation obviously limits school attendance particularly for younger children.

From the observations made at 12 primary schools (Grades 1-8), it was learned that both enrollment and attendance are important problems in the pastoral communities. All of the schools have one section per Grade. In fact, there was a school (Bilal Primary school) where the first Grade (with 12 children) is under tree shade due to lack of classroom. A random check of attendance registers for three Grades (2nd, 4th and 6th) against the number of children in class was made at the schools and here is the result.

Table 1. Situation of school attendance - result from a classroom visit

Schools (with district)	Grade 2: number:		Grade 4: number:		Grade 6: number:	
	on the list	in the class	on the list	in the class	on the list	in the class
School A (Moyale)	21	10 (47.6)	19	11 (57.9)	16	9 (56.3)
School B (Moyale)	32	14 (43.8)	23	14 (60.7)	15	10 (66.7)
School C (Moyale)	24	13 (54.2)	22	10 (45.5)	16	7 (43.8)
School D (Moyale)	18	11 (62.1)	17	12 (70.6)	17	8 (47.1)
School E (Dilo)	26	13 (50)	16	12 (75)	22	11 (50)
School F (Dilo)	17	8 (47.1)	25	11 (44)	19	10 (52.6)
School G (Dilo)	30	17 (56.7)	22	8 (36.4)	22	8 (36.4)
School H (Dilo)	20	12 (60)	17	12 (70.6)	18	9 (50)
School I (Yabello)	19	9 (47.4)	25	13 (52)	17	11 (64.7)
School J (Yabello)	32	18 (56.3)	18	13 (72.2)	21	10 (47.6)
School K (Yabello)	29	17 (58.6)	27	9 (33.3)	20	9 (45)
School L (Yabello)	22	12 (54.5)	20	12 (60)	18	8 (44.4)

Note: Numbers in parentheses are percentages.

Source: Classroom attendance registers and classroom visits

In Ethiopia, 50 children per class is the 'optimum' class-size the Government has targeted to achieve (MoE, 2003). This comes from the fact that the number of children per class is very high, and it is not uncommon to see 80-100 children packed into one class in schools found in sub-urban or densely populated sedentary agricultural areas. However, the number of children enrolled at the schools visited, which was almost less than 30 per class, indicate the enrollment is very low by national standard. The data presented in Table 2, even though based on one-time school visit, can roughly indicate high absenteeism (look at the percentage of children in class out of the number on the list by the time of the visit). Dropout from the system seems high because the number of children in class decreases as the Grade level increases. In fact, in one of the schools, there is only one student in Grade 8 who was preparing to take the regional examination. Why such a state of affairs? In the subsequent section, some factors that happen to explain this situation are presented.

Another attempt made to understand the extent to which children got the opportunity for schooling was by asking the respondents what proportion of children in their household were schooled. The FGD participant children were asked about the number of brothers and sisters they have and number of those sent to school out of the total number of brothers/sisters. Totally, 108 children responded to this question (see Annex I for the data). The result indicates that the number of brothers/sisters reported to have got the opportunity to be enrolled at school is usually less than half. In fact, the worst instance is a situation where out of 12 brothers/sisters only 1 has been allowed to go to school. Self-report from the local elders and community leaders (i.e. the key informants) also affirm the same. Here is a result organized from data obtained from 9 of the key informants:

Table 2. Key informants' self-report on number of children sent to school

Key informant	Number of children s/he has got	Number of children sent to school	Percent	Grade level achieved by those sent to school (respective to the number of children schooled)
Parent 1	4	2	50	Grade 7and Grade 4
Parent 2	5	3	60	BSc, Grade 12, and Grade 4
Parent 3	6	1	17	Grade 3
Parent 4	6	1	17	Grade 4
Parent 5	7	2	28	Diploma (10+3), Grade 10
Parent 6	7	2	28	Grade 4, Grade 3
Parent 7	8	3	37	BSc, Diploma, Diploma
Parent 8	10	4	40	Grade 10, Grade 6, Grade 5, Grade 4
Parent 9	16	4	25	BSc, BSc, Diploma, Grade 10

Elders and community leaders are considered to be the most knowledgeable members of the community. Even with them (as reported in Table 2), only two out of nine sent 50% (or above) of their children to school. The worst scenario reported here is a situation in which only 1 out of 6 children has got opportunity to be enrolled at school. An Education officer from Moyale (O-1) District (who has served as school principal and as head of District Education for over 10 years) attributes this mainly to the economic activity of the pastoralists which is labor intensive. He opined, "There is no means for our pastoralist community to send all its children to school unless we pay attention to running stronger alternative basic education programs." The Grade level achieved also indicates that the completion rate is very low: only few of them could proceed to the higher education or to technical and vocational training colleges. This finding is consistent with PACT Ethiopia's (2008: 7) report which reads "Ethiopian pastoralists experience the lowest education enrolment rate which in turn 'requires direct, specific, and targeted attention toward enabling pastoral children to access to quality education'".

There are several interventions made so far to improve access to schooling for children in the pastoralist community. The district education offices, with the zone education department, deployed multiple education delivery approaches. These are formal schools, satellite schools (affiliated with a formal school), alternative basic education centers and adult education delivery.

Alternative basic education (ABE) is mainly for out of school children who can attend class only during evening (and in exceptional cases during weekends). These are conducted (run) in formal schools or in huts built by the community for the same purpose. As the children pass the day at faraway places, it is likely that ABE classes start at about eight PM in the evening. It is possible to imagine how difficult this arrangement is for the working children.

Satellite schools are the ones meant to bring early Grade classes even closer to the community. Managerially, they are supported by and affiliated to a formal school. The teachers are either formally trained teachers or paraprofessionals hired from among the community.

Adult education is for adults who want to study on their own initiative. These are facilitated either by teachers of formal schools or by facilitators hired for the same purpose or even volunteer literates from among the community.

According to officers of the District and Zonal education offices, both the ABE and the adult education programs in the pastoralist communities are not as strong as those in highland communities of the zone. For instance, the ABE program lacks any clear guideline and there are no textbooks and reference materials to be used for the same. Satellite schools are very weak mainly because of lack of students as well as lack of clear mode of operation. Innovations such as mobile schools and mediated distance education programs, which are used in many countries to increase access among pastoral communities (Downie, 2011), are not among the mechanisms used to provide education to pastoralists in Borena Zone.

3.4. Some Factors of Schooling among the Case Community

The determinants of schooling among pastoral communities can be categorized into supply- and demand-related factors.

3.4.1. Supply-related factors. In Ethiopia, there is an understanding that primary schools belong to the host community and the Government's role is largely hiring teachers and providing some basic facilities like textbooks, tool kits, in-service training of teachers, and the like. While there is allocation of some recurrent budget, the expectation is that the local community needs to support the operation of the school from its own means - without charging the child anything. Consequently, it is possible to say, in Ethiopia primary school is free for the child but not for the community. That is why communities are expected to make in cash and in-kind contributions to run the primary schools. The downside, however, is that schools in an economically better neighborhood are more likely to be better than schools in impoverished neighborhood. Pastoralist communities are sometimes highly challenged in terms of maintaining their own livelihoods let alone supporting the operation of schools. As a result, the pastoralist community schools we visited were unattractive and poorly staffed and equipped. The water they harvest during the short rainy season does not last more than three months; toilets are not separate for boys and girls in most cases; no library (or reading room); no laboratory for the higher Grades; no fence for the school compounds in many cases; classroom walls were dilapidated; seats were uncomfortable (sometimes stones are used); and the compounds were exposed to wind i.e. no tree covers. Reports as well as discussions with teachers indicated that textbooks were in very short supply. There were subjects for which textbooks were not available including Afaan Oromoo (the mother tongue) and Amharic (the federal working language). In seven of the twelve schools, environmental science textbooks were also not available. Added to the home-school distance, this situation is one of the possible push factors for the attendance problem mentioned above. It also badly affects the quality of education availed to the children. Several studies conducted on schooling in pastoral areas of Ethiopia (e.g. Roschanski, 2007; Woldegiorgis, 2015; Moges, 2017) revealed that shortage of inputs is among the most important detrimental factors for schooling of pastoralist children. Such supply-related factors serve as push factors from school because, as Roschanski (2007) argued, the uneducated families of the students see the quality of education in terms of what the schools provide their children with: avail materials, teachers serve as good models and students are able to read and write or demonstrate functional literacy skills. Hence, when the families see that students are not getting those physical inputs they expect from school; they get discouraged and tended to withdraw their children from school. Besides, such obvious supply-related factors, the issues of school curriculum, school calendar, teacher preparation and development are very important factors worth further treatment here.

3.4.1.1. The curriculum and school calendar: These are the other supply-related factors which significantly condition the success of schooling in a community. Therefore, it is very legitimate to ask whether the school curriculum is relevant to the situation of the Borena pastoralist community. The other issue worth considering is whether the school calendar is flexible enough to fit well with the situation of the particular community.

Curriculum relevance typically refers to learning experiences that are either directly applicable to the experiences of students (personal relevance) or that are connected in some way to real-world issues, problems, and contexts (life relevance) (TGE, 1994; Makuvaza and Hapanyengwi-Chemhuru, 2017). In Ethiopia, the problem with the relevance of the school curriculum has been a persistent challenge (Balsvik, 2005; MoE, 2019). One useful indicator of the relevance of the curriculum is the inclusion of the cultural attributes of the learner. It can be presumed that some efforts have been made in this regard through the regional preparation of the primary school curriculum; though still there is dissatisfaction with the relevance of the Ethiopian school curricula (MoE, 2017, 2019). However, given the very distinctive nature of the situation of pastoral communities of Borena described above,

there is a need for further adaptation of the existing curricula so that the pastoral schools benefit from the few attempts made so far in Ethiopia to relate the curriculum to the child. This has been affirmed by almost all the respondents. Particularly, the education officers and the community leaders unanimously indicated that the existing curriculum lacks the very attributes of the pastoralists. For instance, an Education Expert from Moyale (O2) District (who has been a school teacher and non-formal education expert) identified the following as realities of pastoralist children which makes curriculum adaptation a necessity: no pre-school, no home-support, no literacy culture, and in most cases, no literacy practice at home. Contrarily, most of the local cultural references in textbooks took from the mainstream highland communities. Hence, they strongly recommended a need for doing some kind of adaptation on content, methods and timing. Similarly, ZE-2 (an Expert of the Zonal Education Department, with experience as school teacher, District Education Program coordinator and as school supervisor for over 15 years and who took part in one of the FGDs) stated:

There is nothing specifically meant for pastoralists. The starting point of the curriculum has very less to do with the attributes of the pastoralist children or their community. It is too theoretical, and does not address the practical life of pastoralists. The educational approach [method] does not take into consideration the active home environments of the pastoralist children. At home [or in the community] Borena children can listen when elders talk [discuss], they can intervene, and they can even give opinions. For the Borena, 'Children have opinions.' The school's curriculum approach, as it is practiced now, does not embrace this. Hence, the curriculum is not attractive to our pastoralist children.

School curricula tend to prepare children for future life which may not be related and relevant to the roles expected of them in the pastoral settings. On the other hand, parents, even when they aspire a more modern life for their children, want their children to be socialized in the pastoral way of life during their formative years (Roschanski, 2007). Given the active roles that Borena pastoralist children play in their community, the purpose of education is both present- and future-oriented. In other words, education for the Borena pastoralist children is expected to be useful today as the children carryout their socio-economic roles and it is also expected to be a tool for preparation for adult roles when they grow up.

Concerns over what schools provide children with in terms of content, methods and timing has been voiced throughout the fieldwork time by the community leaders, the school children and by the education experts. At the center of the concerns (particularly from community leaders, elders and school children) are the issues of 'continuity' of 'the Borena' and the usability of what schools teach in the livestock sector. By continuity, they mean for the on-coming generation to maintain the cultural identity and 'ways of life' of Borena - particularly in terms of the high regard they have for their livestock. Hence, a need to adapt the school to the community has been identified to be a priority by all respondents. This is where epistemological mismatch between the school and the community observed. It is, therefore, very essential to consider how a school curriculum that helps Borena pastoralist children go back home with skills that support improvisation of the livestock sector and maintain Borena identity. Regarding this, Jama (1993) recommended years back that educational planners must recognize the richness of traditional pastoral knowledge and techniques about livestock production, and should incorporate some of this science into the future curricula. This calls for recognition of the community's indigenous knowledge; and that the values and ways of knowledge acquisition the community upholds should be carefully sorted out and used as medium even to teach the 'modern' science. That is what Kovach (2005) referred to as traditional epistemological approach. As mentioned earlier, the Borena home and work (social) environment is active, observational, and interactive. If such ways of knowing adapted as part of the school pedagogical approach; there will be no room for the theory loaded educational approach which compromised the relevance of education to the community.

School calendar is the other very important supply-side factors which determine school attendance of pastoralist community children. As learned from the elders, Gada officials, education experts and school children, Borena pastoralists commonly experience two extreme dry seasons: the long dry

season of December, January and February and the short dry season of August. These are the months when herds split into various groups (Camel and Goat; Cattle; sheep and younger animals) and move to satellite camps. Thus, children's labor is most needed both at base camp and satellite locations. Contrarily, the school calendar for pastoralist districts of Borena Zone are almost the same as that of the highland districts with relatively very stable climatic condition; where there is short inter-semester break (about one week) in end of January/beginning of February and the long break during July and August. In general, the respondents (and particularly the education officers) believe that flexibility is a desirable situation in pastoralist education. Besides, not everything is predictable in the pastoralist environment - draught, conflict, cross-border disease, etc. can happen any time. These also need to be addressed as they occur and flexibility should be taken as a mental frame in managing educational practices in such community. Focusing on the incompatibility between school-based formal education and the situation of pastoralist areas, Jama (1993) argued formal education is inherently in favor of permanent settlement that schooling of pastoralist community children means a permanent separation of the children from the community and their childhood roles. Within the pastoralists context, this is an important challenge and is a backdrop to current calls for schooling system customized to the community's context.

3.4.1.2. Teacher preparation, teacher in-service development and retention: these are the other supply-related factors which significantly affect the attractiveness of schools to a community. If teachers are not well prepared to teach in the pastoralist setting, or they are not regularly available on duty, or they wish to leave the area as soon as possible or they don't show commitment to educate the children, it is unlikely that the school will be attractive to children and their parents. As Roschanski (2007) noted, teacher readiness and their discipline are essential factors that determine parents' decision to keep children at school. The education officers sensed that there is gap between the situation under which (and for which) teachers trained and the practical situation of the pastoralist communities and their children. Hence, they strongly recommend a different type of teacher training for pastoral community alone. It was learned that most teachers start their very career with confusion due to poor knowledge of local culture, accent, and the situation of pastoralist community (and its children). Such initial concerns, if not solved through careful on-the-job support, would result in teacher burn-out. This calls for a customized approach to teacher preparation for pastoralist schools. The unfortunate thing is that other than taking candidates for teaching from pastoral communities with some points less, nothing has been done. The worst thing, so to mention here, is that the candidates from the zone may not come back to the zone since they are assigned to various zones on lottery, as reported by O4 (a school supervisor from Dilo district who served over 10 years at various capacities in the district). According to this and other experts who participated in this study from the three districts, those who get assigned to the zone (who are not originally from Borena) come thinking to go back as soon as possible. It was noted that there is no means to keep them, and in fact keeping them does not help much. Such teachers lack the endurance which teaching in the harsh environment of the pastoralists involves. This finding is consistent with Woldegiorgis's (2015) finding from his study on Suri community in Western Ethiopia. According to this study, hardships of life in the pastoralist environment, coupled with ill treatment owing to lack of transportation, delayed salary payments, lack of residential houses and clean water, etc exacerbate their turn over from time to time. Therefore, there is a need to devise a different way of teacher workforce management (recruitment, training, deployment and in-service support) for pastoralist areas. The present study revealed that there is no any teacher management approach adapted for the pastoralist areas of Borena.

3.4.2. Demand-related factors: For Borena pastoralist parents, schooling is seen in terms of the role of the children in the herding business. For them, schooling means taking children away from herding. As such, the opportunity cost of schooling is very essential explanatory variable for the demand for schooling among the Borena pastoralists. By opportunity cost it is to mean the value of a foregone

activity (herding in this case) or alternative when another item or activity is chosen (schooling in the present case). The pastoralists give high value to what they lose by sending a child to school, as clearly stated earlier. Therefore, both enrollment and attendance has been challenged. In this section, attempt has been made to present coping strategies the pastoralist parents adapted to the push they experience regarding the schooling of their children.

The Ethiopian Government, generally, pushes for the education of children at every corner of the country due to its commitment to both the 'Education for All' (earlier) and the 'Sustainable Development Goals' - if not due to the need to pursue children's right to education. Therefore, the local administrations encourage and often push their constituencies to enroll their children at school. They use home-visits (sometimes with teachers) to register the school-age children. At the same time, the local leadership in the pastoralist communities recognizes the community members' economic situation and the fact that herding is a labor-intensive business. The Abba Gadas (i.e. the Traditional Leaders) who are very well recognized and respected by the community members encourage the community to send their children to school because the formal leadership tries to influence the community through them. Discussion with the Gada officials who took part in the discussions attested the same. From the discussion with the various groups of respondents about the education of the children (particularly who gets enrolled and the pattern of their attendance) revealed very interesting stories about the various coping strategies adapted.

3.4.2.1. Sibling order and gender in enrolment: As mentioned above, fitness for herding makes a kid 'less qualified' for schooling. If a father has to choose between his two sons, for instance, he chooses the one he sees as stronger for herding and the other one (the one thought to be 'weaker' herder) for schooling. Similarly, there are preferences based on birth order and sex. School children who participated in the FGDs have clearly stated that. And particularly, an FGD participant from Moyale District (FGD 01) asserted, "Because first born sons are believed to be better for livestock and thought to be successors of their fathers in the household and community, families prefer to send later born sons for schooling." Regarding gender, the FGD discussants reported that in recent years there is increasing preference for girls for schooling, though the reality on the ground (at school) does not show that. For instance, a student who participated in FGD 06 (Dilo district) said, "Parents tend to send girls to school than boys because boys are believed to be better for herding compared to girls." Nevertheless, the school observations revealed that the number of boys is still by far greater than that of girls.

3.4.2.2. Rotational enrolment: This is a situation where children are divided into two groups whereby one group goes to school this year while the other group engages in herding. They exchange roles in one or two years. That seems why in Borena pastoralist schools it is very common to see older boys in early grades. Some fathers (it is the father who decides about this) wait the role exchange period until the ones in school complete Grade 4 so that they come out with basic skills of reading and writing – the reader could picture how old the other groups be when they join Grade one. While students who participated in the FGD conceded over this, one student participant in FGD 07 (Dilo District) particularly stated: "When previously admitted child is mature enough for herding, the parents force him to drop out of school and, in replacement, send another younger child - just to fill the administrators' requirement." This can be seen as a situation where the parent has no purpose in children's schooling and only wants to silence the "nagging" from local administrators.

3.4.2.3. Turn-based attendance: This is a situation where all children get enrolled yet take turn to attend school. This could be in response to push from local administration to enroll all children. When that happens, children take turn to go to school - may be every other day or every other week so that both herding and the 'forced schooling' go simultaneously. It is easy to understand what this means to

the quality of the children's learning. Unfortunately, some of these children would be potential dropouts because they would be likely to move with the herd when the dry season comes.

3.4.2.4. Assigning some children for herding and others for education right from the beginning:

This may appear an aspect of the scenario described under 'rotational enrolment' above. However, it is different in the sense that there is no exchange of role here for an important factor: those who go to school are thought to be no more useful for herding, for they have missed important socialization to the herding business because of their schooling. In fact, the initial selection, as described under 'sibling order and sex enrolment' above, took cognizance of the potential of the child with due priority to herding. Alternatively, such clear assignment for herding and for schooling is based on the premise that without some children doing the herding, there is no means to support the education of those who have to go to school. That means those 'herder-children' forfeit their childhood, their rights and their opportunities for the good of their brothers and sisters. In fact, this is a common phenomenon in many communities in rural Ethiopia, and not restricted to pastoralist communities.

4. Discussion

Results of the study revealed that the pastoralist parents adapt one or more of the above coping strategies (selective enrollment, rotational enrollment, turn-based attendance, and role assignment between schooling and herding) in dealing with issues of schooling of children. An important question to be raised is whether these coping strategies are forms of resistance to formal schooling on the part of the pastoralists. Jama (1993) argues that pastoralists' resistance (if at all we can call so) is not, in fact, to the idea of formal education; nor is there necessarily any inherent incompatibility between pastoralism and schooling. On the contrary, the practical challenges faced in providing education to pastoralists appear to be rooted in the tendency to provide formal education in a solely school-based system. It is, thus, schooling in its familiar forms, rather than the idea of formal education, that is problematic. Nevertheless, these coping strategies are not commensurate with the best interest of the child. They are neither good for the 'Education for All' objective nor for the quality of learning for those who got the opportunity for enrollment. Hence, it is very legitimate to look at where the core problem lies. There are two central problems that can be identified from the results of the study presented above: (i) children's role in the herding economy (i.e. child labor) and (ii) the mobile character of the economic engagement (i.e. herd mobility). These were also identified to be the central factors that determine the schooling of pastoralist communities in some local studies (refer Roschanski, 2007; Deressu, 2013; Woldegiorgis, 2015; Moges, 2017; Kenea *et al.*, 2016). Other variables which in one way or the other transpired through the results presented above can be listed here as contributory to these two central factors. These are the value the community attaches to livestock, harsh (and often unpredictable) climatic condition, sparse settlement (and, as a result, unavailability of schools close to common pasture points), traditional authority of families over children (i.e. weak agency of the child), absence of established social norm regarding enrolling children at school, imposed nature of schooling where the very attributes of the pastoralists do not form the core of the school design and weak effort on the part of the local administration with regard to creating real demand for schooling.

As described earlier, the community sees livestock production as an aspect of its identity as a community. Therefore, there is a tendency to follow the traditional, labor intensive mode of production. They see loss of child labor from herding as a compromise to their livestock production system. As Krätli (2008) discussed, the consequences of introducing conventional formal school to pastoralists can be (i) splitting up the household (i.e. the production team) in a way that is functional to school attendance, and (ii) modifying herd management and livestock mobility patterns and this may impact on productivity and ultimately on the reliability of the production system. Given the place of livestock in the pastoralists' livelihood and the value the community attaches to livestock (as a

source of identity); such modifications are not acceptable for the community. That seems why the Borena pastoralists resorted to those coping strategies.

When the settlement pattern of a community is sparse, the home-school distance gets longer because the leadership should also be mindful of the school operation cost. Long home-school distance means in most cases the schools have to be located far away from both the base-camp and from the satellite camps (i.e. pasture points). This has been identified to be an important problem in the present study. Studies by Roschanski (2007) and Woldegiorgis (2015) have also identified the same to be an important problem in the provision of education for pastoralist children in other locations in Ethiopia. Longer home-school distance may involve travelling very long distance every day; and/or paying to keep children close to the schools (away from home). Both of these are difficult and in fact discouraging for the pastoralists. Attending lesson in the morning and doing the herding in the evening is almost impossible.

From the result, it was also learned that the family determines what the child should do and where s/he should stay. This seems an obvious social norm. In other words, the children do not have much say in their own affairs. This can be evidenced from the prevailing opinion on the very purpose of having children and the absence of any concern regarding the rights of the child in the discourses of the study participants, as presented earlier. This in turn tells that the child's agency is very weak. Roschanski's (2007) study revealed that pastoralist children who could claim their rights to education could successfully attend formal education and become good models. Yet, the research depicts, this is only very rare in pastoralist context. At the same time, there is no established social norm on enrolling children at school. That means a family does not take the burden of schooling the child as an obvious family responsibility. As Roschanski (2007) portrayed, a parent who is so willing to enroll a child at school does so after calculating the benefit to the family, or adapts those coping strategies when urged to enroll some of its children. Therefore, the decision is largely adult-centric. Hence, analysis of the results did not indicate anywhere that Tomasevski's (2003) four schemes of child rights (availability, accessibility, acceptability and adaptability) to education are taken seriously by the school leadership or local administration. They tend to focus on the first level: constructing some kind of school and urging the community members to enroll their children.

Relevance of the education that those who got enrolled at school receive is a very important pull factor. According to Roschanski (2007), the unschooled pastoralists who managed to send their children to school see the relevance of education in terms of the immediate and long-term benefit to the child. They see in terms of what education does to improvising the herding economy, in terms of acquiring skills that is not available in the community (e.g. literacy and numeracy), and attaching to (and building over) the traditional science such as animal medicine, weather forecast, etc. Seen using this lens, the results in the present study revealed that the study participants doubted the relevance of the curriculum used in the local schools. Irrelevance of the curriculum, added to the several shortages of inputs, would serve as push factor for the pastoralist cannot afford keeping its children at school where the benefit of learning at schools is not visible.

This study indicated that schooling of the particular pastoralist children is under the influence of multiple factors. This calls for devising multiple solutions. One of the vital lessons learnt from past experiences from elsewhere was the impossibility of addressing the educational needs of pastoralist children through conventional schooling alone (UNESCO, 2002; PACT Ethiopia, 2008; Krättli and Dyer, 2009; Woldegiorgis, 2015). Formal school-based education is criticized for its potential to conflict with mobility patterns practiced among pastoral communities that seasonally travel to enhance the wellbeing of their animals. Hence, there is a clear need to devise alternative educational strategies. Unfortunately, efforts at implementing alternative mode of education delivery in the pastoralist districts of Borena were not heartening. Besides, one of the fundamental problems of education for pastoralist community is devising an education approach they believe in, something they can see theirs (and meant for them) and creating a deserving attitude. This is at the core of demand creation over which the local leaders practically did nothing. As Oxfam (2005) proposed, in

order to design a flexible education for pastoralists, policy makers need to identify what motivates them to send their children to school. Much can be learned from the content and pedagogy of the informal education the community provides its children with.

5. Conclusions and Recommendations

The preceding discussion indicated that the Borena pastoralist community does not outrightly reject formal education. They rather see education as an important tool for the children to climb up the socio-economic ladder they are to confront in their life. The pastoralists are equally skeptic of the value that years of formal education adds to pastoralism, an activity they see not just as a source of livelihood but also an expression of their very identity. They tend to think that the traditional education they provide is sufficient for the purpose they want to prepare the children for. The pastoralist community members see schooling in terms of the implication it has on livestock possession and herding, i.e. in terms of loss of child labor from the sector. On the other hand, the local administration urges the community to enroll the children at school. Apparently, not convinced of the value of schooling for their children, the community adapted various coping strategies, namely, selective enrollment, rotational enrollment, turn-based attendance, and role assignment. None of these artificial solutions are commensurate with the best interest of the child. In fact, in all cases, children are losers under these adult-centric solutions.

This study underlines how, in the case of the particular pastoralist community, the opportunity cost of schooling explains the access to and participation in education as well as the quality of children's learning. Children's right to education is not even part of the discourse. There are no promising strategies used to improve the community's demand for education of their children. Mismatch between the Borena community's indigenous epistemology and the epistemic approach the school promotes is the other supply-related factor that constrains schooling for Borena children.

The paper argues that the current 'Inclusive and Equitable Quality Education for All' global initiative cannot be ensured without addressing the educational problems of pastoralist children. Nonetheless, there are dilemmas surrounding the education of pastoralist children as this paper documents. A locally relevant and comprehensive approach to address the dilemmas of pastoralist communities seems a very appropriate way to the solution.

Therefore, the following recommendations are made based on the findings of the study:

Education development for pastoral communities should be conceptualized within the broader pastoralist development agenda. In such agenda, one important area to consider is reducing the labor intensiveness of the economic activities (e.g. through herd specialization) which may somehow reduce the labor demand on children.

Education development programs need to be comprehensive enough in the sense that they should consider not only supply but also demand side of the education equation. There are strategies including, for instance, devising incentive systems for those who could not bear the challenges of educating one's children as well as school feeding program or supply of food items (e.g. cooking oil) that may serve, at least during the early Grades, a great purpose.

Children's rights to education become the central agenda in discussions about education of the pastoralist community children. Strategy needs to be devised to popularize the same among the community. The Borena social/political capital (e.g. the Gada System) is a very fertile condition to start with.

Pastoral communities could be served better by diversifying education delivery approaches and strengthening alternative basic education and satellite schools as well as introducing mobile schools. These strategies may not be cost effective compared to the situation in the highland agricultural areas or the number of children who are likely to be served. Yet, they can still be considered in selected locations such as in centers where livestock often move to. A rather cost-effective approach is using the multi-grade approach in schools where the number of students is tiny. This, however, requires careful preparation of teachers both culturally and pedagogically.

The timetable of education programs and schools for pastoralists should be adapted to their particular environment. It is possible to make the children free during the high dry seasons and concentrate school year to the modest climate seasons without losing the number of days the children have to be at school during an academic year. This might have important implications on such national/regional calendars as national examination schedule; university entrance and teachers' summer courses. To start with, it is possible to take flexibility only up to certain Grade levels (e.g. up to Grade 8) and devise separate in-service training schedule for teachers. Overtime, it is possible to study further on how to allow flexibility for all levels and kinds of schooling. Such modification may sometimes require introducing variations on some national and regional programs specific to pastoralist areas.

Educational authorities need to pay special attention to relevance of the system to the pastoralist community. The Borena indigenous ways of educating its children need to inform the design and practice of formal education programs. Under this umbrella, schooling should help improve the local economic activity. Hence, education should be shaped in a way that years of formal schooling brings differences in how those who drop out of school handle the herding business.

Area for further research: how is child labor in the pastoral sector seen in terms of the basic principles of the rights of the child?

6. References

- Balsvik, R. Randi. 2005. *Haile Sellassie's students: The intellectual and social background to the revolution, 1952-1974*. Addis Ababa: Addis Ababa University Press.
- Bernan, Assoc. 2002. Pastoralism in the New Millennium (FAO corporate document repository). FAO Animal Production and Health Paper. Rome. (<https://www.abebooks.com/>). (Accessed on September 24, 2019).
- Bogdan, C. R. and Biklen, K. S. 2003. *Qualitative research for education: An introduction to theory and methods* (4th Ed.). New York: Pearson Education Group Inc.
- Central Statistical Agency (CSA). 2008. National statistical abstract - section B: Population. (www.csa.gov.et) (Accessed on April 29, 2020).
- Coppock D. L. 1993. The Borena plateau of southern Ethiopia: Synthesis of pastoral research, development and change, 1980-91. Systems study No. 5, International Livestock Center for Africa, Addis Ababa.
- Cossins, N. J. and Upton, M. 1988. The Borena pastoral system of southern Ethiopia. *Ethio. Agri. System*, 25, 199-218.
- Creswell, W. J. 2003. *Research design: Qualitative, quantitative and mixed methods approaches* (2nd Ed.). London: SAGE Publications.
- Deressu, T. 2013. The challenges of primary education expansion in the pastoralist woredas of Borena zone of Oromia Regional State. Institute of Educational Research, Addis Ababa University. Unpublished MA thesis.
- Desta, S. 2006. Pastoralism and development in Ethiopia. *Economic Focus*, 9 (3): 12-20.
- Downie, K. 2011. A review of good practice and lessons learned in programming for ASAL populations in the Horn of Africa. (<https://www.semanticscholar.org/paper>).
- Dufera, D. 2006. Prospects and challenges of achieving the millennium development goals in Ethiopia: Where does Ethiopia stands on EFA goals? *The Ethiopian Journal of Education*, 26 (2): 22-55.
- Gebisa, S. 2015. Assessing the total economic value of pastoralism in Ethiopia. Seminar paper. (<http://m.grin.com>). (Accessed on December 18, 2019).
- Haile, A., Ayalew, W., Kebede, N., Dessie, T. and Tegegne, A. 2011. Breeding strategies to improve Ethiopian Borena cattle for meat and milk production. ILSRI. (<http://cgspace.cgiar.org>). (Accessed on April 27, 2018).

- Homann, S. 2005. *Indigenous knowledge of Borena pastoralists in natural resource management: A case study from southern Ethiopia*. Gottingen: Cuvillier verlag.
- Homann, S., Rischkowsky, B., Steinbach, J., Kirk, M. and Mathias, E. 2004. Towards endogenous livestock development: Borena pastoralists' responses to environmental and institutional changes. *Human Ecology*, 36 (4): 503-520.
- Jama, A. M. 1993. Strategies on nomadic education delivery: State of the art review. Education Unit, United Nations Children's Fund. (<http://www.pitt.edu/~ginie/somalia/pdf>). (Accessed on June 11, 2017).
- Kenea, A. 1995. Analysis of the '1963 Addis Ababa Plan' and its implementation. Seminar paper, School of Graduate Studies, Addis Ababa University (monographed).
- Kenea, A., Jilo, D., Hibo, M., Eman, T. and Tola, T. 2016. The relevance of primary school calendar to the context of pastoralists: The case of Oromia pastoralists. Research sponsored by Oromia Pastoral Community Development Commission, Addis Ababa.
- Kovach, M. 2005. Emerging from the margins: Indigenous methodologies. In Brown, Leslie and Strega, Susan, (eds.), *Research as resistance: Critical, indigenous, and anti-oppressive approaches*. Toronto: Canadian Scholars' Press, pp. 19-36.
- Krätli, S. 2008. Cattle breeding, complexity and mobility in a structurally unpredictable environment: The WoDaaBe herders of Niger. *Nomadic Peoples*, 12 (1): 11-41.
- Krätli, S. and Dyer, C. 2009. Mobile pastoralists and education: Strategic options. London: International Institute for Environment and Development.
- Legesse, A. 2000. *Oromo democracy: An indigenous African political system*. Asmara: The Red Sea Press, Inc.
- Makuvaza, N. and Hapanyengwi-Chemhuru, O. 2017. Unpacking the relevance/irrelevance problematic of education in Zimbabwe. In Edward Shizha and Ngoni Makuvaza (eds.), *Rethinking postcolonial education in Sub-Saharan Africa in the 21st century*. London: Springer, PP. 53-68.
- Masino, S. and Nino-Zarazu'a, M. 2016. What works to improve the quality of student learning in developing countries? *International Journal of Educational Development*, 48: 53-65.
- Ministry of Education (MoE). 2003. The education and training policy and its implementation. Addis Ababa, Ethiopia.
- _____. 2014. Education statistics - Annual abstract 2013/14. Addis Ababa.
- _____. 2017. Ethiopian education development roadmap (draft report). Addis Ababa.
- _____. 2019. A comprehensive review of the Ethiopian general education curriculum: Synthesized report. With technical support from Cambridge Assessment International Education and UNICEF.
- Moges, B. 2017. Children participation in schooling and education in pastoralist woredas of Afar region: Prospects, challenges and policy implications. *Journal of Research in Humanities and Social Sciences*, 5 (2): 50-63.
- Oromia Education Bureau (OEB). 2014. Education statistics - Annual Abstract 2006 E. C. (2013/14), Finfinne.
- Oxfam. 2005. Beyond the mainstream: Education for nomadic and pastoralist girls and boys. Gender equity series - program insight. Great Britain. (<https://policy-practice.oxfam.org.uk/>), (Accessed on February 19, 2018).
- PACT Ethiopia. 2008. Education for pastoralists: Flexible approaches, workable models. Addis Ababa: Master Printing Press.
- Roschanski, H. 2007. Deprived children and education, Ethiopia. IREWOC. (www.irewoc.nl), (Accessed on February 19, 2018).

- Shibeshi, A. 2005. Education for rural people in Ethiopia. Ministerial seminar on education for rural people in Africa: Policy lessons, options and priorities hosted by the Government of Ethiopia. Addis Ababa.
- Tomasevski, K. 2003. *Education denied: Costs and remedies*. London: Zed Books.
- Transitional Government of Ethiopia (TGE). 1994. Education and training policy. EMPDA: Addis Ababa.
- UNESCO. 2000. Education for all: From Jomtien to Dakar and beyond. Working paper. Dakar, Senegal.
- _____. 2002. The education of nomadic population in Ethiopia: UNESCO/ECBA, Addis Ababa.
- _____. 2015. Global monitoring report - achievements and challenges - summary report.
- Woldegiorgis, P. 2015. Factor affecting the primary school participation of pastoralists: A case study. *Mediterranean Journal of Social Sciences*, 5 (23): 1386-92.
- World Bank. 2017. General education quality improvement for equity (GEQIP-E). Education Global Practice Africa. (Report no. 121294-ET).

Annex I: Reported number of brothers/sisters vs. number attended school

Number of children in the household	No of children who attended school per household [Frequencies]								Total
	1	2	3	4	5	6	7	8	
Four [4] per household	1	4	1						6
Five [5] per household	6	3	5	1					15
Six [6] per household	8	4	6	5					23
Seven [7] per household	4	5	6	6	3	3	1		28
Eight [8] per household	5	1	6	4	1	1			18
Nine [9] per household				5	1	1		1	8
Ten [10] per household				3	1			1	5
Eleven [11] per household	1			1					2
Twelve [12] per household	1		1						2
Thirteen [13] per household					1				1
Total	26	17	25	25	7	5	1	2	108

Note: Numbers inside represent frequencies. Here are a few examples [refer the highlighted boxes]:

- There was 1 household that had 4 children and only 1 of them was enrolled at school.
- There were 4 households that had 4 children each and each of them had 2 of their children enrolled at school.
- There was 1 household that had 4 children and 3 of them were enrolled at school.