ROOM TO LEARN
SOUTH SUDAN

Implemented in partnership with FHI360

PASTORAL EDUCATION PROGRAM STUDY REPORT
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FORCIER CONSULTING

The following individuals from Forcier Consulting contributed to the field research and analysis undertaken for the Room to Learn South Sudan Project:

Natalie Forcier, Partner
Dr. Rens Twijnstra, Lead Methodologist
Dr. Zuri Linetsky, Lead Analyst
Brooke Braswell, Senior Analyst
Chloe Sydney, Analyst
Henriette K. Kristiansen, Junior Analyst
Tarnjeet Kang, Research Project Manager
Beatriz Muñoz Mallén, Project Officer
Stanley Gore, Assistant Project Officer
Jeff Longoria, Researcher
Festus Lokuien, Researcher
Simon Akook, Researcher
Isaac Aleer, Researcher
Joseph DeRosa, Analytics Intern

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Acronyms

ABEK	Alternative Basic Education for Karamoja
AES	Alternative Education System
ALP	Accelerated Learning Program
CCT	Center Coordinating Tutors
CED	Country Education Department
DAP	Digital Audio Players
FAO	Food and Agricultural Organization of the United Nations
FGD	Focus Group Discussions
ICC	Intra-Cluster Correlation
KII	Key Informant Interview
KP	Key Point
LARS	Literacy for Advocacy, Rights and Skills
MoEST	Ministry of Education, Science and Technology
NGO	Non Governmental Organization
ODL	Open and Distance Learning
PEP	Pastoralist Education Program
PPS	Probability Proportionate to Size
PST	Professional Studies for Teachers
RtL	Room to Learn
SIRIP	Somali Interactive Radio Instruction Program
SOMDEL	Somalia Distance Education Literacy
SSIRI	South Sudan Interactive Radio Instruction
TLS	Time-Location Sampling
USAID	United States Agency for International Development
WASH	Water, Sanitation and Hygiene

Executive Summary

In 2011, the people of South Sudan voted for independence from Sudan, creating the world's youngest country. Despite independence, continuing conflict within its border and remaining devastation from decades of war with Sudan have left the country with critical humanitarian and development challenges. In terms of education, the 2008 Census of Southern Sudan reported that only 29% of the population was literate, with rural communities at only 24%. Moreover, an estimated 70 to 90% of school age children are not actively attending school.[1] These proportions are larger among rural and pastoralists communities due to a lack of resources and remoteness.

Of the 11.3 million residents of South Sudan, roughly 83% live in rural areas and depend on agricultural pastoralism for their livelihoods.[2] Additionally, although there is no census data on nomadic pastoralists, it is estimated that approximately 67% of the South Sudanese population can be categorized as such.[3] Pastoralist children usually have household or herding duties throughout the day – some of which include caring for livestock, collecting dung, or milking cows. Due to these daily time-demands, children are often unable to attend traditional schools or only go to school during certain seasons. Further, many available textbooks and lesson plans are not written in local languages or provide lessons that are perceived as foreign or unrelated to pastoralists' knowledge base.

In order to stimulate education among pastoralists, the government of South Sudan developed the Pastoralist Education Program (PEP), which aims to promote education for pastoralist learners by providing education opportunities that are compatible with their way of life. This program delivers education through mobile schools where teachers travel with students as they migrate. Similar education delivery systems have been used in other countries with large pastoralist communities, including Uganda, Kenya, and Somalia. This report will assess education delivery systems like PEP as well as other innovative systems used for pastoralists in the East Africa region. These findings, in addition to an analysis of field research of pastoralist communities in South Sudan, will illuminate the best practices of various education delivery systems and identify which elements are replicable in the context of South Sudan.

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[1] Government of Southern Sudan. 2010. *Southern Sudan Counts: Tables from the 5th Sudan Population and Housing Census, 2008.* Juba: Southern Sudan Center for Census, Statistics and Evaluation. See also, International Labor Organization (ILO). 2013. *Child Labor and Education in Pastoralist Communities in South Sudan.* Geneva: International Labor Organization International Programme on the Elimination of Child Labor (IPEC). World Bank. 2015. South Sudan Overview. http://www.worldbank.org/en/country/southsudan/overview. Accessed July 23, 2015

[2] Ibid.

[3] Netherlands Development Organization. *SNV Practice Brief number 2*, January 2012. http://www.capacity.org/capacity/export/sites/capacity/documents/topic-readings/SNV_Practice_Brief_2_.pdf http://www.snvworld.org/.

Methodology

A component of Room to Learn (RtL) focuses on increasing safe access to and quality of education to underserved populations. To inform this process, this study aims to compile existing information on best practices in pastoralist education, as well as generate new information through on-the-ground field research in South Sudan. The study:

- Determines which elements of existing pastoralist education activities in South Sudan could be expanded or modified to increase access and quality for pastoralist children and youth;
- Identifies material gaps and needs based on study findings; and,
- Provides overarching recommendations for effective pastoralist education.

In order to achieve the above, the research for this report included a desk review and field-based research with pastoralists in South Sudan. The desk study reviewed and synthesized existing quantitative and qualitative research studies from South Sudan and the East Africa region, with a focus on PEP delivery systems (rather than learning content). Each program summary includes a "lessons learned" section that summarizes overarching takeaways for pastoralist education. The report's conclusion synthesized these program takeaways in a final "general recommendations" section.

The field research focused on nomadic pastoralists in Kapoeta South County (Eastern Equatoria, Toposa speakers) and semi-nomadic pastoralists in Aweil East (Northern Bahr El Ghazal, Dinka speakers). Due to the current security and accessibility situation in South Sudan, data was not collected from a Nuer-specific location but from secondary sources as part of the literature review process, including previous Nuer pastoralist research conducted by Forcier Consulting. All field research locations were selected in conjunction with the RtL Project and the Ministry of Education, Science, and Technology's (MoEST) Alternative Education Systems (AES), to ensure sites had adequate levels of exposure to PEP activities. Data was collected by research teams and accompanied by two MoEST (AES) representatives. Research tools used a mixed-methodology approach, including Key Informant Interviews (KIIs), Focus Group Discussions (FGDs), participatory resource mapping and time use mapping, as well as a quantitative questionnaire. In order to ensure relevance and validity of the research, all study instruments for this research were approved by the AES Technical Working Group, which includes representatives from all ten South Sudan states.[4]

Key Findings – Desk Review[5]

The desk review analyzed three main education delivery systems for pastoralists – mobile schools, boarding schools, and open and distance learning (ODL).

Mobile Schools

Mobile schools follow pastoralists as they migrate with their cattle and other livestock. When possible, teachers are from these pastoralist communities. This contributes to the longevity of these schools and ensures that the teachers understand the culture and local languages. Classes take place during early afternoon, while cows are out to pasture, or in the evening, after children have completed their livestock or household duties. In the PEP of South Sudan, mobile schools follow the formal primary school curriculum, which enables children to transition to formal primary schools. Notably, their lessons are tailored to context relevant to pastoralists, including lessons on animal husbandry as well as environmental protection.

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[4] Note: Representatives from all 10 states were present and approved the research tools.

[5] See Annex 6.1 for the conclusions and recommendations on desk review; See section 3 for complete desk review.

By 2013, South Sudan had roughly 108 mobile schools with between 4,000 and 12,000 students; the government seeks to target 100,000 pastoralist children in mobile schools. The government reports that pastoralist children enrollment and literacy rates have greatly improved since the introduction of the PEP. The most notable strength of the mobile school system for pastoralists is its compatibility to the pastoralist way of life, which enables the enrollment of children while migrating with herds and when in remote areas. Despite this strength, mobile schools are difficult to sustain due to a lack of streamlined management and supervision, a lack of qualified teachers, and low teacher salaries.

Outside of South Sudan, other countries have developed mobile schools, with the most prominent model being the Alternative Basic Education for Karamoja (ABEK) system, based in Uganda. Similar to PEP, ABEK has mobile schools that educate children in cattle camps; in addition, ABEK has sedentary schools in village settlements. Classes are taught in the local language and include lessons on livestock production, cattle health, as well as basic numeracy and literacy. Community members selected facilitators and some were added onto government payrolls. Notably, some students transitioned into traditional primary schools and performed well but some lagged behind non-pastoralist children. The use of local languages, flexible hours, standardized curriculum, community involvement, and combination of sedentary and mobile schools led to ABEK's success. Even so, ABEK faced challenges due to a lack of qualified teachers, multi-grade classes, and a lack of formal criteria for assessing progress.

Boarding Schools
Boarding schools, unlike mobile schools, are permanent structures where children live and learn for the entirety of the school year. These schools are traditionally associated with and run by multiple actors, including religious organizations, NGOs, and governments. While the maintenance and running of these schools are usually more costly than mobile schools, the schools provide accommodation and meals to students, which is a major incentive for parents sending children to these schools. In some contexts, girls-only boarding schools have been viable options in circumstances when girls may be unable to receive education due to safety or cultural constraints. Girls-only boarding schools in Somalia and Northern Kenya have been particularly successful for girls' education and retention as these schools are considered to be more culturally acceptable, because they separate girls and boys.

Pastoral communities' interest in boarding schools varies according to local context. Boarding schools may generate demand when parents believe the education will benefit their communities, however some perceive boarding schools with resistance and mistrust. This is particularly the case among women, as the schools are looked upon as an attempt to modernize the community and make pastoralists sedentary. In South Sudan in particular, the population generally perceives boarding schools positively with elite status and quality education. The existing boarding schools include Ibba Girls School in Western Equatoria and Excel International Academy in Yei.

Overall, boarding schools are considered to provide a higher quality of education to students compared to mobile schools as well as open and distance learning (ODL) because students are immersed in education and can more easily follow a standardized curriculum. However, these schools are often expensive in comparison to their mobile counterparts and remove children from their traditional way of life.

Open and Distance Learning
When mobile schooling and boarding schools are too rigid for the flexibility needed in pastoralist lifestyles, ODL programs offer an alternative education system. This system enables education for students in remote areas as lessons are provided through radios, textbook-led studies, or other devices.

ODL usually offers a combination of flexible teaching methods: radio broadcasts; some face-to-face teaching; the provision of printed materials; and aids such as TV or mobile Internet in more developed countries. This type of educational programming is designed to reach not only pastoralist children, but also out of-school, displaced, or marginalized children. The education content includes literacy, numeracy, and life skills that are relevant to the needs of marginalized children, such as human rights and health precautions.[6]

An ODL program was implemented in South Sudan from 2004 to 2012, the South Sudan Interactive Radio Instruction (SSIRI) program. The program aimed to promote basic literacy and education by providing lessons and trainings via radio; this program produced 480 thirty-minute lessons for students in grades one to four and reached 420,000 children. In addition, the Professional Studies for Teachers (PST) program provided in-service teacher trainings, and ultimately trained 599 teachers across 24 locations.

Despite its ability to reach many, ODL is often dependent on self-learning and self-motivation. Students lack supervision, teacher-led classes, and other aspects associated with traditional schooling, which may undermine the quality of their education. Additionally, external factors, such as poor radio transmissions or a lack of power supply may also prevent students from gaining all the benefits of ODL education. Even so, the flexibility of ODL enables education to any person who is unable to attend traditional school, including children in IDP camps or girls who were removed from school after early marriage.

Key Findings – Field Research

Findings from the quantitative survey of pastoralists and interviews with stakeholders to pastoralist education indicate that overall education and literacy levels among pastoralists are low; however, most respondents report interest in gaining and improving education in their community. The vast majority of survey respondents report a desire to attend school, although less than a quarter of the 110 respondents are currently enrolled. For teachers, difficult living conditions, a lack of materials, and poor salaries prevent them from remaining long-term with their communities and deter others from becoming teachers.

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[6] International Institute for Environment and Development. *Mobile Pastoralists and Education: Strategic Options*, Saverio Krätli and Caroline Dyer, Working Paper 1, October 2009. http://pubs.iied.org/pdfs/10021IIED.pdf

Main Challenges for PEP
• Lack of medicine • Lack of teachers • Low payment of teachers • Ignorance of parents, unwillingness of parents to prioritize education • Difficulty of monitoring learners • Lack of transport • Forced/ early marriage among girls – removal of girls from school • Teacher dissatisfaction • Lack of coordination with national ministry level in distribution of materials • Weather-related challenges (rain, drought), rain destroyed books

Customary Norms & Community Perceptions of AES
Parents, during focus group discussions (FGDs), report that education is important but believe that the education quality of PEP is poor compared to traditional schools. Community leaders report that the low teacher retention rates are the reason for poor education quality. Most parents note that girls and boys should have the same access to school and 90% of survey respondents report the same.

However, parents highlight that, in reality, girls tend to face more obstacles than boys to receiving education. According to FGDs with women, girls have more household duties than boys, which include cooking, collecting firewood, caring for children, weeding, and gardening. Boys tend to have more time to play, which allows them free time to participate in school. Additionally, some participants mentioned that girls should not attend school because parents do not want to pay school-related fees or because education may hinder their ability to marry.

According to interviews with two community leaders, the main challenges in accessing education for children are their household and cattle responsibilities, including fetching water, gardening, and herding. One leader also highlighted that children were not offered food at school, which made parents less likely to allow their children to attend; school meal programs appear to strongly incentivize parents' willingness to send their children to school.

PEP Teachers and Reasons for Attrition & Retention
Three PEP teachers were interviewed for this report. All teachers received initial pre-PEP training and report that the trainings were sufficient in preparing them for PEP. No teachers received follow-up trainings but all agree that they would like these trainings in the future. In terms of support, teachers have a direct contact with supervisors if in need of assistance. Teachers report to the Country Education Department on a monthly basis to ensure the quality of their teaching.

Payment of teachers is one of the most pressing issues for PEP. One teacher reports that the salary is too low to cover personal needs, and two teachers report that the payments of their salaries were 3 months to a year late. Some teachers receive in-kind contributions from the community for their work, such as a bicycle, food, and housing.

The three teachers report that they have had access to exercise books, textbooks, blackboards, and chalk; however, at the time of the research, no teachers had any of these materials available. If material is not available, one teacher said he would purchase the material himself or seek assistance from the AES office. According to the teachers, all academic material is in English; however, only a quarter of

survey respondents speak English. The teacher said, "Children are only familiar with cattle and types of trees and grass. I suggest if the Ministry of Education can create a special syllabus for PEP learners only… [e]specially on the side of language things in books."

Both administrators and teachers highlighted the issue of teacher attrition as a primary challenge in the success of improving pastoralist education. The main grievances as expressed by teachers and corroborated by administrators are as follows:

- Delayed payment of salaries;
- Insecurity;
- Inability to communicate with family members and distance from family;
- Low payment.

Another major issue is the lack of female PEP teachers. Administrators report that female teachers rarely, if ever, apply to PEP positions for reasons unknown to administrators. Although the interviewees did not know why women do not apply to be teachers, all believed more women would apply if teachers were offered higher salaries as well as transport.

School Attendance and Activities of Students
For students enrolled in school, the most common reason for missing school in the past month is responsibilities in cattle camps or in the field. Most respondents missed one to two days due to cattle camp responsibilities.

Conclusions and Recommendations for Education Delivery Systems in South Sudan

Mobile Schools	
Strengths	For South Sudanese pastoralists, the greatest strength of mobile schooling is its ability to provide teacher-led classes that are in locations and at times where pastoralist students are able to attend. The lessons are usually taught in the local language of the community and provide education on basic literacy and numeracy. Additionally, lessons on pastoralist-relevant subjects such as agricultural techniques and animal husbandry are also given. Further, curriculum can include lessons on social cohesion and peacebuilding, which can lead to more peaceful conflict resolution skills with issues such as cattle raiding. Lessons beyond traditional academic subjects (agroforestry, sanitation and hygiene, etc.) encourage community members to support the schools and encourage parents to allow their children to attend, as the education is perceived as beneficial to their lifestyle and livelihood. Community leaders and parents are usually involved in the development and running of mobile schools; this involvement promotes both sustainability and local ownership. In programs like ABEK in Uganda, communities selected through a process linked to the success and sustainability of the program. Another successful practice of ABEK was its combination of sedentary and mobile schools. This combination appeared to improve children's access to education during all seasons.

Weaknesses	Both desk research and quantitative findings highlight that teacher quantity, quality, and retention is a major issue inhibiting the success of mobile schooling. According to interviewed PEP teachers, delayed and low salaries deter teachers from participating in PEP. Additionally, balancing personal life with work is a major challenge because teachers, at times, migrate with the pastoralist communities. Because only few pastoralists qualify to be teachers, some teachers are not from the pastoralist community, which increases the difficulty of work-life balance for teachers. Learning materials are often in English; during field research, teachers reported that all materials were in English. However, the majority of pastoralists surveyed did not know English, creating a major gap in their ability to benefit from the available learning material. Moreover, the amount of learning material is generally lacking. During field research, no teachers were able to show their learning material, with one teacher reporting purchasing material with his own money. In addition to issues of material, most classes are situated outside and subject to distractions from community members, weather, and livestock. Although a major strength of mobile schools is their flexibility with hours of work, classes are often shorter than classes in traditional day schools. Due to this, students may not be able to complete the full curriculum. Exacerbating this issue, because mobile schools generally have fewer students than traditional day schools, most classes are multi-grade. This can be difficult for teachers to manage and may inhibit children from systematically progressing to higher grades.
Conclusions and Recommendations	Despite their weaknesses, mobile schools offer the most potential for pastoralist education compared to boarding schools. Its unique engagement of non-traditional learning by providing flexible hours and mobile teachers allows this education delivery system to be compatible with pastoralists' way of life. This flexibility in combination with traditional schooling through the provision of teacher-led classes and standardized curriculum enables a setting that both encourages learning as well as school attendance and community ownership. Yet, mobile schooling in South Sudan can be improved. Two pressing issues that need to be addressed are (1) improving teacher retention and quality and (2) providing lessons in local languages and materials relevant to the communities. PEP teachers need pre-teaching trainings as well as follow-up trainings. As with the ABEK system, when possible, teachers should be selected by community members and pass certain certifications. Considering the importance of their role, teachers should be given salaries that ensure their ability to cover personal costs as well as enable savings. When possible, teachers should be from within the pastoralist community. Textbooks and other learning materials should be written in the local languages of the pastoralist community and designed with content relevant to their knowledge-base. A guidebook for textbook developers and education experts on

	the needs and languages of pastoralists would enable the creation of relevant material. By addressing the issue of teachers and learning material, mobile schools will likely improve in their success.
Boarding Schools	
Strengths	Boarding schools offer an environment where students can be engrossed in education. Because students live at the school, students are constantly surrounded by and engaged in their education. As a result, the education quality at boarding schools is generally better than at mobile schools or in ODL systems. Students have the structure of a fully standardized curriculum and are able to progress into higher grades in a systematic manner. In Muslim-majority areas like Somalia and Northern Kenya, boarding schools have been particularly important for girls' education, through the establishment of girls' only schools. The parents were more willing to send their daughters to school when they were assured of gender-segregation. Parents are also incentivized to send their children to boarding schools because of the offer of accommodation and daily meals. In South Sudan, a Save the Children official reported that boarding schools are perceived as providing high quality education and associated with elite status.
Weaknesses	The most significant weakness of boarding schools for pastoralists is that children are removed from their communities and traditional way of life. Children are an integral part of the livelihoods of pastoralists and utilized for tasks such as milking cows and cultivation. Some pastoralists perceive boarding schools as an education system that inhibits their culture, and some pastoralist children report being marginalized in boarding schools. Boarding schools are also more expensive to maintain than their counterparts – mobile schools and ODL systems – because they provide multiple daily meals, accommodation, and other services. Tuition and other fees may limit parents' ability to send their children to school.
Conclusions and Recommendations	Although boarding schools offer high quality education, they are not the best educational system for pastoralist children; they are expensive and remove children from their traditional way of life. Nonetheless, boarding schools should still be considered a viable option for some pastoralist children and communities who are able to both afford the schooling as well as accomplish livelihoods tasks without the children. Further, in some cases, boarding schools may offer girls more opportunities for education if the schools are girls-only. In cases where pastoralist children attend boarding schools, measures should be taken to ensure that curriculum exists that is relevant to their lifestyle. These classes can include animal husbandry, agroforestry, and other similar topics. Schools should also seek to provide instruction in the local language of pastoralists or provide learning support to students when that option is not feasible.

Open and Distance Learning	
Strengths	ODL offers learning opportunities to all individuals who are unable to attend a traditional day school. Its strength is its flexibility and non-need of materials. Radio programs such as the South Sudan Interactive Radio Instruction (SSIRI) have laid a foundation for ODL systems among pastoralists. Most South Sudanese already have radios and radio transmissions reach many parts of the country. Like mobile schooling, ODL curriculum can include material that is relevant to pastoralists' lifestyles as well as other topics such as sanitation and peacebuilding. These lessons increase the relevance of education to day-to-day life and encourage communities to support their students' education. Importantly, ODL lessons can be available to pastoralist children as well as parents and other community members whenever they find the time to listen to broadcasts. ODL systems can also be used to educate girls who have been removed from school after marriage, and refugee and IDP children.
Weaknesses	ODL education is dependent on the self-motivation and discipline of its students. Although some ODL systems have teachers, students are usually left to learn and study on their own. Technical issues may also inhibit the usefulness of ODL. Radios and Digital Audio Players (DAPs) require charging or electricity, which may be inaccessible to pastoralists. Indeed, solar batteries can mitigate this issue, but these must be provided to the communities and maintained. Further, the sound quality of DAPs may be poor (as it was in the SSIRI example). This poor audio prevented students from being able to hear and understand the lessons. The lack of a monitoring system to track students' retention, attrition, and educational progress prevents a proper assessment of ODL. Additionally, students are often limited in the amount of lessons available and grades that they can reach. According to the desk research, lessons were also only available in English and teachers had to translate.
Conclusions and Recommendations	ODL programs offer a suitable alternative to mobile schooling for pastoralists when mobile schooling is unavailable. Due to the limited nature of the school in terms of its ability to provide a full curriculum and monitor students' progress, ODL should not be the prioritized option for pastoralist education. However, ODL still provides a model that can provide quality education when no other option is available. When this is the case, lessons should be available in the local languages of students. A system of monitoring students' progress should also be developed.

1. Introduction

On July 9, 2011, South Sudan gained independence through a nearly unanimous referendum and officially separated from Sudan. Although independence was achieved after decades of civil war, conflict continued to plague the nation. In December 2013, an internal conflict arose in the capital, Juba, before spreading to the rest of the country.

The recurrent surges in violence have left major developmental and humanitarian challenges for the country's roughly 12 million inhabitants, with approximately 50 percent living below the poverty line. According to the 2008 census of Southern Sudan, the national illiteracy rate was 71%, with members of rural communities disproportionately represented.[7] Approximately 80% of South Sudanese live in rural areas rely on agricultural pastoralism for their livelihoods. Further, despite a lack of census data on the number of pastoralists living in South Sudan, it is estimated that roughly 67% of the population is comprised of pastoralists.[8] Notably, the pastoralist peoples tending to cattle and other livestock are often the most vulnerable to poverty, food insecurity, and the ravages of war. Moreover, pastoralists also often suffer from the lowest levels of access to education given their seasonal migration patterns and reliance on child labor to meet the needs of cattle that graze over vast swaths of pastureland.

1.1. Introduction to Pastoralist Education and South Sudan

The Room to Learn project is designed to expand education opportunities that are inclusive and promote social cohesion. RtL has three components:[9]

- Component 1: Improve and expand safer education services for children and youth;
- Component 2: Enhance relevance of education and provision of learner well-being;
- Component 3: Quality of management of education system is improved through local education authorities.

Under Component 1, RtL will work in collaboration with the Ministry of Education, Science and Technology (MoEST) to increase access and quality of pastoralist education. To inform this process, RtL has proposed a study to compile existing information on best practices in pastoralist education, as well as generate new information through on-the-ground field research in South Sudan. The study will be used to 1) provide overarching recommendations for effective pastoralist education programming,

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[7] Government of Southern Sudan. 2010. *Southern Sudan Counts: Tables from the 5th Sudan Population and Housing Census, 2008.* Juba: Southern Sudan Center for Census, Statistics and Evaluation. See also, International Labor Organization (ILO). 2013. *Child Labor and Education in Pastoralist Communities in South Sudan*. Geneva: International Labor Organization International Programme on the Elimination of Child Labor (IPEC). World Bank. 2015. South Sudan Overview. http://www.worldbank.org/en/country/southsudan/overview. Accessed July 23, 2015

[8] World Bank. 2015. http://data.worldbank.org/indicator/SP.POP.TOTL. Accessed June 28, 2015. See also: Government of Southern Sudan. 2010. *Southern Sudan Counts: Tables from the 5th Sudan Population and Housing Census, 2008.* Juba: Southern Sudan Center for Census, Statistics and Evaluation. See also, International Labor Organization (ILO). 2013. *Child Labor and Education in Pastoralist Communities in South Sudan*. Geneva: International Labor Organization International Program on the Elimination of Child Labor (IPEC).

[9] Note: Room to Learn (RtL) South Sudan is a five-year Cooperative Agreement between the United States Agency for International Development (USAID) and Winrock International (Winrock). FHI360 is a major sub award partner leading work on education and monitoring and evaluation. The RtL project aims to expand education opportunities that are inclusive and promote social cohesion.

based on evidence for what works and doesn't work in pastoralist education; 2) determine which elements of existing pastoralist education activities in South Sudan could be expanded or modified to increase access and quality for pastoralist children and youth; 3) design and pilot new pastoralist education innovations that are based on evidence; and 4) identify material gaps and needs based on study findings.

Pastoralist traditions are not confined to South Sudan. Cattle-keeping is present across the populations of East Africa including Djibouti, Eritrea, Ethiopia, Uganda, Kenya, and Tanzania.[10] After decades of trying to fit pastoralists into pre-existing educational paradigms, governments began to create new educational systems that are compatible with pastoralists' ways of life. These forms of education include mobile schooling, such as the Alternative Basic Education for Karamoja (ABEK) program in Uganda, and Open and Distance Learning (ODL), such as the Somali Interactive Radio Instruction Program. Additionally, boarding schools, which have been developed in countries like Somalia and Kenya, offer a more traditional, full-time school option for pastoralist children who are able to live outside their communities. Lessons from these systems for education can be utilized by education stakeholders in South Sudan to inform the development of models and methods for education delivery to South Sudanese pastoralists.

After the signing of the Comprehensive Peace Agreement between the Government of Sudan and the Sudan People's Liberation Movement in 2005, the government of South Sudan launched a diversified educational program to meet the needs of the new nation.[11] The Pastoralist Education Program (PEP) was created to target the semi-nomadic agropastoralists in the country with a series of mobile schools.[12] Pilot programs were launched in the states of Northern Bahr El Ghazal, Warrap, Lakes, Jonglei, and Eastern Equatoria. By 2013, there were an estimated 108 mobile schools, which catered to thousands of pastoralist learners.[13] However, the PEP is still in its infancy in South Sudan. It faces a number of challenges including the lack of qualified teachers and materials, as well as workbooks and tents.

In addition to PEP mobile schooling, South Sudan developed the South Sudan Interactive Radio Instruction (SSIRI) program through USAID funding. Due to its accessibility to peoples with radios, it allowed for a wider reach than PEP; however, like the PEP program, SSIRI has also suffered from a lack of materials and trained teachers. Even so, the SSIRI program, which ended in 2012, provides a foundation from which to build open and distance learning opportunities among pastoralists in South Sudan.

Moreover, SSIRI, ABEK, PEP, and other models in East Africa provide a basis from which pastoralist education in South Sudan can be developed. Through thorough research of education systems in the region surrounding South Sudan as well as through interviews with pastoralist communities within South Sudan, this report provides insight into the educational needs of pastoralists.

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[10] International Institute for Education planning study commissioned by the African Development Bank, "The education of nomadic people in East Africa: Djibouti, Eritrea, Ethiopia, Kenya, Tanzania and Uganda. Review of relevant literature", Roy Carr-Hill and Edwina Peart, 2005. http://www.fao.org/fileadmin/templates/ERP/2013/link_publications/140563e.pdf

[11] https://www.humanitarianresponse.info/system/files/documents/files/AES%20policy%20%2019.6.14.pdf

[12] http://educationenvoy.org/wp-content/uploads/2013/07/SOUTH-SUDAN-UNSE-FINAL.pdf

[13] Government of South Sudan. *Policy for Alternative Education Systems* and Good Planet Foundation (GPF). *Accelerating Progress to 2015 South Sudan,* 2013.
http://educationenvoy.org/wp-content/uploads/2013/07/SOUTH-SUDAN-UNSE-FINAL.pdf

2. Purpose of Assessment & Methodology

2.1. Aim of Assessment

RtL focuses on increasing safe access to and quality of pastoralist education. To inform this process, this study aims to compile existing information on best practices in pastoralist education, as well as generate new information through on-the-ground field research in South Sudan. The study:

- Provides overarching recommendations for effective pastoralist education;
- Determines which elements of existing pastoralist education activities in South Sudan could be expanded or modified to increase access and quality for pastoralist children and youth; and
- Identifies material gaps and needs based on study findings.

Prior to field research, a desk study was conducted in order to determine which PEP systems and strategies are working, identify common obstacles and missteps, summarize the structures and outcomes of various pastoralist education programs, and identify existing materials in South Sudan and the wider region. Subsequently, the field research aimed to:

- Fill in research gaps revealed by the desk study;
- Gather the most updated information possible on current pastoralist education practices in South Sudan;
- Identify teacher-related issues, including teacher professional development, key reasons for teacher attrition and retention factors, effectiveness of PEP structure for recruitment, staffing and training of PEP staff;
- Identify access issues and access assets to help learners access education opportunities;
- Identify structures and locations that may be able to be leveraged for educational activities, i.e. resources to overcome PEP challenges for teachers and learners;
- Examine the various dimensions of the PEP and barriers to project implementation; and
- Identify key attitudes and approaches of parents who have enabled their children to participate in the PEP, as well as the barriers to education and factors affecting the decision-making process of non-participants.

In order to achieve these objectives, the assessment measures the following indicators:

- Conduciveness of customary norms for alternative education;
- Community perceptions and interactions with alternative education systems;
- Causes of teacher retention and attrition;
- Community time use/management for obligations and duties;
- Availability and utilization of community resources that could support PEP;
- Availability and utilization of learning materials; and
- Effectiveness of PEP structures.

2.2. Methodology

This study comprises two main components: a prior desk study component and the field research component.

The desk study reviewed and synthesized existing research on pastoralist education programs. It includes quantitative and qualitative research studies from South Sudan and the East Africa region, and focuses on PEP delivery systems (rather than learning content). Each program summary includes a "lessons learned" section that summarizes overarching takeaways for pastoralist education. The report's conclusion synthesized these program takeaways in a final "general recommendations" section.

The field research focused on nomadic pastoralists in Kapoeta South County (Eastern Equatoria, Toposa speakers) and semi-nomadic pastoralists in Aweil East (Northern Bahr El Ghazal, Dinka speakers). Due to the current security and accessibility situation in South Sudan, data was not collected from a Nuer-specific location but from secondary sources as part of the literature review process, including previous Nuer pastoralist research conducted by Forcier Consulting. All field research locations were selected in conjunction with the RtL Project and the Ministry of Education, Science, and Technology's (MoEST) Alternative Education Systems (AES), to ensure sites had adequate levels of exposure to PEP activities. Data was collected by research teams and accompanied by two MoEST representatives. Research tools used a mixed-methodology approach, including Key Informant Interviews (KIIs), Focus Group Discussions (FGDs), participatory resource mapping and time use mapping, as well as a quantitative questionnaire. In order to ensure relevance and validity of the research, all study instruments for this research were approved by the AES Technical Working Group, which includes representation from all ten South Sudan states.[14]

2.2.1. Quantitative Research

The quantitative element of this study captures pastoralist community perceptions about alternative education systems and how these correspond to potential learners' duties and obligations. The sampling strategy was comprised of time-location sampling (TLS), by which researchers were positioned at key points (KPs) along routes that are frequently travelled by the target population. Using a predefined interval, enumerators solicited every Nth individual (contingent on frequency of people passing by) to take part in the survey.

Seven (7) KPs were drawn randomly from among the Bomas in each County (with replacement), based on probability proportionate to the size of the Boma (PPS). The researcher conducted 7 interviews at each location (except in one KP per County where eight (8) interviews were conducted to reach the required total of 50 observations per County). This enabled the study to detect a minimal difference of 30% on selected indicators between different Counties, using a 90% level of confidence with 0.8 power and based on an assumption of intra-cluster correlation (ICC) of 0.05. In order to strive for optimal gender representation in the survey, in each county, one of the KPs was purposively selected along a

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[14] Note: Officially, South Sudan has 10 states at the time of writing this report; however, the government is currently in negotiations to increase the number to 28. For this report, South Sudanese education officials represented the 10 current states.

route more frequently travelled by boys and men (such as near a cattle camp), and one along a route more frequently travelled by girls and women (such as near a watering point or borehole).

In order to ensure the quality of the responses, the quantitative questionnaire lasted no more than 30 minutes. Experience has demonstrated that surveys beyond this duration in cattle camps result in respondent fatigue and also detract respondents from other obligations resulting in truncated interviews.

Table 1: Sample Frame

State	County	Payam	Boma	Observations Quota	Observations Collected
Eastern Equatoria	Kapoeta South	Kapoeta Town	Rei	14	14
Eastern Equatoria	Kapoeta South	Katiko/Machi1	Loming	14	16
Eastern Equatoria	Kapoeta South	Moruongor/Machi2	Namojongoronyit	7	12
Eastern Equatoria	Kapoeta South	Longeleya	Goloki	7	7
Eastern Equatoria	Kapoeta South	Longeleya	Kangatuny	7	7
Total					56
Northern Bahr el Ghazal	Aweil East	Baach	Malualkon	7	8
Northern Bahr el Ghazal	Aweil East	Baach	Malou	7	8
Northern Bahr el Ghazal	Aweil East	Mangok	Mameer	7	8
Northern Bahr el Ghazal	Aweil East	Mangok	Riang-Mal	7	8
Northern Bahr el Ghazal	Aweil East	Malual-Bai	Ajieriak	7	8
Northern Bahr el Ghazal	Aweil East	Madhol	Majok –Yinthiuou	14	14
Total					54

Statistical Analysis Plan

Following data collection, a debrief workshop was held between Researchers and Technical Advisors to ensure that all data was properly recorded and available for coding. The team collectively identified trends and themes that emerged during the data collection process to be explored further in data analysis. Quantitative data was coded and cleaned and checked for integrity and validity using SPSS scripts. Data was then cross-tabulated and analyzed with disaggregation by respondent type and gender.

2.2.2.   Qualitative Research

Qualitative interviews were conducted in the language relevant to the participants, which include Dinka, English, Arabic, and Toposa. The following three qualitative tools were utilized for this study:

1) Focus Group Discussions

For each location, Focus Group Discussions were conducted with community members. Focus Group Discussions of 5-7 participants were conducted with various respondent groups, including:

- PEP learners and non-learners/dropouts male (ages 10 – 15);
- PEP learners and non-learners/dropouts female (ages 10 – 15);
- PEP learners and non-learners/dropouts male (ages 15 – 18);
- PEP learners and non-learners/dropouts female (ages 15 – 18);[15]
- Parents (both mothers and fathers)/guardians of PEP learners and non-learners/dropouts;
- Women;
- Community (traditional) leaders and chiefs.

Potential participants for the PEP learners' Focus Group were recruited from an operational PEP site (cattle camp), previously identified by a PEP administrator at County or Payam level. Potential participants for the non-PEP learners' Focus Group were recruited from a non-operational PEP site (cattle camp), previously identified by County or Payam authorities and/or local leaders.

The FGDs included interactive time and resource mapping exercises with community members and leaders, including physical mapping of the community and day-by-day agendas of different members of the community during different seasons. Community resource mapping identified structures and locations that may be able to be leveraged for educational activities. Access to different resources by various types of community members was used to evaluate marginalized or vulnerable groups.

The FGDs utilized a Positive Deviance Inquiry approach to identifying the key attitudes and approaches of those parents who enabled their children to participate in the PEP. FGDs with parents of non-participants focused on barriers to education and factors around the decision-making process of sending children to educational programs. FGDs with learners, graduates and dropouts were primarily conducted with children and youth, and therefore inherently different in nature. Based on Forcier's experience conducting FGDs with young children on educational topics, these discussions were based on ranking and prioritization activities utilizing cartoon drawings.

2) Key Informant Interviews (KIIs)

Three KIIs were conducted with PEP facilitators (teachers) to explore causes of teacher retention and attrition, optimal modalities for teacher support, gender-specific challenges and opportunities for PEP facilitators, etc. In addition, five KIIs were conducted with PEP administrators/leaders from Eastern Equatoria and Northern Bahr el Ghazal – including PEP administrators, experts at Payam or County level and one with a PEP facilitator at state level to examine the various dimensions of the PEP and barriers faced in implementation of the project. An interview was also conducted with Ag. Director General for AES at the MoEST, Odur Nelson Hussein, because of his in-depth knowledge and

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[15] Note: 15 year olds were included in both the 10-15 year old FGDs as well as the 15-18 year old FGDs.

experience with the program. These interviews were conducted using the snowball methodology, through the identification of an initial key informant who was used to provide the names of other informants.

3) Ethnographic Observations

In order to contextualize and verify the information provided by participants during the time use mapping and resource mobilization exercises in the FGDs, one senior researcher conducted ethnographic observations together with a select number of respondents after completing the interview or discussion. These observations, together with the FGDs and KIIs, contributed to the making of several case studies documenting exemplary stories among learners and teachers (2 exemplary case studies per location).

Members of the research team also collected observational field notes during qualitative data collection. Field notes include descriptions of social context, community resources, as well as interactions between different entities of the community. Although research teams were encouraged to use their own judgment in determining what should be recorded through field notes, the following guidelines seek to target key pieces of information that inform the case studies:

Table 2: Ethnographic Observation Guidelines

Indicators to be Observed	Sub-indicators
Presence and use of educational facilities in general (structures, signposts, etc.)	a. Primary and secondary schools (regular) b. Vocational training schools/centers c. Alternative education programs
Availability of PEP resources (in and around the cattle camps)	a. Text books, printed materials b. Chalk boards, chalk c. Stationary, other scholastic materials d. Tents (for teachers) e. School uniforms
Community resources (throughout the community)	a. Mobile phone charging stations b. Airtime vendors c. Solar-powered charging mechanisms d. (Text) books, stationary, etc. e. Benches, tables, etc. f. Vacant spaces (or buildings) that can be used for educational purposes

Time use	a. Community life and activities in the morning hours, afternoon hours and evening hours by:
	  ▪ Adult men and elders
	  ▪ Male adolescents
	  ▪ Children (boys)
	  ▪ Adult women and elders
	  ▪ Female adolescents
	  ▪ Children (girls)

Teacher strategies	a. Teaching space in the cattle camps b. Living space (houses) c. Transport means

Notes were organized into "descriptive notes" and "reflective notes." The descriptive notes include information that describes the setting, interactions, behaviors, etc. Reflective notes on the other hand include observations about trends and differentiations observed, possible causal factors for behaviors, interpretations, etc.

Photography was also used to describe large group scenes and physical environments, and to document the exemplary case studies. Prior to taking a photograph, all research teams ensured that they had obtained permission from relevant authorities (at the national, state and local levels). Diagrams and drawings were used as an alternative form of notation in research sites where it was not possible to take photographs, or when it was simply the best method for recording data, for example to describe the layout of a house/compound/homestead.

2.3. Limitations

In both quantitative and qualitative data, the issue of respondent bias may arise. Respondents may report answers with specific intentions – for this survey, they may answer in such a way that they believe will improve their school or give them more educational materials. However, there is no measurable way to account for these biases, although the report attempts to note discrepancies in the various responses to different questions.

Additionally, while the report calls for gender disaggregation in specific instances, there are very few instances where this is possible in relation to female teachers. No female teachers were interviewed and none of the interviewed male teachers discussed specific examples of working with female teachers (two reported to not work with women). Administrators referenced the importance of increasing the number of females, but did not provide actual examples of working with female teachers. Further, when quantitative data was disaggregated by gender, the majority of the findings are not statistically significant at the 95% level. In some cases throughout the report, gender disaggregated data is presented and, if footnoted, the data is not significant at the 95% level.

Notably, the findings presented are not wholly representative of the entire population, and should be understood as reflective of the perception and experiences of community members. As noted above, interviews included three teachers, five administrators, and two community leaders, among others. Though these interviews were thorough, the information obtained from these interviews is reflective of those specific experiences, not the experiences of all teachers, administrators, or leaders. The findings section should be understood accordingly.[16]

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[16] Note: Methodology was determined in collaboration with FHI360 and Room to Learn.

3. Desk Review

3.1. Background on South Sudan

South Sudan became the world's youngest country in 2011, six years after the Comprehensive Peace Agreement was signed between the Government of Sudan and the Sudan People's Liberation Army. However, independence has not brought peace to South Sudan. The country has been plagued by internecine violence since December 2013, and as a result, faces major humanitarian and development challenges.

Approximately half of the population of 11.3 million in South Sudan lives below the national poverty line, and 50 percent of South Sudan's poorest people are under 18 years of age.[17] According to the 2008 Sudan census on Southern Sudan, 83 percent of the population resided in rural parts of the region and actively engaged in agriculture and the care of livestock.[18] Currently, the Food and Agriculture Organization of the United Nations (FAO) estimates that over 80 percent of South Sudan's population still derive their livelihood from agricultural pastoralism.[19]

3.2. Background on Pastoralists in South Sudan

Pastoralist communities, including nomadic, semi-nomadic and agro-pastoralist populations, account for more than a quarter of the total population of Africa, spreading across 43% of the continent's territory.[20] The International Labor Organization estimates that South Sudan has one of Africa's largest nomadic pastoral populations. As this population has not been included in any census, and no census of South Sudan has been conducted since 2008, only scant demographic information is available on these groups. Nonetheless, it is estimated that pastoralist communities represent approximately 67% of the total South Sudanese population.[21]

Pastoralist communities rely on animal husbandry and/or crop cultivation as their primary economic activity. Communities move their animals throughout the year for more accessible water, lush grazing lands, and to escape seasonal flooding in the rainy season. More recently, they have been forced to

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[17] World Bank. 2015. http://data.worldbank.org/indicator/SP.POP.TOTL. Accessed June 28, 2015. See also: Government of Southern Sudan. 2010. *Southern Sudan Counts: Tables from the 5th Sudan Population and Housing Census, 2008.* Juba: Southern Sudan Center for Census, Statistics and Evaluation. See also, International Labor Organization (ILO). 2013. *Child Labor and Education in Pastoralist Communities in South Sudan*. Geneva: International Labor Organization International Program on the Elimination of Child Labor (IPEC).

[18] Government of Southern Sudan. 2010. *Southern Sudan Counts: Tables from the 5th Sudan Population and Housing Census, 2008.* Juba: Southern Sudan Center for Census, Statistics and Evaluation. See also, International Labor Organization (ILO). 2013. *Child Labor and Education in Pastoralist Communities in South Sudan*. Geneva: International Labor Organization International Program on the Elimination of Child Labor (IPEC); Andrew Green. "Cows and Conflict: South Sudan's 'Slow Motion Livestock Crisis." IRINnews.org. www.irinnews.org/report/101012/cows-and-conflict-south-sudan-s-slow-motion-livestock-crisis. Accessed June 28, 2015.

[19] Anrew Green. "Cows and Conflict: South Sudan's 'Slow Motion' livestock Crisis." IRIN. Accessed July 30,2015. http://www.irinnews.org/report/101012/cows-and-conflict-south-sudan-s-slow-motion-livestock-crisis

[20] Netherlands Development Organization. *SNV Practice Brief number 2*, January 2012. http://www.capacity.org/capacity/export/sites/capacity/documents/topic-readings/SNV_Practice_Brief_2_.pdf http://www.snvworld.org/.

[21] Ibid.

migrate to escape conflict. Three general types of pastoral populations can be distinguished: Nomadic pastoralists move all year round in search for pastures and water. Semi-nomadic pastoralists move shorter distances and their movements vary according to the season. Finally, agro-pastoralists combine seasonal farming using wet season rains with animal rearing.[22]

Among pastoralists, nomadic and some semi-nomadic populations live with their livestock; distinctive dwellings do not separate families from one another, as many individuals sleep among their animals. Notably, other pastoralists live in semi-sedentary villages and send their children to cattle camps (which are migratory) in order to educate their children on the requirements of caring for livestock.

Educational Challenges in a Pastoralist Context

One of the main development challenges for pastoralist communities is education; families find it hard to have their children regularly attending traditional schools due to issues with lifestyle, culture and social organization. Moreover, South Sudan faces significant challenges in terms of the quality of the education that is available. It is estimated that between 70 and 90 percent of the South Sudanese school age children who are not actively attending school are from pastoralist communities.[23] The 2008 census of Southern Sudan showed that only 29% of the population (16% of women and 40% of men) was literate, with the literacy rate for rural communities falling to 24%.[24] In South Sudan's pastoralist communities, women and girls often face further obstacles in acquiring literacy skills and engaging in education, with a 2013 Oxfam study finding that it was "virtually impossible" for girls to attend school.[25] Additionally, in the Somali Region of Ethiopia, only 4.8% of female pastoralists are able to read compared to 22.7% of male pastoralists – exemplifying the gender discrimination against female education among pastoralist communities.[26]

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[22] Dr. Faiz Omar Mohammed Jamia, "*Seasonal Movements of Some Pastoralist communities Along Sudan-South Sudan Border*", 25 October 2010.
https://www.academia.edu/8739213/Seasonal_Movement_of_Some_Pastoralist_Communities_along_Sudan-South_Sudan_Border.

[23] Good Planet Foundation (GPF). *Accelerating Progress to 2015 South Sudan,* 2013.
http://educationenvoy.org/wp-content/uploads/2013/07/SOUTH-SUDAN-UNSE-FINAL.pdf.

[24] Government of Southern Sudan. 2010. *Southern Sudan Counts: Tables from the 5th Sudan Population and Housing Census, 2008.* Juba: Southern Sudan Center for Census, Statistics and Evaluation. See also, International Labor Organization (ILO). 2013. *Child Labor and Education in Pastoralist Communities in South Sudan*. Geneva: International Labor Organization International Programme on the Elimination of Child Labor (IPEC). World Bank. 2015. South Sudan Overview.
http://www.worldbank.org/en/country/southsudan/overview. Accessed July 23, 2015.

[25] Ingrid Kircher, "Challenges to Security, Livelihoods, and Gender Justice in South Sudan," Oxfam, March 2013.
https://www.oxfam.org/sites/www.oxfam.org/files/rr-challenges-security-livelihoods-gender-south-sudan-130313-en.pdf

[26] Minority Rights Group International. *A Double Bind: The Exclusion of Pastoralist Women in the East and Horn of Africa*, Naomi Kipuri and Andrew Ridgewell, 2008. http://www.minorityrights.org/download.php@id=593.

Photo 1. School in Kapoeta South, 2015   *Photo 2. Sign promoting gender equality, Kapoeta South, 2015*

Due to their culture and lifestyle, pastoralist children (male and female) as young as two or three years of age play a critical role in caring for and maintaining their community's animals.[27] Children are actually preferred for some work in cattle camps. Milking cattle, for example, is generally considered to be more suitable for physically smaller, younger children given spatial restrictions. Additionally, cooking is often delegated to children (notably, this is not a gender specific task inside cattle camps).[28] Given the critical role of children in caring for livestock and the lack of alternative livelihood opportunities, formal education is not often prioritized in pastoralist communities. Children are considered necessary to support the family and, as such, experiences gained from working in cattle camps are generally more valued than school knowledge.[29] Thus, families may be reluctant to send their children to school because education conflicts with traditional ways of life in addition to straining the family's ability to care for their animals – which in much of South Sudan is the only livelihood source.[30]

Educating girls in pastoralist communities is an especially difficult proposition. Female education in pastoralist communities is perceived negatively, and gender discrimination both inhibits the enrollment of girls, and negatively affects girls' retention rates.[31] In cattle camps, families are generally more interested in high bride prices than in educating their daughters. In fact, many communities believe that female education can delay marriage, thereby undermining a family's ability to generate income from their daughter's wedding, and hurting male siblings' opportunities to marry.[32] Moreover, since a girl is no longer under the supervision of her parents when she is at school, some parents are concerned that daughters may be raped or engage in illicit activities such as prostitution, decreasing her value and triggering severe penalties such as revenge on families or death.[33]

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[27] International Labor Organization. *Child Labor and Education in Pastoralist Communities in South Sudan,* 23 October 2013. http://www.ilo.org/ipec/Informationresources/WCMS_IPEC_PUB_24057/lang--en/index.htm.
[28] International Labor Organization (ILO). 2013. *Child Labor and Education in Pastoralist Communities in South Sudan,* 24.
[29] Ibid.
[30] Final Report Submitted to Save the Children in Uganda. *Evaluation of the Mobile Alternative Basic Education for Karamoja (ABEK)*, 15 December 2011.
http://www.norad.no/globalassets/import-2162015-80434-am/www.norad.no-ny/filarkiv/ngo-evaluations/evaluation-of-the-mobile-alternative-basic-education-for-karamoja-abek-program.pdf.
[31] A Review Report Submitted to Save the Children in Uganda by Development Education Consultancy. *Alternative Basic Education for Karamoja*, Final Report, August 2006.
http://www.norad.no/globalassets/import-2162015-80434-am/www.norad.no-ny/filarkiv/ngo-evaluations/docs-68908-v1-review-of-alternative-basic-education-in-karamoja---final-report.pdf and Pastoralist Education Program (PEP), *PEP Evaluation*.
[32] International Labor Organization (ILO). 2013. *Child Labor and Education in Pastoralist Communities in South Sudan,* 17.
[33] Ibid.

Pastoral Education Delivery Systems
In order to enable children and youth in pastoralist communities to access effective education, despite the challenges posed by their way of life, specific education systems and programs have been designed and implemented in various countries. The alternative education models and programs that have been developed for pastoralist communities in East Africa usually fall into the broad category of Alternative Education Systems (AES). AES include any organized learning activities developed outside the formal school system. The education delivery systems that are tailored or at least adapted to pastoralist communities include mobile schools, boarding schools, and open and distance learning.

In South Sudan, the AES Department, as well as international NGO and religious organization partners, have implemented a Pastoralist Education Program (PEP) aimed at providing mobile primary education to children from pastoralist communities.[34] Pilot programs include pastoralist education centers in Northern Bahr El Ghazal, Warrap, Lakes, Jonglei, and Eastern Equatoria States. However, less than one percent of pastoralist children in South Sudan are enrolled in an AES program.[35]

3.3. Major Delivery Systems

3.3.1. Mobile Schools

Key Components
In South Sudan, mobile schools are tailored to nomadic pastoralist communities. Mobile schools follow pastoralist communities as they migrate with their livestock. As there are no buildings, schools lessons are given under a tree or in makeshift shelters such as tents. Teachers, who are usually from the pastoralist community, live and travel with the pastoralist population, and work around the camp schedule. While dung collection and milking cows generally take up the mornings in pastoralist communities, dedicated teaching time is available in early afternoon when cows go out to pasture and older community members nap.[36] Other classes take place in the evening to target children who have spent the day out herding.

Mobile schools follow South Sudan's formal primary school curriculum to enable children to transition to formal primary schools.[37] However, curriculums are also tailored to the pastoralist mode of life, and teach children animal husbandry skills (e.g. improving the children's knowledge of animal health care and pastoralist production systems) in addition to useful life skills (e.g. sanitation courses, value of environmental protection, and peace and conflict studies).

Mobile schools, through the PEP, were introduced to South Sudan in 2011, and by 2013 there were an estimated 108 mobile pastoralist schools with an approximate total of between 4,000 and 12,000

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[34] The Republic of South Sudan, Ministry of Education, Science and Technology, *Policy for Alternative Education Systems*. https://www.humanitarianresponse.info/system/files/documents/files/AES%20policy%20%2019.6.14.pdf.
[35] ABEP South Sudan Consortium, *Accelerating Equitable Access to Education through Alternative Basic Education for Pastoralist Program* 2.
[36] International Labor Organization. *Child Labor and Education in Pastoralist Communities in South Sudan,* 23 October 2013. http://www.ilo.org/ipec/Informationresources/WCMS_IPEC_PUB_24057/lang--en/index.htm
[37] Government of South Sudan. *Policy for Alternative Education Systems*.

students.[38] The South Sudanese MoEST has set a target of educating 100,000 children through this mobile schooling education delivery system.[39] According to a government report, pastoralists' children enrollment and literacy rates have significantly improved. However, the main weaknesses of PEP are largely similar to other projects, namely the lack of facilities for teachers, lack of food, inadequate materials, delays in paying teachers' salaries, and the long distance travelled by teachers.[40]

Outside of South Sudan, mobile school-based educational programming has been developed across East Africa. The most successful model, Alternative Basic Education for Karamoja (ABEK), was first implemented in Uganda then replicated elsewhere, in particular in Kenya and Ethiopia. Save the Children in Uganda and District Local Governments implemented ABEK in 1998 in the northern state of Karamoja.[41] This model is designed to be a four-year program that targets children aged 6 to 18 years, aimed at helping students join conventional primary schools. It has been specifically designed to target the needs of Karamoja's pastoralist children.

ABEK is a combination of sedentary schools adjacent to village settlements near homesteads and mobile education centers, which seeks to educate children working in cattle camps. The project has significantly benefitted from community leaders' involvement in the management and implementation of the program. Classes are taught in the local language (Ng'aKarimojong) and include topics aimed at improving pastoralists' life in addition to basic literacy and numeracy: courses encompass livestock education, cattle health, hygiene and sanitation, environment management, peace and security (to help prevent cattle raids and other inter-communal violence), as well as general rights and obligations. Facilitators of the program were selected within the community and received training; some have been added onto government payrolls.[42]

ABEK has showed positive results in terms of the enrollment of new children in areas where formal education facilities were absent. Children who transition to primary schools perform well, but tend to withdraw from school during the harvest season. Key weaknesses of the program include a paucity of materials, poorly qualified teachers, multi-grade classes, learning outside in open spaces and the

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[38] Government of South Sudan. *Policy for Alternative Education Systems* and Good Planet Foundation (GPF). *Accelerating Progress to 2015 South Sudan,* 2013.
http://educationenvoy.org/wp-content/uploads/2013/07/SOUTH-SUDAN-UNSE-FINAL.pdf
[39] South Sudan introduces mobile schools for pastoralists, Gurtong, 10 septembre 2011.
http://www.gurtong.net/ECM/Editorial/tabid/124/ctl/ArticleView/mid/519/articleId/5696/South-Sudan-Introduces-Mobile-Schools-For-Pastoralists.aspx
[40] Note: Figures are not available for 2015 or 2016 data on current statuses of mobile schools or enrollment rates. Pastoralist Education Program (PEP). *PEP Evaluation.*
[41] Final Report Submitted to Save the Children in Uganda. *Evaluation of the Mobile Alternative Basic Education for Karamoja (ABEK)*, 15 December 2011.
http://www.norad.no/globalassets/import-2162015-80434-am/www.norad.no-ny/filarkiv/ngo-evaluations/evaluation-of-the-mobile-alternative-basic-education-for-karamoja-abek-program.pdf and Final Report Submitted to Save the Children in Uganda. *Alternative Basic Education for Karamoja*, August 2006. http://www.norad.no/globalassets/import-2162015-80434-am/www.norad.no-ny/filarkiv/ngo-evaluations/docs-68908-v1-review-of-alternative-basic-education-in-karamoja---final-report.pdf.
[42] Final Report Submitted to Save the Children in Uganda. *Evaluation of the Mobile Alternative Basic Education for Karamoja (ABEK)*, 15 December 2011.
http://www.norad.no/globalassets/import-2162015-80434-am/www.norad.no-ny/filarkiv/ngo-evaluations/evaluation-of-the-mobile-alternative-basic-education-for-karamoja-abek-program.pdf and Final Report Submitted to Save the Children in Uganda. *Alternative Basic Education for Karamoja*, August 2006.
http://www.norad.no/globalassets/import-2162015-80434-am/www.norad.no-ny/filarkiv/ngo-evaluations/docs-68908-v1-review-of-alternative-basic-education-in-karamoja---final-report.pdf.

absence of formal criteria for assessing progress.[43] The table below highlights the main strengths and weaknesses of ABEK. These findings can be utilized to inform the development of mobile schools for pastoralists outside of Uganda including South Sudan.

Table 3: Strengths and Weaknesses of ABEK Program in Uganda[44]

Social Outcomes	
Strengths	• Enhanced gender equality: Children (male and female) who participated in ABEK were increasingly likely to believe that girls had the same rights to education as boys, that women could participate in community meetings, and that female genital cutting is a dangerous practice. • Active involvement of district education officials, including Center Coordinating Tutors (CCTs) in project implementation. • Involvement of community leaders: mobilizing communities and children, membership in management committees, monitoring attendance and coordinating with security officials. • Community-based selection of teachers - minimum requirements: pass in English and Math at Primary Leaving examinations and knowledge of the local language. • Mobile ABEK centers had full-functioning management committees.
Weaknesses	• Lack of transportation and accommodation for teachers. Due to a lack of qualified persons within the pastoralist community to teach, most teachers were not from this community – due to this reason, teachers need accommodations and transport. • No provision of food at the schools.
Replicability	• Involvement of community members, leaders, and education officials can and should be replicated as it promotes sustainability and encourages community ownership. • Community-based selection of teachers can also be replicated in South Sudan. Importantly, the community needs to be educated on the skills required of teachers and a minimum requirement should be enforced. • Transportation, accommodation, and meals should be provided to teachers. Meals should be provided to students. • Continue providing educational opportunities for both girls and boys. Girls and boys can have separate class spaces.
Education/ Learning Outcomes	
Strengths	• Children acquired some[45] literacy and numeracy skills, gained knowledge of hygiene and sanitation, and learned some English and Swahili. • Some children transitioned into traditional schools, although many were absent during harvest seasons.

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[43] Ibid.

[44] Ibid.

[45] Note: There is no quantified data available on this measure.

Weaknesses	• Lack of a registration and follow-up mechanism for students preventing the collection of data on dropout rates. • Lack of materials (only 13.3% of the children interviewed reported that they had enough educational materials). • Some students did not transition to traditional primary schools. • Numeracy and literacy levels of students were below those expected of their equivalents in formal primary school. • No systematic mechanisms for enabling children to progress to higher grade levels within mobile ABEK because there are not enough children or a lack of qualified teachers to teach higher grades.
Replicability	• Teaching local and foreign languages (English/ Arabic) should be replicated, as well as teaching WASH (water, sanitation and hygiene), literacy, and numeracy skills. • Assisting in the transition of students, if possible, into standard primary day schools should also be replicated.
Compatibility with Pastoralist Lifestyle	
Strengths	• Relevance to the unique conditions in the region (nomadic pastoral lifestyle, harsh climate, insecurity and traditional social lifestyles), e.g. training on animal health, the importance of environmental protection, parasites, etc. • Mobile ABEK curriculum was context based (focus on agroforestry, WASH, peace-building, etc.), which enabled both parents and pupils to accept its usefulness in everyday life. • Flexibility of hours allowing school to be compatible with herding and domestic responsibilities, which promoted school attendance.
Weaknesses	• Attendance rates were subject to conditions of relative peace and stability. During times of increased insecurity, attendance rates were very low. • Children are at school for only two hours per weekday, which was considered too little time to cover the necessary curriculum. • For mobile schools, most centers did not have chairs, desks, roofs or latrines. Children were taught in open spaces designated for school.
Replicability	• The use of local languages and context-related curriculum is essential for students to understand the full material. • The flexibility of hours is necessary for pastoralist students and promotes attendance because students are able to accomplish household and cattle responsibilities as well as attend lessons. However, the flexibility of hours also reduces the amount of time students spend in school and affects their ability to learn a full curriculum. • Students should have a designated area to learn, even if a sectioned-off area under a tree if no other option is available. Seek to have this space as private as possible to encourage learning and reduce distractions.

Mobile School Benefits

The relevance of the programs to the lives and needs of pastoralist communities as well as the flexible learning hours and venue enable pastoralist children to continue contributing to their household livelihood responsibilities. In a study of mobile schools in Ethiopia, researchers found that parents are more willing to send their children to school if the children develop relevant skills, such as in animal husbandry, and the schooling does not interfere with a child's expected family duties. Furthermore, the involvement of the Ethiopian pastoralist communities in the development and operation of educative programs promotes community acceptance of the school and therefore ensures the success of pastoralist education programs.[46]

Through studies in Kenya, Somalia, Ethiopia, and Uganda research suggests that the learning of the fundamental subjects such as mathematics through the lens of pastoralist lifestyle increases the relevance of the mobile school curriculum and facilitates learning. The recruitment of teachers within pastoralist communities allows them to have a better understanding of the children's needs in terms of pastoral production systems. Teaching in local languages, especially at early stages, offers better access to schooling for pastoralist communities, overcomes any communication difficulties, and limits confusion during learning periods.[47]

Mobile School Limitations

While mobile schools have had a positive impact on pastoralist communities, several obstacles persist, which limit access to and the quality of the educational programming provided. Research from Uganda highlights the need for more funding to both sustain and improve the education delivery system in mobile schools; mobile schools rely on a combination of funding from the national government, NGOs, and the community itself. The suspension of funding or aid programs, especially food provision, affects school attendance and retention. Some parents only send their children to school in order for them to be fed, and make sure they attend school at the bare minimum required to qualify for food provision. These food programs are usually conducted by NGOs or international organizations such as the United Nations World Food Program.[48]

The quality of the education delivered is further undermined by the teachers' lack of competencies and motivation. For example, according to research from Kenya, most teachers come from pastoralist communities and often dropped out of primary school, leaving them poorly qualified to educate. While they work under harsh conditions, these teachers have lower status compared to teachers in urban areas, lower salaries, and receive less guidance on how to teach than schoolteachers in traditional schools. A mobile schoolteacher from Marsabit North in Kenya testifies that: "I have 36 pupils in the morning and 23 in the evening class [from 6 to 9 pm]. I am not employed by the Ministry of Education. Have a temporary contract, no pension, no social security or medical insurance. The wage is about half of that of a school teacher."[49]

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[46] USAID. *Education for pastoralists: Flexible approaches, workable models*, February 2008. http://pdf.usaid.gov/pdf_docs/Pnadn691.pdf.

[47] Ibid. International Institute for Environment and Development. *Mobile Pastoralists and Education: Strategic Options*, Saverio Krätli and Caroline Dyer, Working Paper 1, October 2009. http://pubs.iied.org/pdfs/10021IIED.pdf.

[48] IRIN News, Uganda: Changing attitudes to education in Karamoja", 4 July 2006. http://www.irinnews.org/printreport.aspx?reportid=59549.

[49] International Institute for Environment and Development. *Mobile Pastoralists and Education: Strategic Options*.

Additionally, multi-grade classes are also an enduring issue.[50] Studies in Uganda, the Gambia, and Senegal indicate that due to the limited number of teachers available, and the relatively small number of students with different levels of education, students of varying grade levels are usually taught together; this however tends to inhibit the speed of students' progress. Notably, research does not indicate that multi-grade classes are the sole reason for poor education quality, but compound existing issues such as poor teacher quality. In fact, as reported by the World Bank, multi-grade classes are much more efficient in situations such as pastoralist communities, when there are not a sufficient number of students per grade; however, they are likely less efficient than a traditional single-grade setting when there are enough students to have full-size grades.[51]

Moreover, regional studies also note that the lack of administration, monitoring and central control of the mobile schools due to their remoteness undermines their efficiency. Mobile schools are generally completely autonomous from one another and the national education system. This tends to lead to teacher absenteeism (ghost teachers) and corruption, as teachers are not supervised. This lack of supervision and low quality of teachers contributes to limited learning achievements and student dropouts.[52]

Lastly, the mobile nature of the school does not foster a conducive and child-friendly learning environment. These schools are usually unable to provide structures that are productive for learning – where children are often left distracted and exposed due to open-air classrooms. Moreover, attendance rates depend on the stability of cattle camps and climate condition, inhibiting a learning-conducive environment when pastoralist communities scatter due to violence, flooding, or pestilence.

Lessons Learned
Mobile schools have been designed for nomadic pastoralist communities to foster and enhance education. They help to preserve the pastoralist way of life, as schools adapt to pastoralist schedules, thereby enabling schools to enroll and retain more children. They can also easily be adapted to the change of the communities' needs, and can be either completely mobile or more sedentary. Due to the relevance of curriculums to pastoral ways of life, mobile schools bring positive inputs to pastoral production systems and animal health care, leading to the improvement of the lives of many in pastoralist communities.

To be successful, mobile schools must be continuously supported by local and international actors and accepted by the pastoralist community they serve. They should respond to the unique conditions of each community and be perceived as necessary and valuable for the population they serve; the benefits of sending children to school should be considered more important than the loss of children's labor. Education cannot be a priority when the poorest communities do not have enough food to support themselves. Therefore, incentives for school (grants, food supply, etc.) can contribute to school enrollment. Mobile schools also need to be better supervised: In pastoralist communities, teachers are the only people who transmit scholastic knowledge, with very little oversight. Specific policies should

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[50] Ibid.

[51] World Bank group, *Multigrade Teaching in Sub-Sahara Africa: Lessons from Uganda, Senegal, and The Gambia.* Working Paper 173, Aidan Mulkeen and Cathal Higgins. 2009.

[52] UNICEF. *Including the excluded, Eastern and Southern Africa region*, Setotaw Yimam, Nadi Albino, Sheila Wamahiu, Pawan Kucita and Louise Mvono, 2008.

be implemented aimed at improving teachers' working and living conditions as well trainings on teaching in pastoral communities.[53]

3.3.2. Boarding Schools

Key Components
Different from mobile schools, boarding schools are in permanent buildings where children live and study all year round; and therefore making these schools more costly to sustain. They are usually co-managed by multiple actors, including the religious bodies, NGOs and state governments. In addition to the provision of education, the schools provide accommodation as well as meals that are supplied by the local or national government, the church, or development partners. Providing children with free meals serves as a major incentive for parents to send their children to these schools.[54] Furthermore, boarding schools serve as a more viable option for girls' education, as girls-only boarding schools enables girls to access higher education without cultural restraints and parental concerns. Notably, in Muslim-majority areas such as Somalia and Northern Kenya, girls-only boarding schools have experienced success for both enrollment of girls and high retention rates.[55]

Some schools draw learners from a radius of several tens of kilometers. As there is little to no public transportation in many rural areas, children must often walk to school through the bush or catch occasional lorries when travelling to and from their respective boarding schools. Boarding schools aim at providing pastoralist communities with basic education, usually including curriculum similar to conventional schools, but are adapted to the pastoralist way of life.[56] Like mobile schools, boarding school curriculum is often designed to answer the specific pastoralist communities' needs and to focus on a particular program such as animal husbandry.[57]

Pastoral communities' interest in boarding schools varies according to local context. Boarding schools may generate demand when parents believe the education will benefit their communities, while others perceive boarding schools with resistance and mistrust. This is particularly the case among women, as the schools are looked upon as an attempt to modernize the community and make pastoralists sedentary.[58]

While schools may offer good educational benefits, parents have been noted to refrain from sending their children to schools where they do not know or are not related to the people operating the

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[53] Note: Data on mobile schools in South Sudan post-2103 is limited. Further information available online does not exist regarding the current status of mobile schooling in South Sudan. International Institute for Environment and Development. *Mobile Pastoralists and Education: Strategic Options*, Saverio Krätli and Caroline Dyer, Working Paper 1, October 2009. http://pubs.iied.org/pdfs/10021IIED.pdf.

[54] International Institute for Education planning study commissioned by the African Development Bank, "*The education of nomadic people in East Africa: Djibouti, Eritrea, Ethiopia, Kenya, Tanzania and Uganda. Review of relevant literature*", Roy Carr-Hill and Edwina Peart, 2005. http://www.fao.org/fileadmin/templates/ERP/2013/link_publications/140563e.pdf.

[55] International Institute for Environment and Development. *Mobile Pastoralists and Education: Strategic Options*, Saverio Krätli and Caroline Dyer, Working Paper 1, October 2009. http://pubs.iied.org/pdfs/10021IIED.pdf

[56] Ibid.

[57] International Institute for Education planning study commissioned by the African Development Bank, "*The education of nomadic people in East Africa: Djibouti, Eritrea, Ethiopia, Kenya, Tanzania and Uganda. Review of relevant literature*", Roy Carr-Hill and Edwina Peart, 2005. http://www.fao.org/fileadmin/templates/ERP/2013/link_publications/140563e.pdf

[58] Secretariat of the United Nations Permenent Forum On indigenous Issues, Indigenous Peoples and Boarding Schools: a comparative study, last accessed August 2nd, 2015. http://www.un.org/esa/socdev/unpfii/documents/IPS_Boarding_Schools.pdf.

educational institution.[59] Additionally, while boarding schools are beneficial for their communities, as building them requires the construction of additional local infrastructure, many families simply cannot afford to send their children away, both due to tuition fees and the loss of the child's labor.[60]

There has been some success with boarding schools in pastoral communities in Kenya. This success is attributed to two institutions; the government and the church.[61] Firstly, government support has assisted in making low-cost boarding schools a method of choice in education delivery. As a result, boarding schools have advanced in popularity within pastoral communities and are more financially viable to operate.[62] Secondly, the church, whose influence is of great importance in Kenya, plays a key role in promoting boarding schools. Forging partnerships between the Ministry of Education and the church from early stages of a boarding school's development cements relations between the state and the local community. In one rural Kenyan district, the church helped open 80% of primary schools in the area.[63] Boarding schools generally work well in Christian-populated areas in Kenya, though less so in Muslim areas. Muslim communities prefer Quranic schools, as they fear that boarding schools would deliver a secular or Christian education.[64]

Moreover, while offering conventional education is important, delivery of non-conventional content that is useful for pastoralists, such as animal husbandry, has acted as an incentive that drew more pastoralist children to boarding schools in East Africa and elsewhere.[65] Among other attempts to promote education, boarding schools make up a key component of educational policy in South Sudan. While boarding schools are culturally popular in South Sudan, they are not numerous in remote and marginalized pastoralist areas.[66] Currently, boarding schools exist in South Sudan in a limited number, including Excel International Academy in Yei and Ibba Girls School in Western Equatoria. Excel International Academy boasts to have taught four of the top ten students in the local area in 2013.[67] Although a study of perceptions of boarding school attendance is not readily available, the Director for Program Development and Advocacy of South Sudan for Save the Children UK reports that South Sudanese perceive boarding schools positively and associate it with elite status and quality education.[68]

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[59] USAID. *Education for pastoralists: Flexible approaches, workable models*, February 2008. http://pdf.usaid.gov/pdf_docs/Pnadn691.pdf.

[60] Ibid.

[61] Background paper prepared for the Education for All Global Monitoring Report 2010. *Reaching the marginalized, Educational Marginalized in Northern Kenya*, April 15, 2009. http://unesdoc.unesco.org/images/0018/001866/186617e.pdf.

[62] International Institute for Education planning study commissioned by the the African Development Bank, "*The education of nomadic people in East Africa: Djibouti, Eritrea, Ethiopia, Kenya, Tanzania and Uganda. Review of relevant literature*", Roy Carr-Hill and Edwina Peart, 2005. http://www.fao.org/fileadmin/templates/ERP/2013/link_publications/140563e.pdf.

[63] Background paper prepared for the Education for All Global Monitoring Report 2010. *Reaching the marginalized, Educational Marginalized in Northern Kenya*, April 15, 2009. http://unesdoc.unesco.org/images/0018/001866/186617e.pdf.

[64] Ibid.

[65] International Institute for Education planning study commissioned by the the African Development Bank, "*The education of nomadic people in East Africa: Djibouti, Eritrea, Ethiopia, Kenya, Tanzania and Uganda. Review of relevant literature*", Roy Carr-Hill and Edwina Peart, 2005. http://www.fao.org/fileadmin/templates/ERP/2013/link_publications/140563e.pdf.

[66] International Institute for Environment and Development. *Mobile Pastoralists and Education: Strategic Options*, Saverio Krätli and Caroline Dyer, Working Paper 1, October 2009. http://pubs.iied.org/pdfs/10021IIED.pdf

[67] James Copnall, "Amid conflict and poverty, this school in South Sudan is an unlikely success," *The Guardian,* 28 October 2014.

[68] House of Commons International Development Committee, "South Sudan: Prospects for Peace and Development," 15th Report of Session 2010-2012.

Boarding School Benefits
The literature on the benefits of boarding schools in general indicates that boarding schools are a channel through which students can receive quality education from higher caliber educators. Boarding schools allow students to learn foreign languages, namely English, that can improve their chances of securing employment, provide relatively nutritious foods to children, and offer a more learning-conducive educational environment.[69]

Additionally, studies from the Eastern African region note that teachers are more motivated and more committed to their duties as they have better living and working conditions, as compared to mobile school teachers. The implementation of girls' only boarding schools is important for increasing the enrollment and retention of girls. It has also contributed to improving their literacy skills and to heightening awareness surrounding female gender-based subjects (e.g. empowerment of girls and pregnancy).[70]

Boarding School Limitations
While boarding schools reduce logistical complications and increase educational quality, they also remove children from their communities and the community labor force. Boarding schools have a positive impact on the children who are able to attend them; however they are only an option for a small minority of nomadic children.[71]

Attending a boarding school for pastoralist children entails a number of issues, including lack of access to parental guidance, isolation, exposure to risks such as rape (in particular for girls), and cultural erosion. Most importantly, children are an important factor of production in the pastoralist context. They provide their families and communities with an important source of labor. As a result, pastoralist households that send their children to boarding schools risk experiencing low agricultural productivity due to labor constraints. Furthermore, in areas experiencing violent conflict, such as in South Sudan, Nigeria and Kenya, armed groups often target schools.[72] Therefore, particular effort must be made to ensure that boarding schools are not implemented in a particular violent conflict-prone area.

Selection into boarding schools is also an issue worth emphasizing. It is possible that boarding schools are more accessible for agro-pastoralists than "pure-pastoralists" because the former do not move around as much as the latter.

In general, the cost of boarding schools is an issue; it appears that financially stable families are more likely to send their children to boarding schools than families who are unable to afford the tuition. In addition to attendance fees, the costs of boarding schools include the labor lost to the family as well as that of transport to school. As such, not all families can afford boarding schools without financial or material help.[73]

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[69] USAID. *Education for pastoralists: Flexible approaches, workable models*, February 2008. http://pdf.usaid.gov/pdf_docs/Pnadn691.pdf.
[70] International Institute for Environment and Development. *Mobile Pastoralists and Education: Strategic Options*, Saverio Krätli and Caroline Dyer, Working Paper 1, October 2009. http://pubs.iied.org/pdfs/10021IIED.pdf
[71] FAO, *Learning to improve education policy for pastoralists in Kenya*, Ian Leggett. http://www.fao.org/fileadmin/user_upload/drought/docs/Learning%20to%20Improve%20Education%20in%20Pastoralists.pdf.
[72] BBC, *South Sudan's struggle for schools hit by abduction*, February 25, 2015. http://www.bbc.com/news/business-31587963
[73] Note: Tuition fees for mobile schools are much lower than boarding school fees. USAID. *Education for pastoralists: Flexible approaches, workable models*, February 2008. http://pdf.usaid.gov/pdf_docs/Pnadn691.pdf.

Lastly, boarding schools in pastoralist districts often tend to attract non-pastoralist children, as they are subsidized and easier to get into than schools in other areas. The prevalent culture inside these boarding schools may not be pastoralist-oriented, and thereby marginalizing pastoralist students.[74]

Lessons Learned
The particularity of the pastoralist lifestyle limits many from accessing the high standard of education that comes with the boarding school model. While boarding schools may appeal to some communities as they contribute to increasingly educated pastoralist communities, they exclude many nomadic and semi-nomadic children.[75] In areas where the model is feasible and sustainable, boarding schools guarantee a better education, higher retention of children and better conditions for teachers. Pastoralist children in boarding schools may gain more human and social capital as a result of the higher quality of education as well as their socialization with children from different communities.

The success of boarding schools usually depends on the involvement of multiple actors, such as religious bodies, that are locally trusted by pastoralist communities. The support of such actors is likely to contribute to the acceptance of boarding schools. The location of boarding schools is a key feature of its viability and success: children should be studying in a safe and conducive environment that respects the pastoralist traditions. The establishment of boarding schools in areas with more sedentary pastoralist communities, such as in semi-arid areas or nearby towns, can also attract and lead to the development and distribution of basic state-delivered services. This by-product of building boarding schools can improve the quality of life for pastoralist communities as it can help diversify their sources of income.

3.3.3. Open and Distance Learning

Key Components
Open and Distance Learning (ODL) programs are an alternative to the other models and methods that may be considered too rigid. In ODL programs, a significant portion of the teaching is lead by instructors in remote locations, or via pre-recorded transmissions. Therefore, it mostly relies on self-learning.

ODL usually offers a combination of flexible teaching methods: radio broadcasts; some face-to-face teaching; the provision of printed materials; and aids such as TV or mobile Internet in more developed countries. This type of educational programming is designed to reach not only pastoralist children, but also out of-school, displaced, or marginalized children. The education content includes literacy, numeracy, and life skills that are relevant to the needs of marginalized children, such as human rights and health precautions.[76]

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[74] International Institute for Education planning study commissioned by the the African Development Bank, "*The education of nomadic people in East Africa: Djibouti, Eritrea, Ethiopia, Kenya, Tanzania and Uganda. Review of relevant literature*", Roy Carr-Hill and Edwina Peart, 2005.
http://www.fao.org/fileadmin/templates/ERP/2013/link_publications/140563e.pdf.
[75] USAID. *Education for pastoralists: Flexible approaches, workable models*, February 2008.
http://pdf.usaid.gov/pdf_docs/Pnadn691.pdf.
[76] International Institute for Environment and Development. *Mobile Pastoralists and Education: Strategic Options*, Saverio Krätli and Caroline Dyer, Working Paper 1, October 2009. http://pubs.iied.org/pdfs/10021IIED.pdf

Several Open and Distance Learning programs have been launched across East Africa. There is however little qualitative and quantitative data on the specific effect of these programs on pastoralist communities, as Open and Distance Learning initiatives target all marginalized children, including pastoralists, children in refugee camps, and those in conflict-affected areas. [77]

In Somalia, the Somali Interactive Radio Instruction Program, in association with Quranic schools, has managed to reach 333,000 children over five years, 40,000 of whom were out-of-school.[78] Another program, originally entitled 'Somalia Distance Education Literacy' program (SOMDEL), which was later renamed 'Literacy for Advocacy, Rights and Skills' (LARS), has been implemented by the Africa Educational Trust in partnership with the BBC World Service Trust. The program was broadcast once a week by the BBC Somali Service and supported by weekly face-to-face tutorials with facilitators within the communities.[79] LARS benefits from the support of the communities, which play an important role in the program, and as a result has been quite successful: 90 percent of the registered students have received a literacy certificate and the program has succeeded in enrolling many girls.[80]

Given that radio is the most common source of information in South Sudan, radio instruction is a particularly appropriate delivery method for South Sudanese children.[81] South Sudan Interactive Radio Instruction (SSIRI) was a USAID-funded program beginning in 2004, prior to independence, and ending in 2012. The program's aim was to promote basic literacy and education by providing lessons and trainings via radio; this program produced 480 thirty-minute lessons for students in grades one to four and reached 420,000 children. In addition, the Professional Studies for Teachers (PST) program provided in-service teacher trainings, and ultimately trained 599 teachers across 24 locations.[82] The table below highlights some of the main strengths and weaknesses of the SSIRI program; these findings can be used to inform future radio-based education in pastoralist communities in South Sudan.

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[77] UNESCO. *Reaching the marginalized Educational Marginalisation in Northern Kenya,* Sara Jerop Ruto, Zipporah Nyamauncho Ongwenyi and John Kabutha Mugo, Background paper prepared for the Education for All Global Monitoring Report 2010, 2009.
http://unesdoc.unesco.org/images/0018/001866/186617e.pdf .
[78] USAID. *Final Report of the Somali Interactive Radio Instruction Program*,31 July 2014.
http://pdf.usaid.gov/pdf_docs/pdact951.pdf.
[79] International Institute for Environment and Development. *Mobile Pastoralists and Education: Strategic Options*, Saverio Krätli and Caroline Dyer, Working Paper 1, October 2009. http://pubs.iied.org/pdfs/10021IIED.pdf
[80] BBC, "*Radio education helps Somalis*", 19 June 2013. http://news.bbc.co.uk/2/hi/africa/3003676.stm
[81] Internews. 2013. South Sudan National Audience Survey: *A Nationally Representative Assessment on Radio Listening Habits with Key Findings in Five Booster Areas for Internews Stations, October 18, 2013.*
http://www.internews.org/research-publications/south-sudan-national-audience-survey
[82] Education Development Center, "South Sudan Interactive Radio Instruction Final Report," *USAID,* September 2012, available at http://pdf.usaid.gov/pdf_docs/pdacy415.pdf.

Table 4: Strengths and Weaknesses of SSIRI Program[83]

Social Outcomes	
Strengths	• Engagement and training of ministry education officials built capacity and encouraged local ownership of the program. • Both male and females students, who may otherwise be unable to receive education, were able to learn from the SSIRI broadcasts.
Weaknesses	• Certain areas were not able to benefit from the program due to being outside the radio transmissions area. Specifically, Pochalla and Panyagor were not served by a local FM radio station or by Miraya FM; the program was discontinued. The local FM station in Bor also proved unreliable. Additionally, digital audio players (DAPs), which had pre-recorded lessons, proved to be ineffective. The batteries sometimes ran out without a method to recharge, and in other cases, the sound of the recorded lessons was so poor that students were not able to hear the lesson.
Replicability	• Education officials should be involved in similar programs in the future. • The programs should be targeted towards individuals who are not able to attend traditional schools. The curriculum should focus on pastoralist-related contexts. • Programming should focus on radio broadcasts rather than pre-recorded lessons on MP3-players. The reach of radio transmissions continues to increase in South Sudan, so the potential reach of radio broadcasts is also increasing. Internews has collated data on radio transmissions in South Sudan. • If radios are not an option, DAPs can used but the audio of the recordings should first be ensured. Further, solar-powered batteries should also be distributed alongside DAPs.
Education/ Learning Outcomes	
Strengths	• Interactive systems (using dramas, songs, etc.) encourage a positive learning environment. • Regular, standardized, high-quality instruction (SSIRI schools got 30 minutes of high-quality audio a day for grades 1-4). • Based on official curricula, with instruction in English, local language literacy, mathematics. • Students in Primary 4 classes where the teachers use SSIRI attained significantly better learning gains relative to those where the teachers do not use SSIRI. • Four-day training for primary school teachers to implement SSIRI, including child-friendly teaching methodologies. • Based on a process of continuous improvement; M&E was thoroughly implemented by Outreach Advisors and Coordinators. • Establishment of computer centers at four Teacher Training Institutes and use of technology to support teacher education. • High rates for teachers completing the professional studies trainings. Roughly 90% of teachers completed these trainings.

[83] Ibid.

Weaknesses	• Low teacher salaries and funding uncertainty discouraged teachers and administrators from taking positions with the program. • Coordinating the day-to-day efforts of Outreach Advisors and Coordinators required reliable communications infrastructure (i.e. cell phone coverage), which is not always available.
Replicability	• The standardized, high-quality and scripted interactive lessons should be replicated in similar programs in South Sudan. These proved to be effective lessons with high completion rates and notable learning gains. • Professional trainings should be offered to teachers and completion required to become a PEP teacher. • The use of local languages should be replicated.
Compatibility with Pastoralist Lifestyle	
Strengths	• Curriculum included lessons on life skills such as HIV/AIDS, mine-risk awareness, and peace education. • "Written by South Sudanese for South Sudanese."
Weaknesses	• The radio programs were broadcast in English and require the classroom teacher to translate some of the instructions and exercises into the local language.
Replicability	• Pastoralists should be utilized throughout the design and implementation of the program. Curriculum should focus on context-relevant information, including life skills like animal husbandry. Additionally, knowledge of HIV/AIDS and mine-risk should also be taught. Education on unexploded ordnances may also prove to be important. • Lessons should be broadcast in local languages so all potential learners in the community are able to benefit from the broadcasts.

Notably, as stated earlier, the SSIRI program began prior to South Sudanese independence and developed with the government as government structures were being created. Going forward, radio-based education can build upon the existing knowledge, trainings, relationships and structures that SSIRI developed.

Lastly, a Feinstein International Center report on distance learning strategies in Kenya suggests that a 'cell system' of supervision should be implemented nationally in order to cover the widespread pastoralist areas. Under this model, pastoralist areas where students are present for part of the year would be divided into a geographical grid. Each cell would be under the charge of one supervisor, and mobile households would come under the supervision of the tutor of the cell they happen to be in. As such, students would change tutor whenever they migrate to another cell. As part of the program an oversight model including a district or provincial supervision platform as well as a community radio station would be developed in order to allow for support and monitoring. This ambitious delivery model would require support from the national government and international partners.[84]

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[84] Future Agricultures, Feinstein International Center, Reaching Pastoralists with Formal Education A E-Distance Learning Strategy for Kenya, David Siele, Jeremy Swift and Saverio Kratli, 2011. http://www.future-agricultures.org/search-documents/future-of-pastoralism/conference-papers-1/1152-reaching-pastoralists-with-formal-education-a-distance-learning-strategy-for-kenya/file.

Open and Distance Learning Benefits
Open and Distance Learning represent an educational opportunity for many marginalized children and adults left behind by the education system.[85] This form of education offers flexibility because children do not need to travel to school; radio programs can be listened to anywhere as long as the students have access to radio transmissions or other educational material. Additionally, ODL can better adapt to changing circumstances, such as climate conditions and availability of teachers.[86] Results have been mostly encouraging in terms of literacy rates of children, especially for girls that may not be able to attend education due to gender discrimination. Moreover this programming has contributed to the improvement of life skills that are relevant to children in difficult and conflict environments. It may also benefit married girls, who can combine household chores with radio listenership.

Open and Distance Learning Limitations
Open and Distance Learning programs have often been used as a quick remedy for inadequate school-based education rather than as serious educational alternatives.[87] The success of Open and Distance Learning programs depends on the motivation of the children and the support from the community to foster a positive learning environment.

Additionally, Open and Distance Learning programs are affected by external factors such as the availability of radios, the poor quality of the radio frequency, or power supply.[88] Lastly, the lack of materials, as well as teachers to support students through face-to-face tutorial, undermines the quality of education and the children's progress.[89]

Lessons Learned
Open and Distance Learning programs are designed to target all marginalized and discriminated children, including those in pastoralist communities. One of the main achievements of Open and Distance Learning is the enrollment of children that are not able to reach school due to the absence of appropriate or available learning centers.[90] As radios are already popular across East Africa, including in nomadic pastoralist communities, it is an effective teaching method, and provides easy access to education. In remote areas, it is sometimes the only source of education available to children.[91]

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[85] UNESCO. *Reaching the marginalized Educational Marginalisation in Northern Kenya,* Sara Jerop Ruto, Zipporah Nyamauncho Ongwenyi and John Kabutha Mugo, Background paper prepared for the Education for All Global Monitoring Report 2010, 2009.
http://unesdoc.unesco.org/images/0018/001866/186617e.pdf.

[86] UNESCO. *Reaching the marginalized Educational Marginalisation in Northern Kenya,* Sara Jerop Ruto, Zipporah Nyamauncho Ongwenyi and John Kabutha Mugo, Background paper prepared for the Education for All Global Monitoring Report 2010, 2009.
http://unesdoc.unesco.org/images/0018/001866/186617e.pdf.

[87] International Institute for Environment and Development. *Mobile Pastoralists and Education: Strategic Options*, Saverio Krätli and Caroline Dyer, Working Paper 1, October 2009. http://pubs.iied.org/pdfs/10021IIED.pdf.

[88] International Institute for Education planning study commissioned by the the African Development Bank, "*The education of nomadic people in East Africa: Djibouti, Eritrea, Ethiopia, Kenya, Tanzania and Uganda. Review of relevant literature*", Roy Carr-Hill and Edwina Peart, 2005.
http://www.fao.org/fileadmin/templates/ERP/2013/link_publications/140563e.pdf

[89] Mango Tree. *South Sudan Literacy Instructional Materials Literature Review for the Room to Learn Project*.

[90] UNESCO. *Reaching the marginalized Educational Marginalisation in Northern Kenya,* Sara Jerop Ruto, Zipporah Nyamauncho Ongwenyi and John Kabutha Mugo, Background paper prepared for the Education for All Global Monitoring Report 2010, 2009.
http://unesdoc.unesco.org/images/0018/001866/186617e.pdf

[91] International Institute for Education planning study commissioned by the the African Development Bank, "*The education of nomadic people in East Africa: Djibouti, Eritrea, Ethiopia, Kenya, Tanzania and Uganda. Review of relevant literature*", Roy Carr-Hill and Edwina Peart, 2005.

Programs have benefited specific and marginalized communities (e.g. the Somali speakers in Ethiopia), including adults, such as married women who have not previously received any education.[92] Broadcasted programs aimed at training teachers have also managed to increase teacher capacity, which has had a positive impact in remote areas where there is little guidance for both students and teachers. However, the overall lack of supervision and face-to-face explanation limits the children's potential to learn and progress compared to boarding and mobile schools. To be successful, ODL programs should devote more attention to face-to-face tutorial at the community level.

3.4. Teaching and Learning Material

3.4.1. Materials

The MoEST in South Sudan have noted that the general availability of teaching and learning materials for PEP is highly limited.[93] The table below lists the available materials:

Table 5: Education Material Available in South Sudan[94]

Education Material Available
• Accelerated Learning Program Textbooks – teaching and learning materials • Reader, Primer, and Alphabet books • Life/social skills materials • Storybooks

Indeed, the effective delivery of teaching and learning materials to nomadic peoples is a general issue across much of Eastern Africa, with countries such as Kenya, Ethiopia and Uganda also mirroring South Sudan's lack of critical educational materials for their pastoralist education programs.[95]

Photo 3. Signs on hygiene, Kapoeta South, 2015   *Photo 4. Lesson and research with students, Kapoeta South, 2015*

http://www.fao.org/fileadmin/templates/ERP/2013/link_publications/140563e.pdf.
[92] BBC, "*Radio education helps Somalis*", 19 June 2013. http://news.bbc.co.uk/2/hi/africa/3003676.stm
[93] Mango Tree. *South Sudan Literacy Instructional Materials Literature Review for the Room to Learn Project*.
[94] Ibid.
[95] Ibid.

The current lack of both appropriate material and suitable education programs highlights the need for investment into alternative teaching and learning material. The ABEK program in Uganda utilizes course material that is relevant to pastoralist livelihoods, such as educating pupils about cattle health and environment management, along with peace and security, while also aiming to improve basic literacy and mathematical competency.[96] This can be used as a guide for designing new PEP program materials. Additionally, more attention should be given to the use of radios or DAPs as a means of instructing nomadic pupils, as these can be used to reach even the most isolated nomadic populations.[97] In South Sudan, much of the areas of Northern Bahr el Ghazal, Central Equatoria, Lakes, and Unity have radio coverage; while Jonglei, Eastern and Western Equatoria, Western Bahr el Ghazal, and Warrap have less coverage. When pastoralists are beyond the reach of radio transmissions, DAPs can be used as a suitable alternative.

It should be noted that the USAID *eddata* database contains teaching and learning materials for other countries in the East African region, following the implementation of various USAID-backed education programs. In Kenya, the Primary Math and Reading (PRIMR) Rural Expansion program showed improvement of both literacy and numeracy for students in rural settings; a review of the teaching materials used for this program could possibly highlight effective teaching and learning resources that may be adapted for use in PEP.[98]

The teaching and learning materials appropriate for pastoralist education that currently exist in South Sudan mainly comprise of teacher/facilitator handbooks and student workbooks, with some also based around radio transmissions. Mango Tree has conducted an analysis of these materials, which, although a non-exhaustive list, comprises a good overview of the materials available that are considered appropriate for pastoralist education programs.

In the material sets reviewed by Mango Tree, nine out of eleven were in written in English, while two were written in local languages. The current teaching material focuses on language acquisition, mathematics, humanities and natural sciences, with some specialized programs highlighting subjects surrounding social cohesion and emergency preparedness. [99]

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[96] Final Report Submitted to Save the Children in Uganda. *Evaluation of the Mobile Alternative Basic Education for Karamoja (ABEK)*, 15 December 2011. http://www.norad.no/globalassets/import-2162015-80434-am/www.norad.no-ny/filarkiv/ngo-evaluations/evaluation-of-the-mobile-alternative-basic-education-for-karamoja-abek-program.pdf And Final Report Submitted to Save the Children in Uganda. *Alternative Basic Education for Karamoja*, August 2006. http://www.norad.no/globalassets/import-2162015-80434-am/www.norad.no-ny/filarkiv/ngo-evaluations/docs-68908-v1-review-of-alternative-basic-education-in-karamoja---final-report.pdf.

[97] International Institute for Education planning study commissioned by the the African Development Bank, "*The education of nomadic people in East Africa: Djibouti, Eritrea, Ethiopia, Kenya, Tanzania and Uganda. Review of relevant literature*", Roy Carr-Hill and Edwina Peart, 2005. http://www.fao.org/fileadmin/templates/ERP/2013/link_publications/140563e.pdf.

[98] DFID/Kenya Rural Expansion Program. *The Primary Math and Reading (PRIMR) Initiative*, March 2015. file:///C:/Users/America/Downloads/DFID%20Endline%20Report_030415_v3%20(1).pdf.

[99] International Institute for Education planning study commissioned by the the African Development Bank, "*The education of nomadic people in East Africa: Djibouti, Eritrea, Ethiopia, Kenya, Tanzania and Uganda. Review of relevant literature*", Roy Carr-Hill and Edwina Peart, 2005. http://www.fao.org/fileadmin/templates/ERP/2013/link_publications/140563e.pdf

3.4.2. Strength and Weaknesses in Pastoral Education Materials

3.4.2.1. Teacher and Facilitator Guides

Weaknesses

Currently, some teacher guides are written with great complexity, and utilize font sizes that are too small or inappropriate for the material being taught; this is particularly an issue with mathematics texts.[100] Additionally, disorganized layout of information, sometimes using distracting boxes and shading, generates confusion. In language learning resources, content is sometimes presented only in English, which makes teaching in national languages more difficult for instructors. Also, time allotments for activities were not provided for some teacher handbooks, which is problematic for settings where instruction time is limited. A number of teacher handbooks are also too lengthy (upwards of 300 pages) and too heavy for teachers to carry around easily.[101]

Strengths

Mango Tree found that math books providing step-by-step directions on how to solve problems and present information to students are largely regarded as helpful.[102] Additionally, simple and easy to understand text that is engaging and interactive for instructors is considered a positive feature. Mango Tree reviews found Grain Sack font[103] to be beneficial for the ease of reading with learning materials. Further, the use of clear, high-resolution illustrations and lesson structures are also helpful, as teachers and students are already accustomed to these materials.[104]

3.4.2.2. Student Workbooks

Weaknesses

In the student workbooks reviewed by Mango Tree, a common issue was the overcrowding of pages due to excessively repetitive verbiage; too much text on a page can be overwhelming and discouraging for new readers.[105] Additionally, formatting such as the inappropriate bolding, italicizing or underlining of text detracted from the key learning material. Some workbooks also excluded practice tests and failed to provide other means by which students could be examined on their progress.[106] Meanwhile, some language learning materials did not give students enough opportunities to write, something that is critical for sufficient language retention, and the stories included in textbooks were not always appropriate for various levels of language proficiency.[107]

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[100] International Institute for Education planning study commissioned by the the African Development Bank, "*The education of nomadic people in East Africa: Djibouti, Eritrea, Ethiopia, Kenya, Tanzania and Uganda. Review of relevant literature*", Roy Carr-Hill and Edwina Peart, 2005.
http://www.fao.org/fileadmin/templates/ERP/2013/link_publications/140563e.pdf

[101] International Institute for Education planning study commissioned by the the African Development Bank, "*The education of nomadic people in East Africa: Djibouti, Eritrea, Ethiopia, Kenya, Tanzania and Uganda. Review of relevant literature*", Roy Carr-Hill and Edwina Peart, 2005.
http://www.fao.org/fileadmin/templates/ERP/2013/link_publications/140563e.pdf.

[102] Mango Tree. *South Sudan Literacy Instructional Materials Literature Review for the Room to Learn Project*.

[103] Note: Mango Tree did not provide a picture of Grain Sack font.

[104] Mango Tree. *South Sudan Literacy Instructional Materials Literature Review for the Room to Learn Project*.
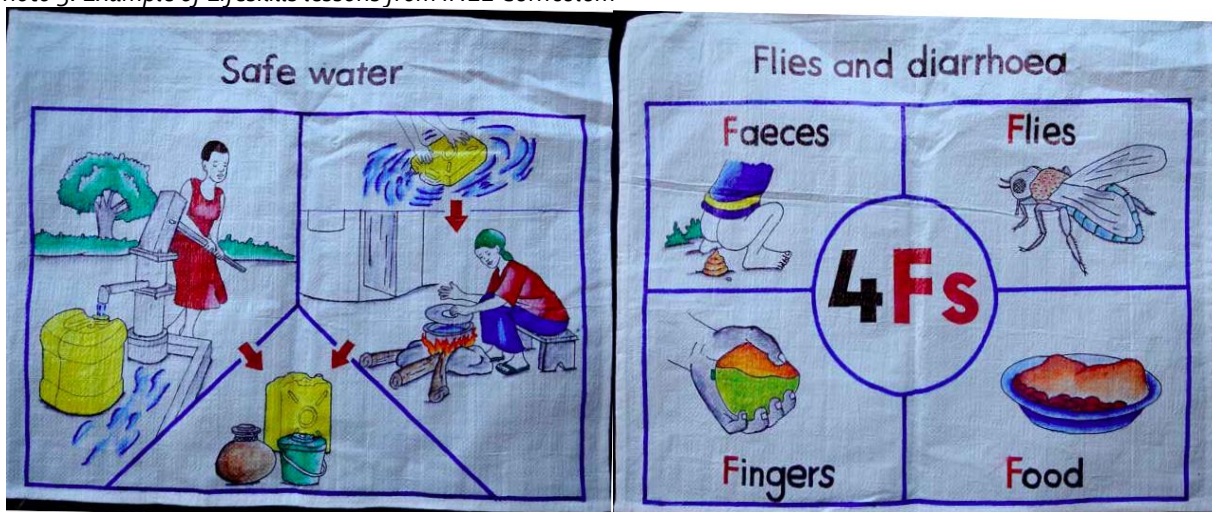
[105] Ibid.

[106] Ibid.

[107] Mango Tree. *South Sudan Literacy Instructional Materials Literature Review for the Room to Learn Project*.

While the student textbooks reviewed by Mango Tree were deemed to be suitable for pastoralist education, it is a general issue that national curricula in countries with pastoralist populations "are typically designed from the perspective of the urban elite and not from that of nomadic children."[108] An example of this is Kenya, a country that is otherwise on the forefront of efforts to expand the reach of universal primary education to pastoralist populations.[109] Livestock herding was depicted in a primary science textbook "with a picture of Jersey cows and a dismissive description that ignores the reality of pastoralism in... the African drylands", while a social science textbook illustrated a nomadic tribe in colorful clothes doing a traditional dance.[110] In this way, textbooks do not consider pastoralist knowledge, e.g. of livestock systems and herd management techniques, as something conducive to the teaching of science and economic systems, but only as useful for insight into traditions.[111] This limits the applicability of standard primary textbooks to pastoralist education.

Strengths
The most beneficial components of some workbooks included simple activities performed repeatedly in various contexts so as to facilitate retention, as well as the presentation of information in ways that make it easy to copy material from the book. Appropriately organized information on pages also facilitated understanding of the contents.[112] Culturally appropriate and relatable illustrations and writing by South Sudanese artists and writers developed in one storybook were well received.[113]

Photo 5. Example of Lifeskills lessons from INEE Curriculum [114]

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[108] International Institute for Environment and Development. *Mobile Pastoralists and Education: Strategic Options*, Saverio Krätli and Caroline Dyer, 2009. http://pubs.iied.org/pdfs/10021IIED.pdf.

[109] Ibid.

[110] Ibid.

[111] International Institute for Environment and Development. *Mobile Pastoralists and Education: Strategic Options*, Saverio Krätli and Caroline Dyer, 2009. http://pubs.iied.org/pdfs/10021IIED.pdf.

[112] Mango Tree. *South Sudan Literacy Instructional Materials Literature Review for the Room to Learn Project*.

[113] Ibid.

[114] INEE Toolkit, "Curricula Lifeskills and Pyschosocial Content," available at: http://toolkit.ineesite.org/guidance_notes_on_teaching_and_learning/resource_pack_on_teaching_and_learning/curricula/life skills_and_psychosocial_content, accessed 21 October 2015.

3.4.2.3.   Radio and Other Technologies

Radios are beneficial in that they are an already popular means of acquiring information in South Sudan, and many South Sudanese are accustomed to seeing and using them.[115] Radios as well as DAPs are especially advantageous in educating pastoralists as these tools enable pupils to receive instruction outside of a classroom.[116] These beneficial qualities are reduced, however, when radio programs rely heavily upon a classroom setting for meaningful education. Two teaching and learning programs evaluated by Mango Tree were radio-based, yet still required chalkboards, decreasing the intended benefit of the radio as facilitating education without traditional tools.[117]

Across, an NGO in South Sudan, used solar-powered DAPs to provide education to 40,000 pastoralist children. The DAPs held 160 hours of pre-recorded lessons in Dinka and Bari. The lessons not only targeted students but also offered trainings to teachers in areas where there was no access to professional trainings or literacy instructions. Moreover, the DAPs included mobile books and recordings that could be utilized by out-of-school children in community group meetings.[118] In this way, DAPs allow more flexibility because students and teachers can choose the time of lessons and replay information; they are also usually less cumbersome to carry as students migrate with cattle.

As stated with the SSIRI program, the weakness of relying on radios and DAPs is its need for electricity and charging. DAPs must be charged, which the Across program enabled with solar-powering. However, these must be maintained to be continuously useful. Further, pastoralists must be in an area within radio transmissions in order to listen to radio-based education programming.

3.4.2.4.   Lessons Learned

Reliance upon standard learning resources utilized in formal education curriculums such as chalkboards, desks and computers may be unsuitable for a pastoralist education programs.[119] Learning materials such as teacher handbooks and student workbooks, however, are of critical importance yet often only available in English and/or written unclearly.[120]

With the education material available, texts are often in difficult-to-read fonts and compressed together. Mathematical texts are unclear and do not provide step-by-step instructions for teachers that explain equations and processes. Additionally, student books are not written in national languages for young learners.[121] Indeed, the MoEST language policy specifies that students should receive education in their mother tongue through Primary 3 and transition to English-language training in Primary 4.[122]

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[115] Internews. 2013. South Sudan National Audience Survey: *A Nationally Representative Assessment on Radio Listening Habits with Key Findings in Five Booster Areas for Internews Stations, October 18, 2013.* http://www.internews.org/research-publications/south-sudan-national-audience-survey.

[116] Mango Tree. *South Sudan Literacy Instructional Materials Literature Review for the Room to Learn Project*.

[117] Ibid.

[118] "ACROSS Radio, *USAID,* February 2014, available at http://www.meducationalliance.org/content/across-radio.

[119] Ibid.

[120] Ibid.

[121] Ibid.

[122] MoEST, "Policy for Alternative Education Systems," 2012-2017, available at https://www.humanitarianresponse.info/system/files/documents/files/AES%20policy%20%2019.6.14.pdf Jake Grout-Smith, Tim Horsler, and John Wood, "South Sudan National Textbook Policy Development; Background Paper," *DFID,* 23 July 2013, available at http://www.efc.co.uk/publications/Background%20Paper_final%20version.pdf.

PEP curricula must also cater to the unique needs of pastoralists. In addition to fundamental topics such as mathematics, the most effective curriculums expand in scope to comprise opportunities to learn about cattle health, pastoralist environments and how to avoid conflicts and increase social cohesion, all pertinent concerns for nomadic pastoralist societies in South Sudan.[123] For example, the Inter-Agency Network for Education in Emergencies has developed teacher lesson plans and guidance notes on conflict resolution and WASH practices for students.[124] These lesson plans teach students not only important skills to maintain personal health, but also tolerance and how to express emotions (see picture below). Moreover, curriculums do not always consider the need for flexibility among pastoralists. Oftentimes, classrooms comprise students at various competencies with differing learning styles; where feasible curriculums and materials must accommodate the academic diversity of learning environments.[125]

Photo 6. Example of Lifeskills lessons from INEE Curriculum [126]
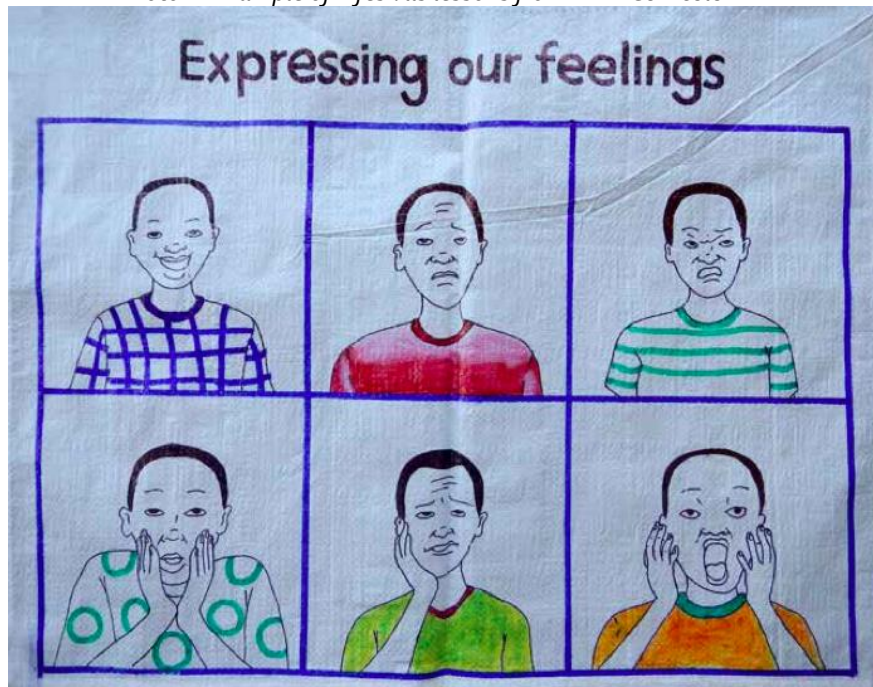
Finally, supplying pastoralists with learning materials is a serious challenge to the PEP.[127] Designing, printing, and delivering material to pupils is costly, particularly with regards to the migrating nature of many pastoralist populations. As such, academic resource scarcity is a concern. Further field research is necessary in South Sudan on the various learning materials available to pastoralists and the extent to

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[123] Final Report Submitted to Save the Children in Uganda. *Evaluation of the Mobile Alternative Basic Education for Karamoja (ABEK)*, 15 December 2011. http://www.norad.no/globalassets/import-2162015-80434-am/www.norad.no-ny/filarkiv/ngo-evaluations/evaluation-of-the-mobile-alternative-basic-education-for-karamoja-abek-program.pdf And Final Report Submitted to Save the Children in Uganda. *Alternative Basic Education for Karamoja*, August 2006. http://www.norad.no/globalassets/import-2162015-80434-am/www.norad.no-ny/filarkiv/ngo-evaluations/docs-68908-v1-review-of-alternative-basic-education-in-karamoja---final-report.pdf.
[124] INEE Toolkit, "Curricula Lifeskills and Pyschosocial Content.

[125] Ibid. And Mango Tree. *South Sudan Literacy Instructional Materials Literature Review for the Room to Learn Project*.
[126] INEE Toolkit, "Curricula Lifeskills and Pyschosocial Content
[127] Mango Tree. *South Sudan Literacy Instructional Materials Literature Review for the Room to Learn Project*.

which these materials are most effective. Assessments of curriculums and materials must follow up on their effectiveness periodically to ensure that program materials are still relevant and beneficial.[128]

Additionally, MoEST and Girls' Education South Sudan (GESS) support schools through capitation grants so head teachers are able to finance the purchasing of their own school materials or enable feeding programs.[129] Additionally, students in programs such as PEP are eligible for cash transfers that offer cash to students who had high attendance. However, AES programs may have difficultly meeting the conditions required by GESS to receive grants and allow students to participate in cash transfer programs. Even so, these grants and cash transfer may enable AES schools to purchase the additional materials they require.[130]

3.5. Summary Conclusion based on Desk Review

Desk Review Conclusions

Investment in educating pastoralist communities is an investment in human capital and development. Pastoralist education programs have a very specific mission: educate pastoralist communities while respecting their way of life and traditions. Children are critical to the daily livelihoods of pastoralist, preventing many from attending traditional schooling and perpetuating illiteracy and low levels of education among their communities.

To be successful, pastoralist education programming should be conceptualized and implemented outside the box of conventional education. The issue is not about how to fit pastoralist communities *within* the education system, but rather how to *adapt* the education system to the nomadic pastoralist communities' reality in South Sudan. While it is critical to adapt to pastoralists' needs, it is also important for PEP students to be able to transition into mainstream primary and secondary school.

The different alternative educational approaches confront similar difficulties that are linked to the context of education and development in South Sudan. Provision of education to pastoralist communities is likely to be successful if it is based on several delivery systems – boarding schools[131], mobile schools and open and distance learning – instead of a single method.[132] Innovative use of existing materials and improved materials will increase the potential for pastoralist education. Namely, the development of materials in local languages in contexts relevant to pastoralist children will likely improve the learners' abilities to understand and absorb lessons and materials. Radios and DAPs offer a particularly appropriate teaching and learning material in pastoralist contexts, as they do not rely on physical learning facilities.

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[128] USAID. *Kenya Primary Math and Reading (PRIMR) Initiative*, Final Report, July 2014. http://pdf.usaid.gov/pdf_docs/PA00K262.pdf.

[129] Girls' Education South Sudan, available at http://www.girlseducationsouthsudan.org/, accessed 21 October 2015.

[130] Note: AES programs and their students are eligible for capitation grants and cash transfers.

[131] Note: Boarding schools are not appropriate in every situation because they are expensive and usually remove students from their herding and domestic duties. However, they may offer a suitable alternative to traditional day schools in certain circumstances, especially if parents and communities support students attending these schools.

[132] Pastoralism information notes, Natural Resource Institute.

4. Findings

The following section describes and analyzes information found during KIIs, FGDs, and a quantitative survey. Overall, with the exception of some parents, respondents and interviewees express significant interest in gaining and improving education. In fact, a vast majority of survey respondents desire to go to school, yet less than a quarter are currently enrolled. Additionally, although both interviewees and survey respondents appear to desire equal education access between boys and girls; in reality, girls face more obstacles in receiving education due to both cultural restraints as well as restriction in time.

The three teachers interviewed for this study reported that poor payments, difficult living conditions, and a lack of materials prevent teachers from remaining with communities long term. Further, materials are often too few or only available in English, which only a minority of survey respondents reported to understand. Administrators reported recruiting female teachers; however neither teachers nor administrators noted a specific example of female PEP facilitators.

With regards to time management, most survey respondents report that children can access education more easily than their parents, mostly due to time availability. Even so, in aggregate, roughly 70% of respondents report that one could combine certain household and livelihood tasks with education and over 90% would consider going to school if the opportunity were made available, regardless of their gender.

The following section, which is based on the responses of the interviewed and surveyed individuals, will present the findings in detail. The interviews and surveys included:

- 110 pastoralists who responded to the survey;
- KIIs with 3 teachers;
- KIIs with 5 administrators;
- KIIs with 2 community leaders;
- FGDs with male and female students between the ages of 10 and 18 (8 total conducted, 4 in Aweil East and 4 in Kapoeta South);
- FGDs with female community members;
- FGDs with parents.

4.1. Profiles of Respondents

This section summarizes the profile of respondents to the quantitative survey and KIIs and FGDs. As expected, considering the population of interest, a majority of respondents work with livestock and speak Dinka. Education levels are low, with 20% currently enrolled in school.

Demographics of Respondents

Approximately 70% (n=64) of respondents are male and 30% (n=46) are female. The majority of respondents, at 73%, work in animal husbandry; the second most frequently reported occupation is a primary student, at 38.1%, followed by subsistence farming, at 33.4%. However, the type and proportion of respondents working in different occupations varies greatly when disaggregated by gender:

Table 6: Most common occupations by gender

Most Frequently Reported Occupations	
Male	Female
1. Animal Husbandry, 48.2%	1. Subsistence Farming, 29.1%
2. Subsistence Farming, 22.7%	2. Housekeeping, 26.4%
3. Primary Student, 17.3%	3. Animal Husbandry, 11.5%
4. Self-employed, 5.4%	4. Primary Student, 10.4%

In total, 54 individuals from Aweil and 56 from Kapoeta South were surveyed;[133] when considering population weights, 79% of those surveyed are from Aweil and 21% are from Kapoeta South. Roughly 40% of respondents (38.8%) are between 10 and 18 years old, as illustrated in the figure below. In the survey, the youngest respozndents said they were ten years old (n=2) and the oldest reported to be 85 years old (n=1).[134]

Figure 1: Distribution of Age of Respondents (%)
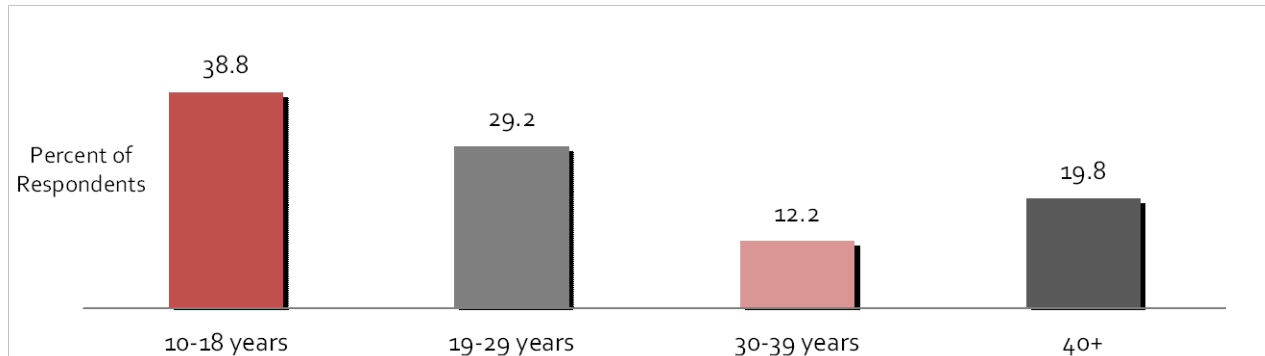
The vast majority of respondents at PEP sites are Dinka speakers, at 80%, and 26% speak English in addition to another language. Notably, as will be explained further later in this report, Key Informant Interviews (KIIs) with teachers highlighted that education materials are generally in the English language.

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[133] Note: See methodology for more detail.

[134] Note: The ages listed are based on the response of the respondent; they did not provide documentation to verify the age. Accordingly, these ages may not be accurate; the report discusses ages in groupings, as shown in Figure 5.

Figure 2: Languages spoken by percent of respondents
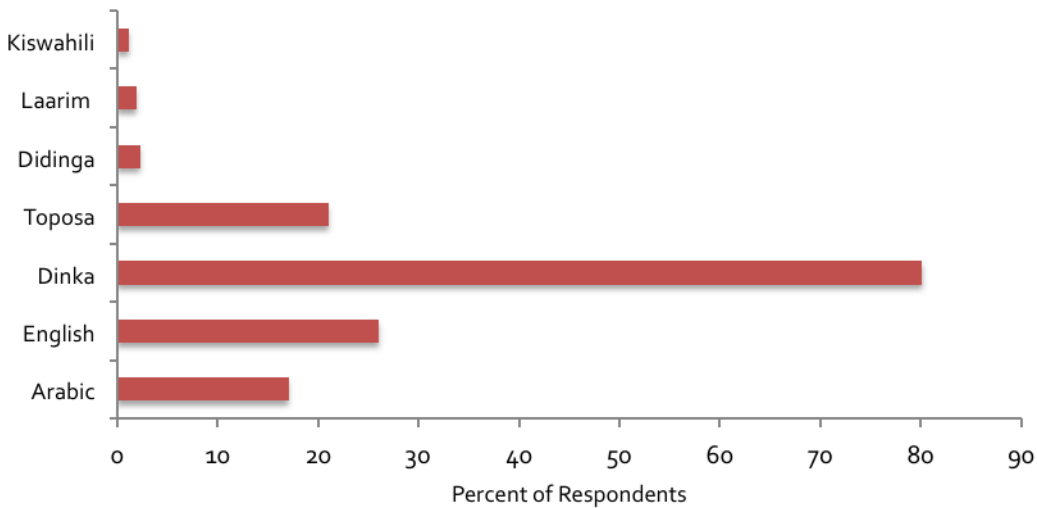
Educational Background

Roughly half of respondents have received education and half have not, without any major statistical difference between men and women. However, this lack of difference does not imply that females receive education at the same rate as male; rather, this likely suggests that the sample was not large enough to detect statistically significant differences based on gender. Additionally, while 60% of respondents from Aweil report to have received education, only 40% of respondents from Kapoeta report the same.[135]

Of those who have received education, most attend public schools:

- 53.5% received education in a public school
- 37.7% received education in a cattle camp
- 22.0% received education in a private school
- 8.8% received education in the community (i.e. alternative education like ALP)

As shown in the figure below, the highest grade reached by roughly 40% (n=15) of respondents who had received education is P1 or P2; only three male respondents report to have reached secondary school. Currently, 20% (n=19) of respondents are enrolled in school, all of whom are between 10 and 28 years old. In FGDs, some boys between the ages of 10 and 15 reported currently being in school, while none of the boys between 15 and 18 years are receiving schooling. Although most boys attended school at some point, some have never been enrolled.[136] All nine girls between the ages of 10 and 14 who partook in the FGDs have attended school at some point in their life, though only three are currently in school. Meanwhile, four out of 14 girls between 15 and 18 years of age have never been to school, and few of them are in school now.[137]

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[135] Note: 20% of respondents are currently enrolled in school. This statistic includes both the students currently enrolled as well as respondents who are no longer in school/ have not attended school.

[136] FGDs with boys aged 10 – 18 years, September 2015.

[137] FGD with girls aged 15 – 18 years, September 2015.

Figure 3: Highest grade reached by respondents who have had education
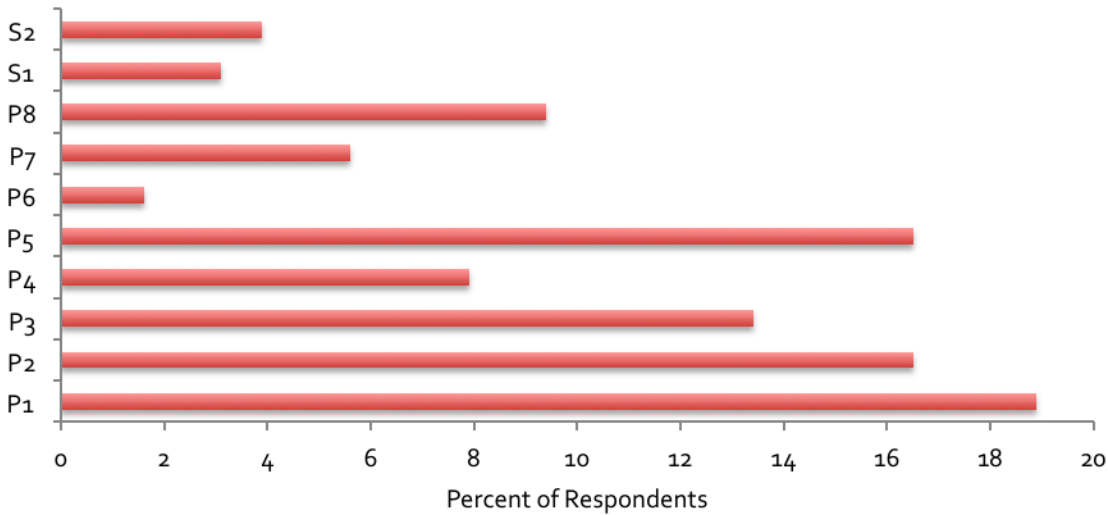
Access to Education

The ethnographic observations echoed the quantitative and qualitative results in regards to the demand for education from children. The observations recorded that children demanded more access to education, and even that some children who would not normally live or work in cattle camps did so to receive access to the PEP program located there. In fact, the researchers noted that the advent of the PEP programs attracted not only boys, but also girls to the cattle camps, who performed tasks like milking cows.

Although a smaller percentage are currently in school, 80% (n=77) of respondents report a desire to go to school, with 68.2% of this grouping being male and 31.8% being female. All (100%) of the respondents report family problems[138] and 74% report lack of ability to pay school fees as the reasons they stopped attending school (see figure below).[139]

Figure 4: Reasons for not attending school
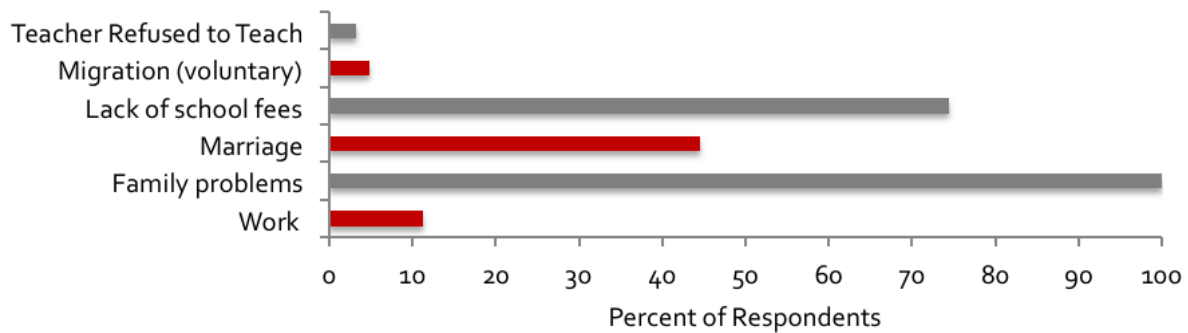
The majority of respondents in the sample (89%) report that education is difficult to access, either indicating that education is very difficult or 'a bit difficult' to access.

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[138] Note: 'Family problems' was not defined. Students did not explain what the family problems were.
[139] Note: Denominator of 27 respondents.

- 73% report education is very difficult to access
- 16% report education is 'a bit difficult' to access
- 9% (n=19) report education is 'a bit easy' to access
- 2% (n=7) report education is very easy to access

Of respondents who report that education is very difficult to access, 80% are from Aweil and 20% are from Kapoeta, reflecting the weighting of the population. Further, all seven individuals who report education is very easy to access and 90% who report education is 'a bit easy' to access are from Kapoeta.

Literacy and Education Achievements

The majority of respondents, at 59.3% (n=71), are illiterate, while 30.8% (n=27) are able to read and write 'a little.' Only 7.4% (n=8) report that they are able to read and write well. When disaggregated by gender, women are more likely to be able to read only, while men are more likely to be able to both read and write.[140] Notably, while 38.2% of respondents report being able to read and write at different levels, roughly half of respondents report receiving education. This finding suggests that students did not effectively learn literacy skills while in school.

During FGDs with boys aged 10 to 18 years, 13 out of 17 FGD participants reported being able to read and write, while the remaining four do not have either of these skills.[141] The boys who can read and write also know some words in English, though none in Arabic. Of girls aged 10-15, only two out of nine report having reading and writing skills, while seven do not; five of them know some words in English and Arabic. All girls between the ages of 15-18 who took part in a focus group said that they are able to read and write, though with some difficulty.[142]

Table 7: Literacy among Student FGD Respondents

Boys		Girls	
10-15 years old (9 respondents)	**15-18 years old** (8 respondents)	**10-15 years old** (9 respondents)	**15-18 years old** (14 respondents)
-7 can read and write -2 cannot read or write -7 know words in English -None (0) know words in Arabic	-6 can read and write -2 cannot read or write -6 know words in English -None (0) know words in Arabic	-2 can read and write -7 cannot read or write -5 girls know words in English and/or Arabic	-All (14) can read and write -All (14) knew words in English and some words in Arabic

Of survey respondents who have received/are receiving education, 44%, all of whom are from Aweil, report that they do not know if the skills they have learned in school will help get them a job. Roughly a

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[140] Note: The survey response options included "read and write a little" or "read and write well." Respondents determined the level of their literacy according to their own opinion. There is no definition for what 'a little' or 'well' mean. Disaggregated by gender is not significant at the 95% level.

[141] FGDs with boys aged 10 – 18 years, September 2015.

[142] Note: During FGDs with youth, 15 year olds were in both the 10-15 year old grouping and the 15-18 year old grouping. The participants did not specify the language that the girls could read/ write. Although researchers did not conduct specific writing and reading tests to confirm literacy skill levels, activities (i.e. time mapping activities) showed that participants were able to read and write. The participants were not tested. FGDs with girls aged 10-18, September 2015.

quarter (26%), most of whom are from Kapoeta, report that they have learned skills that will help get them a job, while 10% disagree.

4.2. Current Situation of PEP According to Administrators

The section below addresses the current situation of PEP programs according to administrators. As highlighted in the desk review, mobile schools face issues of lack of funding, low education levels of teachers, and a lack of administrative capacity. Qualitative interviews with administrators reflected these findings, as detailed below.

Situation and Challenges for PEP Programs
According to three of the five interviewed administrators, 30% of school-aged children attend their PEPs, with roughly 25 students per class. The children attending the programs are generally between five and 12 years, with the oldest usually between 19 and 24 years.[143] These accounts are reflected in both the quantitative findings and the qualitative FGDs with children, which will be discussed later in this report. Though the interviewees did not specify classroom size, other findings suggest that classrooms are generally multiple levels and ages, which presents challenges for teachers to develop effective lessons.

Although interviewed administrators believe their programs are effective, issues of delayed salary payments for teachers and lack of feeding programs have led to increased absenteeism from their teachers and students. Of the five administrators interviewed, two reported that the number of girls enrolled in the PEP programs outnumbered the boys and a third administrator said that the gender distribution was equal between females and males. One of these administrators explained that girls more easily attend PEP programming while boys have easier access to more traditional schooling. Although administrators did not elaborate on the reasons, other findings suggest that families may be more inclined to send girls to cattle camp schools because of their location, which allows girls to be overseen by the community and spend less time in transit, maximizing time for other chores. The two administrators that reported that boys outnumbered girls enrolled emphasized their dissatisfaction with these results.[144] Despite the reports of girls outnumbering boys in school, these findings are the exception, not the rule. Indeed, other qualitative interviews with traditional leaders, children, and parents stressed that a higher number of boys attend PEP programs and access educational more easily than girls.[145]

All (5) interviewed administrators reported that teacher quality was very low, explaining that teachers generally had very low education levels and poor or no training. Further, one administrator highlighted that only men could be employed because of cultural restraints that forbid women from travelling with cattle camps. Though some administrators emphasized that teachers receive no initial training, all agreed that teachers need both initial and follow-up training.[146] However, all teachers interviewed reported to have received initial training but did not receive follow-up.[147]
In order to address the many challenges facing the PEP, as listed in the table below, one administrator suggested, "If we talk of helping or empowering the community/parents to facilitate this program; the

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[143] KII with administrators, August-September 2015.
[144] Ibid.
[145] Note: These findings will be presented later in this report.
[146] KII with administrators, August-September 2015.
[147] KII with teachers, September 2015.

policies makers of PEP can design a system which will deal direct with community not with authorities *[sic]*."

Table 8: Main Challenges Facing the PEP according to interviewed Administrators[148]

Main Challenges
• Lack of medicine • Lack of teachers • Low payment of teachers • Ignorance of parents, unwillingness of parents to prioritize education • Difficulty of monitoring learners • Lack of transport • Forced/ early marriage among girls – removal of girls from school • Teacher dissatisfaction • Lack of coordination with national ministry level in distribution of materials • Weather-related challenges (rain, drought), rain destroyed books

4.3. Customary Norms and Community Perceptions of AES

In order for PEP programs to be successful and sustainable, they require acceptance and promotion from within the community. The following section discusses the customary norms that impact student attendance and community acceptance of PEP programs as perceived by three PEP facilitators, five PEP administrators, two community leaders and FGDs with women and parents. In particular, the interviews highlight issues surrounding girls' education and customary norms. Additionally, the section also discusses perceptions of community members regarding education as a whole. Notably, as the desk review stressed, girls face obstacles in accessing education.

4.3.1. Customary Norms

During qualitative interviews, FGD participants expressed that cultural customs often prevent children from obtaining thorough education, especially girls. The participants explained that girls perform a range of necessary daily activities, including the following: Cooking, collecting fire wood, collecting cow dung, washing, caring for young children/babies, pounding sorghum, cultivating, weeding, fetching water, and setting the fire.[149]

According to female FGD participants, boys tend to livestock or play football and other games. When asked how a girl can combine learning with her domestic duties, one focus group said she could learn while she made tea or tidied the household by listening to radio or DAP broadcasts. In contrast, the other FGD group said that girls may become "stressed and loss control and be pregnated *[sic]* by men." Customary obstacles for girls' education include marriage and pregnancy, household responsibilities, menstruation, poverty, unwilling parents, and an inability to pay education fees. Though male students also face many of these obstacles, participants believed that boys are able to access education despite their other duties.

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[148] KII with administrators, August-September 2015.
[149] FGD with women, September 2015.

4.3.2. Community Perceptions of AES

General Perception of AES

Two community leaders were interviewed during KIIs; while one leader noted that AES programs were available for his community, the other reported that primary public schools were the only available education opportunity. According to these leaders, both male and female children attend school, while adults are often too occupied with other duties to attend school. Additionally, one leader highlighted that teachers rarely remain for more than one month, inhibiting streamlined education for the youth. Despite difficulties with teacher retention, both leaders expressed their support for education, with one saying "education can let our children manage their life in [the] future."[150]

During FGDs with parents, one set of parents expressed satisfaction with the PEP, while the other group argued that the students' education was poor. Notably, both groups of parents explained that girls' duties are numerous and often prevent girls from being able to attend school. Similarly, boys are tasked with many duties, including household duties as well as tending livestock. However, parents said that boys are generally able to go to school because their activities leave time for learning in the evenings.[151]

Although parents during FGDs noted that boys are generally able to go to school while girls may face more inhibitions, nearly 90% (n=96) of respondents to the quantitative survey reported that boys and girls should have equal access to education, with less than 5% (n=10) reporting that boys should have more access to education than girls. Indeed, the difference between parents' FGDs and the quantitative survey results may illustrate that, though communities may understand the importance of equal education opportunities, the reality is weighted in favor of boys. When the ten survey respondents who believe boys should have more access were asked to explain their reasoning, their responses included:

- Girls become pregnant and/or marry early;
- Girls are needed for household/ domestic responsibilities;
- Girls are needed for cows (bride cost);[152]
- Girls make mistakes in school.

Photo 7. Students in school, Kapoeta South, 2015

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[150] KII with leaders, September 2015.
[151] FGD with parents, September 2015.
[152] Note: In South Sudan, men often provide cows as a form of exchange for marriage.

Regarding adult education, roughly half of survey respondents report that children have more access to education than adults, while 40% report that access is equal. Of those who report that children have more access, 70% are from Kapoeta and 30% are from Aweil. Notably, all except one respondent who reported that educational access is equal between adults and children are from Aweil; one respondent reported that adults have more access. Further, when asked if adults and children *should* have equal access, 70% (n=69) agree that access should be equal and 20% (n=37) report that children should have more access.[153] As noted in the FGDs with local leaders, adults indeed have a harder time accessing education due to more time consuming duties.[154]

Perception of Challenges and Methods for Mitigation
According to KIIs with two community leaders, the main challenges in accessing education for children are their household and cattle responsibilities, including fetching water, gardening, and herding. One leader also highlighted that children were not offered food at school, which made parents less likely to allow their children to attend; school programs appear to strongly incentivize parents' willingness to send their children to school.[155] The amount of time spent in household activities and how children spend their day will be explained in more detail in section 3.4.

In order to mitigate these challenges, both interviewed leaders stressed the importance of school feeding programs; additionally, the leaders suggested provision of uniforms and a dedicated space for classrooms (outlined by a fence). Leaders also recommended creating separate classrooms for boys and girls. Gender-segregated classrooms could help increase girls' attendance because parents may be more likely to believe girl-only classrooms are safe and culturally suitable. Both leaders believe that AES programs would encourage boys to attend school, with one suggesting that cash transfer programs should be extended to boys who attend school as well as girls. Differently, while one leader believes that PEP may increase the number of girl learners in his community, the other leader expressed, "most of us don't allow girls to go to school because girls are our sources of health." Though the leader did not elaborate on his meaning of health, 'health' may relate to girls' responsibilities in cooking and caring for other children and the home; it may also refer to the financial benefits that girls bring to their families when married (i.e. bride price). This leader said that girls would only attend boarding schools if everything was provided for free.[156]

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[153] Note: No statistically significant difference between counties.
[154] KII with leaders, September 2015.
[155] Ibid.
[156] Ibid.

Summary Conclusions of Customary Norms and Perceptions
- Community leaders and parents appeared to deprioritize girls' education, attributing cultural norms and business as reasons. As described in FGDs and KIIs, girls are tasked with more time consuming duties that allow less time for school than their male counterparts (see Section 3.5 for more information regarding time and activities). Further, parents and leaders express concern that girls will be harmed or unable to attend school (i.e. due to menstruation or impregnation).
- Despite skepticism, 90% of respondents report that boys and girls should have equal access to education. This high percentage may either be a result of respondent bias or due to the demographics of respondents, which are highly concentrated between the ages of 10 and 18 years. Younger respondents may be more likely to report that access to education should be equal, while older demographics – which include the parent and community leader interviewees – may be more likely to disagree.

4.4. PEP Teachers and Reasons for Attrition/Retention

The following section discusses the trainings, support, and challenges faced by three PEP facilitators (i.e. teachers). These teachers are critical to the success of PEP programming. Indeed, as shown in the qualitative findings, many teachers are extremely dedicated to the education of their communities; however, they face low and delayed salaries, hard living conditions, and a lack of material. Finding solutions to reduce the hardships faced by teachers will lead to the improvements of PEP programs. As the desk review highlighted, improving the conditions of PEP teachers and incentivizing teacher retention, the quality of education of PEP schools will likely improve.

Teacher Trainings
One teacher reported receiving a 21-day training by Winrock International; however, he said trainings no longer occurred because the AES programs closed. Another teacher interviewee attended teacher training in college for a two-year period. The last teacher received both PEP training and South Sudan Interactive Radio Instruction training. Although all teachers reported to receive trainings, one stressed, "it is not enough I need more training because I need to receive more knowledge as a PEP teacher. The little I have need to be increased *[sic]*."[157]

Even so, all teachers interviewed expressed that they felt PEP training sufficiently prepared them for becoming a PEP facilitator, namely with lesson planning.[158] Moreover, the teachers also reported that they use the skills learned in their trainings in their day-to-day PEP activities. Although no teachers interviewed received follow-up trainings, all agreed that PEP teachers would benefit from follow-up trainings.[159]

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[157] Note: Although teachers were asked, they did not specify what trainings they would like to receive. KII with teachers, September 2015, KII with administrators, September 2015.
[158] Note: Forcier Consulting was not provided with training schedules or examples of lesson plans.
[159] KII with teachers, September 2015.

Teacher Support
Interviews with teachers indicated that teachers have support and a supervisory contact who they can communicate with directly. If teachers face problems, teacher interviewees reported that they go to the AES director of the Country Education Department (CED). In one example, a teacher did not have chalk and sought help from AES and the county inspector of education – the teacher was provided with three cartons of chalk. Further, all interviewees said that they report to AES or CED to check the quality of their works, with one specifying that the report is required on a monthly basis.[160]

In the interviews with three teachers and five administrators regarding teacher payment, all respondents stressed that low and infrequent salary payments of teachers are unacceptable.[161] Two teachers interviewed said they received a salary of 650 SSP[162] while one refused to answer. According to one interviewee, the salaries are insufficient to cover personal needs (i.e. food, healthcare, dependents), especially considering the amount of time he commits to teaching. Worsening these concerns, two interviewed teachers reported that they received their salaries late. One teacher had not received his salary for three or four months; the other respondent said his salary has not come for one year. Beyond a monetary salary, two (of three) teachers reported to receive in-kind support from both administrators and from their communities; one teacher from Aweil received milk and supplementary education materials while the teacher from Kapoeta South received housing and food. Additionally, the teacher in Aweil highlighted that the community had bicycles available for teachers to use when they need to travel.[163]

Interviews with administrators confirmed that they assist teachers with provision of educational materials and in-kind support. In addition to providing food and milk, administrators noted that they support teachers by assisting in conflicts and grievances. Two (of five) interviewed administrators stressed that teachers do not receive enough support, especially financially, and work in poor conditions.[164] In order to reduce these hardships, administrators recommended increased community partnership and ownership of AES programs, suggesting that parents should be part of PEP community groups and assist in teacher support.[165]

Availability and Utilization of Educational Materials
Teacher interviewees reported having access to textbooks, exercise books, blackboards, and chalk, which are replenished quarterly based on Stock Management reports. However, one teacher reported that these materials were not available and another highlighted that, though he has had these materials in the past, he no longer has them. When the interviewer asked to see the education material provided by AES, two of the three teachers reported that they had none to show – in fact, the AES program was shut down for one teacher.[166] If no materials are available, one teacher said he does not teach; another said he buys the materials himself or seeks assistance from the AES office. Ethnographic observations confirmed that teachers did in fact purchase their own educational materials when not available otherwise.

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[160] Ibid.
[161] Note: Researchers did not observe CED or AES follow up with teachers; however, the interviewees specifically noted CED and AES. KII with administrators, August-September 2015, KII with administrators, September 2015.
[162] Note: Interviewees did not specify the frequency this salary is received.
[163] KII with teachers, September 2015.
[164] KII with administrators, August-September 2015i.
[165] KII with administrators, August-September 2015i.
[166] KII with teachers, September 2015

Additionally, according to KIIs, all academic materials are in English. Notably, though qualitative interviews show that academic materials are in English, quantitative results find that only 26% of respondents speak English in addition to another local language; meanwhile 80% speak Dinka and 21% speak Toposa.[167] In this way, there is a definitive gap between educational material and spoken languages.

Photo 8. PEP learners, Aweil East, 2015

Despite the language discrepancy, two of three interviewed teachers reported that the educational materials are appropriate for their students and that the students are effectively learning; however, the remaining teacher disagreed. He said, "Children are only familiar with cattle and types of trees and grass. I suggest if the Ministry of Education can create a special syllabus for PEP learners only...[e]specially on the side of language things in books." All administrators believe the education material is good quality; yet, a few noted that the material was not relevant to pastoralist children, with foreign information, including language and examples.[168] This further highlights the discrepancy between familiar language and available materials.

Work-Life Balance
All three interviewed teachers reported migrating with their communities, with one stating, "I use to carried all the PEP materials on our back when the cattle move *[sic]*."[169] The teachers have been involved in the AES programs between one and four years, working in at least two different locations.

When the interviewed teachers are not teaching, they perform domestic chores, fetch firewood, tend cattle, and/or play football. Two of the three teachers have family who they visit about two days a week, with one specifying that he walks four hours to visit his family. All agreed that balancing their domestic duties and care of livestock (two have their own livestock) with their PEP responsibilities is difficult.[170]

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[167] Note: Respondents to the quantitative survey were able to select multiple languages. In this way, the total percentage is above 100%.
[168] KII with administrators, August-September 2015.
[169] Ibid.
[170] Ibid.

Teacher Retention and Attrition
Both administrators and teachers highlighted the issue of teacher attrition as a primary challenge in the success of improving pastoralist education. The main grievances as expressed by teachers and corroborated by administrators are as follows: Delayed payment of salaries, insecurity, inability to communicate with family member, distance from family, low payment.[171]

Despite the hardships, two of the interviewed teachers said they had not considered quitting. These teachers explained that teachers connect with their community (and are usually from their community), and so feel a duty to help their community improve.[172]

All administrators who were interviewed confirmed that their offices had been involved in addressing issues of teacher attrition. One administrator stated, "I think the only medicine for this is to increase their payment, refresher trainings, and strong encouragement/motivations."[173] Another administrator expressed that he could not blame the teachers for their attrition; rather, he blames the government for not being able to pay the salaries.

Regarding teacher recruitment, two administrators emphasized the importance of finding teachers within the same communities as the PEP programs – in this way, the interviewees explained that one avoids cultural conflicts and improves the chances for teacher retention. In fact, one administrator noted that recruiting teachers of the same community is more important than recruiting teachers with higher educational backgrounds.[174] Indeed, this prioritization may reduce attrition; however, this recruitment method may also perpetuate the low quality of education that others, including parents during FGDs, noted as flaws of the PEP system.

Importantly, from KIIs with both teachers and administrators, there does not appear to be many, if any, female PEP teachers. Even so, three interviewed administrators believe that an increase in female PEP teachers would encourage more young girls to attend school as well as improve the teaching for young learners. However, female teachers rarely, if ever, apply to PEP positions for reasons unknown to administrators. Although the interviewees did not know why women do not apply to be teachers, all believed more women would apply if teachers were offered higher salaries as well as transport.[175]

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[171] KII with teachers, September 2015, KII with administrators, August-September 2015.
[172] KII with teachers, September 2015.
[173] KII with administrators, August-September 2015.
[174] Ibid.
[175] Ibid.

Summary Conclusions of PEP teachers and retention/ attrition
- All teachers reported receiving initial trainings prior to teaching, but did not receive follow-up trainings; administrators also reported the same issues with teachers' trainings. - Overall, the major reason for high rates of teacher attrition are the low salaries and delayed payments. One teacher interviewee was not paid for a year. Additionally, the living conditions of teachers are poor and removed from their families. Teachers suggest improving communication opportunities so they can speak with their families more often. - Teachers and administrators report to have had education materials in the past (including blackboards, textbooks, etc.); however, teachers no longer have these items. Teachers, administrators, and ethnographic observations by researchers confirmed that teachers, at times, purchase educational materials with their own salaries. - Teachers highlighted that their materials are in English, which only a quarter of respondents to the survey speak. - Two teachers did not work with female teachers (one did not specify) and administrators reported difficulty in recruiting female teachers. - Administrators and teachers report that teachers remain with communities because they feel a duty to improving the education quality within the community (as they are often from this community).

4.5. Activities and Time Spent on Activities by Community Members

Just as improving teacher retention is critical to improving PEP, increasing access to education for all learners – boys, girls and adults – by finding arrangements for livelihood activities and school is vital for PEP's success. The following section outlines the time spent by members of the communities. Much of their time is either in cattle camps, fields, or maintaining their household. Despite the many activities, many desire to go to school and would consider schooling if an arrangement made this possible.

Activities of Children and Time Spent
During FGDs with children, the majority of interviewed boys and girls between the ages of 10 and 18 reported waking up while the sun is red[176] in the sky and a minority of those interviewed also say the sun is yellow[177] when they wake up.[178] While boy participants explained that they usually start their day by brushing their teeth and taking tea, girls begin their day by fetching water and firewood, preparing tea, as well as other domestic chores.[179] These findings correlate with both quantitative findings and FGDs with parents. Notably, one boy aged 18 who lost his parents in the conflict between Sudan and South Sudan reports starting his day by consuming alcohol "to refresh his mind from stress."[180]

The table below outlines the activities listed by child FGD participants during various times of their day outside of school. The activities reflect the findings in both the FGDs of parents and the quantitative findings.

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[176] Note: This indicates 'sunrise' which is around 6 to 7 AM.
[177] Note: This indicates some time after sunrise.
[178] FGDs with boys and girls aged 10 – 18 years, September 2015.
[179] FGDs with boys aged 10 – 18 years, September 2015; FGDs with girls aged 10 – 18 years, September 2015.
[180] FDG with boys aged 15 – 18 years, September 2015.

Table 9: Typical day as explained during FGDs

	Boys 10 – 14 years[181]	Boys 15 – 18 years[182]	Girls 10 – 14 years[183]	Girls 15 – 18 years[184]
Morning	Brush teeth, drink milk, then go to look after goats/cows, fishing or other activities.	Brush teeth and drink tea. In the rainy season they go to do cultivation; in the dry season they do work at home such as repairing buildings. Some take cows and goats out for grazing.	Sweep the compound, fetch water, prepare tea, and other chores.	Brush teeth, fetch water and firewood, doing laundry, ironing, sweeping and other chores at home. In the dry season they go to the cattle camp to cook; in the wet season they do cultivation.
Afternoon	Looking after goats and cows.	Some look after cows and goats, while most play cards or other games in the market.	Cooking and doing laundry.	Preparing lunch, fetching water, bathing younger children, shopping, ironing and doing laundry.
Evening	Playing football and watching football matches or movies.	Playing football or volleyball, or watching football matches or movies. Some milk cows and goats in the evening.	Preparing supper and washing utensils.	Playing volleyball and milking cows and goats. Later they go to traditional dances.

In FGDs, children reported that their day spent in the home is busy and long, yet while they are in school, time goes by quickly as they are in class and can spend time with friends. [185] Girls between the ages of 15 and 18 reported feeling that their time spent at the cattle camps are similar to doing chores at home; differently, boys between 10 and 18 reported that they very much enjoy being at the cattle camps as they can drink milk and make money.[186]

Children in three out of four focus groups said it takes one hour to walk to school, while the final group reported being 90 minutes by foot from the school. While the majority of children walk to school, two boys and four girls reported travelling by bicycle, which takes approximately half the time compared to walking.[187] Notably, no respondents to the quantitative survey reported distance or transportation as a reason for absence from school, as illustrated in Figure 10 below.

[181] FDG with boys aged 10 – 15 years, September 2015.
[182] FDG with boys aged 15 – 18 years, September 2015.
[183] FGD with girls aged 10 – 15 years, September 2015.
[184] Ibid.
[185] FGDs with boys and girls aged 10 – 18 years, September 2015.
[186] FDG with boys aged 15 – 18 years, September 2015.
[187] FGDs with boys and girls aged 10 – 18 years, September 2015.

In focus groups, all the children who attend school say they return home around 2 PM, at which point they turn to tasks at and around their home: Younger boys will bring the cows back from pasture and then play games, while older boys are given duties like fencing, making bricks and bringing firewood.[188] Meanwhile, girls spend the afternoon cooking supper, doing laundry, helping look after young children, and fetching water and firewood.[189]

As mentioned previously, during FGDs and KIIs, community members noted that girls are often too busy with chores and other responsibilities to engage in education. The table above provides an illustration of when girls may have more opportunities for lessons. For girls aged 15 to 18, evenings appear to be the most suitable time for school while the afternoon and evenings may work for girls aged 10 to 15. For boys, it is notable that boys 15 to 18 years old reported having free time in both the afternoons and evenings – indicating that these times of day could be used for schooling. Afternoons may be best for boys aged 10 to 15.

Children's Perspectives Regarding School and Education[190]

Photo 9. Survey respondent and researcher, Aweil East, 2015

Most children who took part in FDGs reported having friends who are in school, and believe that their friends in school are more popular than those who are not receiving education, as they are considered as being more knowledgeable and having better future prospects.[191] Despite many having friends, FGD participants reported spending more time with family than friends and some boys and girls were open about feeling lonely at times.[192] Moreover, all children who took part in FGDs would like to attend school and report that the school is close to where they live; however many are not in school as their parents cannot afford school fees[193] or uniforms.[194]

Children in focus groups report that they do not believe their parents prioritize their education, but are more concerned with their children participating in chores.[195] While most say that this is because their parents do not care about their education, some also expressed the opinion that their parents are not

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[188] FGDs with boys aged 10 – 18 years, September 2015. Photo: Survey Respondent and Researcher, Aweil East, 2015
[189] FGDs with girls aged 10 – 18 years, September 2015.
[190] Note: In Aweil East, four FGDs were conducted and four FGDs were conducted in Kapoeta South. These FGDs included the following categories: boys 10-15, boys 15-18, girls 10-15, girls 15-18.
[191] FGDs with boys and girls aged 10 – 18 years, September 2015.
[192] Note: Children did not explain how they cope with loneliness. Ibid.
[193] Note: AES PEP students do not pay tuition fees. However, the school may require other fees, which may include registration fees, education material fees, and others. Students did not specify the fees that their parents could not afford.
[194] Ibid.
[195] Ibid.

aware of the importance of education.[196] Only participating girls between the ages of 10 and 14 said that their parents focus on them completing their homework, however this comes after all the chores are completed.[197]

For students currently enrolled in school, the most common reason for missing school in the past month is responsibilities in cattle camps or in the field, as shown in the figure below. Most respondents missed one to two days due to cattle camp responsibilities; however, one respondent reported missing 30 days. Notably, while the ethnographic observations recorded that the quality of roads between Aweil East and Aweil Town are poor, no respondents to the quantitative survey reported transportation or distance as a reason for absences from school. This finding may indicate that students are willing to travel to school, but less inclined to neglect their cattle camp responsibilities.

Figure 5: Reason for Absences for Respondents in School[198]
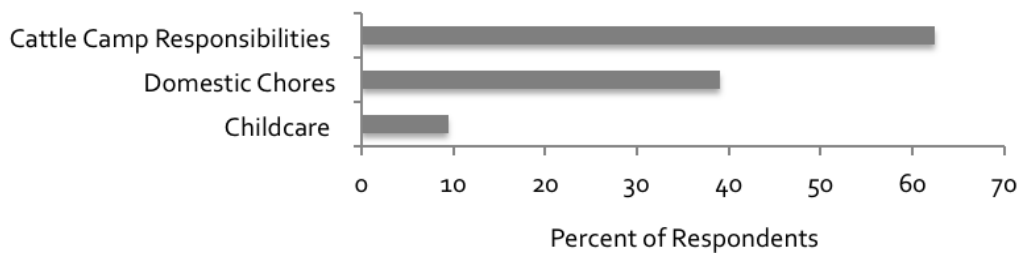
Money-Generating Activities and Time Spent
Roughly 50% of all (n=110) respondents report that they provide financially for themselves or others, with 80% of this grouping being male. As expected, considering the demographics of the population, 41% report making money through livestock herding or selling and 34.5% say livestock feed or selling other inputs. Notably, 96% and 93% of livestock herders or livestock feed/sellers are male. The most frequently listed activity for women, with 70% (n=21) of female respondents, is farming, followed by 'other,' as cited by 57% (n=17) of female respondents. 'Other' activities listed by women include:

- Selling/brewing alcohol
- Mining gold (Kapoeta only)
- Selling gold (Kapoeta only)
- Fetching water
- Selling reeds, firewood, charcoal

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[196] FGDs with boys and girls aged 10 – 18 years, September 2015.
[197] FGD with girls aged 10 – 15 years, September 2015.
[198] Note: Denominator is 19 respondents. The tabulation is not significant at the 95% level when disaggregated by gender. Even so, more females reported being absent due to childcare or domestic chores, while more males reported cattle camp/ field responsibilities at the reason for being absent from school.

Figure 6: Activities done to make money (both males and females)
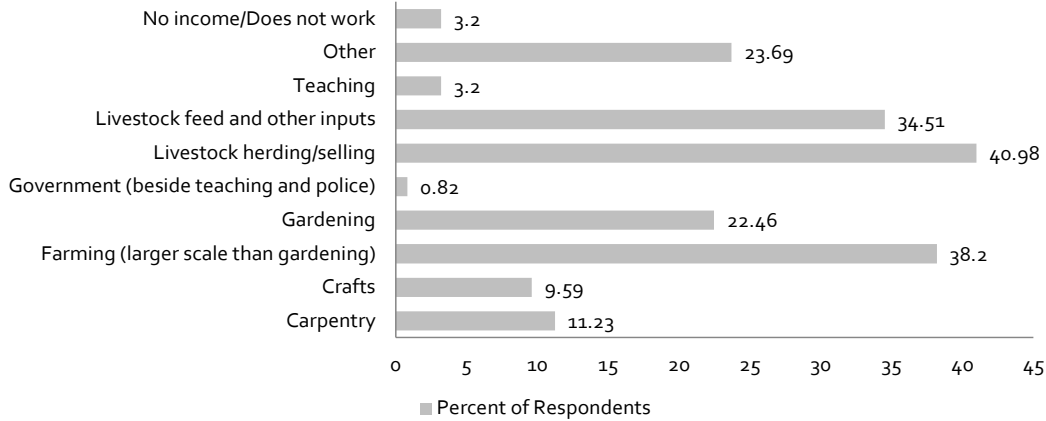
Of the respondents who provide for others financially, 42% (n=35) spend half the day in money-generating activities. Others spend the following amounts of time:

- 11% spend a few hours a day
- 18% spend the morning/ afternoon/ or evening
- 8% most of the day
- 21% spend the whole day

Notably, when disaggregated by county, 90% of respondents who report that they spend half the day working are from Kapoeta. Differently, 90% of respondents who report that they spend the whole day working are from Aweil.[199]

Household Responsibilities and Time Spent

Roughly two-thirds of respondents have responsibilities at home, with 69% of this grouping looking after livestock such as goats, chickens, and sheep, as shown in the figure below. Household responsibilities differ by gender – 88% and 94% of women report engaging in cleaning and cooking respectively, compared to 7.5% and 1.9% of men. Additionally, while 23.1% of men report caring for children as a responsibility, 82.3% of women report the same. In contrast, looking after livestock and building/repairs are the most commonly selected responsibilities for men, at 91.8% and 60.6% respectively; with 33.1% and 40.9% of women selecting these respective options. As can be ascertained from these results, women engage in a larger variety of activities than men, with 40% or more of women engaging in eight of the ten listed activities; with the same proportion of men engaging in only three of the ten listed activities.[200]

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[199] Note: There is no significant difference when the data is disaggregated by gender.
[200] Note: This information is not significant at the 95% level.

Figure 7 Household Activities (males and females)
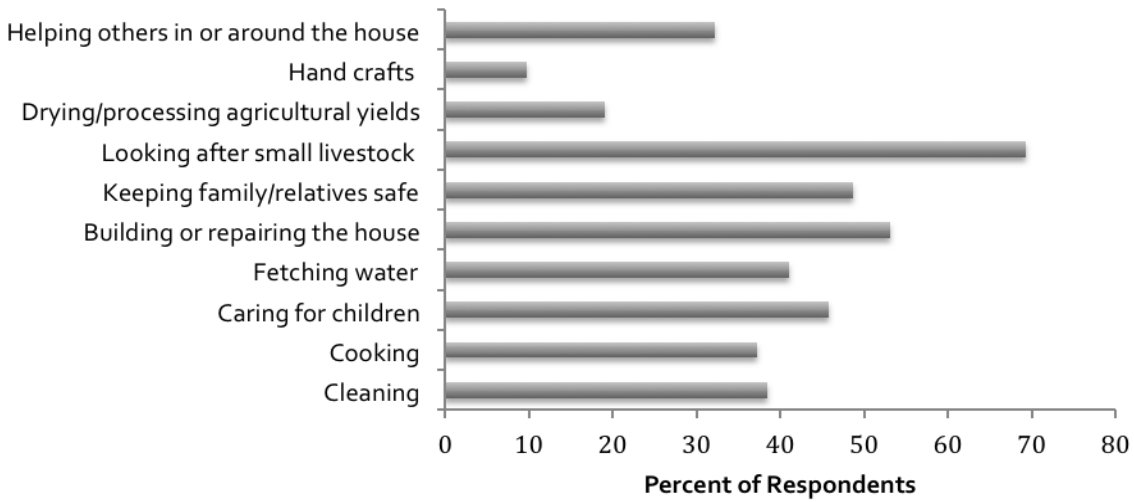
Approximately one-third (35%) of respondents spend half the day tasked in the responsibilities listed above, with 30% spending only a few hours. Only 8% report spending the whole day engaged in these activities.[201]

Field/ Garden Responsibilities and Time Spent
The majority of respondents, at 74%, have responsibilities in the fields or gardens, with most spending this time digging, sowing and planting. Regardless of gender:

- 46% of respondents spend half the day working in the field or garden
- 12% spend a morning or afternoon or evening
- 21% spend most of the day or a full day

Of those who spend most of the day in these activities, 52% are women and 48% are men.[202] As shown it the figure below, roughly the same percentage of women and men in engage in activities such as sowing, digging and clearing, but the percentage differs greatly in activities such as protection of crops and ploughing with an ox.

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[201] Note: There is no significant difference when the data is disaggregated by gender.
[202] Note: This is not a significant finding at the 95% level.

Figure 8: Activities done in field or garden, by gender[203]
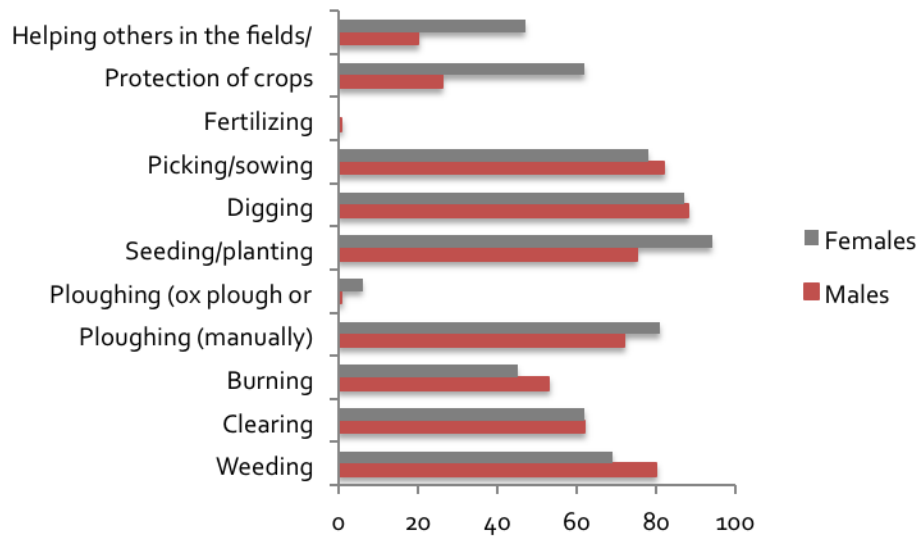
Cattle Camp Responsibilities and Time Spent

The majority of respondents, at 81%, have responsibilities working in the cattle camps, regardless of gender. Though men and women spend roughly the same amount of time working in camps, they engage in very different types of work, as shown in the figure below. While women spend majority of this time performing small chores, maintaining the camp, or milking and feeding cattle; men work in all these tasks as well as protecting and herding cattle.

Figure 9: Activities done in cattle camps by gender[204]
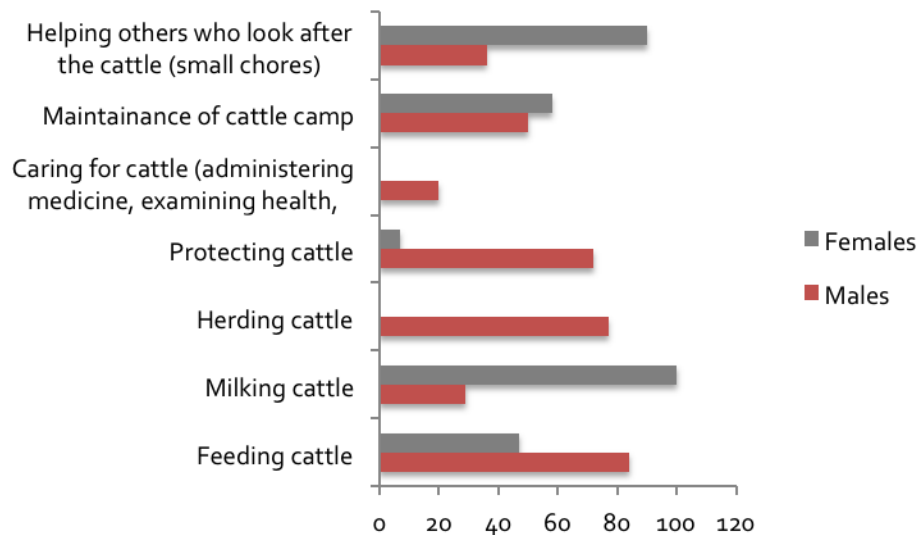
[203] Note: This is not a significant finding at the 95% level.
[204] Note: This is not a significant finding at the 95% level.

Roughly a quarter of respondents spend their mornings, afternoons, or evenings working in cattle camps with no difference between genders. The other amount of time spent in cattle camps is as follows:

- A few hours: 23%
- Half the day: 15%
- Most of the day: 24%
- The whole day: 12%

Despite numerous and diverse time-commitments, between 91% and 93% of respondents, regardless of gender or age, would consider attending school if an arrangement allowed them to complete their livelihood and household duties as well as attend school. However, as illustrated in the table below, respondents appear most skeptical of being able to accomplish money-generating activities and attend school – which may indicate why fewer adults attend school.

Table 10: Potential of Combining Livelihood Responsibilities with Education

Livelihood/ Household Duties and Education			
Activity Type	Potential of Combining Activity with Education		Respondents who would consider going to school if arrangement were made
	Agree	*Disagree*	
Money-Generating Activities	48%	45%	93%
Household Duties	70%	20%	92%
Field/ Garden Duties	74%	21%	93%
Cattle Duties	73%	15%	91%

Summary Conclusions of Activities and Time Spent on Activities
- Some of the children interviewed attend school, with a higher proportion of boys than girls. In the quantitative findings, 20% of respondents go to school, with all being between the ages of 10 and 25 years. - Outside of school, quantitative and qualitative findings show that girls usually clean the household, do laundry, cook, cultivate fields, fetch water, care for children, perform small chores around livestock, dance, and play volley ball, among other activities. Boys usually tend cattle or other livestock, repair buildings and fences, fish, cultivate fields, play football and watch movies. The most frequently listed reason for missing school is due to cattle camp responsibilities. - 50% of respondents provide for their families financially, with 41% doing so through livestock herding. Women usually provide through farming. Regardless of gender, most spend half the day in these activities. 67% of respondents have household responsibilities, with women usually cooking and cleaning and men tending small livestock. Regardless of gender, 35% spend half the day in these activities. 74% of respondents have garden or field responsibilities, in which men and women sow, dig, or plant. 46% spend half the day in these tasks. 81% of respondents have cattle camp responsibilities, with women performing small chores around the camp and men herding. 25% spend their mornings, afternoons or evenings in these tasks.

- Outside of money-generating activities, 70% or more of respondents believe they can combine their responsibilities with education. Over 90% of respondents would consider going to school if the arrangements were made.

5. Conclusions and Recommendations

SCHOOL PARTICIPATION AND ACCESS

<u>Conclusions</u>
Interviewed parents and community leaders report deprioritizing girls' education. As described in FGDs and KIIs, girls are tasked with more time-consuming duties that allow less time for school than their male counterparts. Further, parents and leaders express concern that girls will be harmed or unable to attend school (i.e. due to menstruation or being impregnated).

Despite skepticism, 90% of respondents report that boys and girls should have equal access to education. This high percentage may either be a result of respondent bias or due to the demographics of respondents, which are highly concentrated between the ages of 10 and 19 years. Younger respondents may be more likely to report that access to education should be equal, while older demographics – which include the parent and community leader interviewees – may be more likely to disagree.

<u>Recommendations</u>
1. **Set up awareness campaigns targeting community leaders and parents, including with Parent Teacher Associations and School Management Committees:** Explanatory and transparency campaigns made by locally trusted actors, such as religious bodies and international NGOs in partnership with local NGOs, would help to assimilate the education concept into the nomad pastoralist way of life.

2. **Promote an education made 'by pastoralists for pastoralists' by involving pastoralist communities into the design and implementation of education programs** The involvement of pastoralist communities and self-appropriation of educative programs promote school acceptance and are important features for the success of pastoralist education programs. It helps to tailor education to pastoralists' needs, aspirations and way of life, thus changing common perceptions of education. School should be perceived as necessary and valuable for the community: the benefits of sending children to school should be more important than the loss of children's labor force.

3. **Foster "girls only" school options and programs to increase girls' enrollment and retention:** Gender discrimination inhibits women's enrollment into mobile and boarding schools. Girls-only boarding schools, particularly in highly conservative areas, may enable girls to go to school where they may have been forbidden otherwise; however, costs of these boarding schools are often prohibitive.[205] In order to allow boarding schools to be a feasible option for girls, these schools

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[205] Note: Indeed, boarding schools may not be the suitable in all instances; however, they provide an suitable option in some circumstances, especially for girls if the community support their attendance. Community support can be gained through

should be low-cost and cater specifically to pastoralists' needs to ensure cultural relevancy as well as prevent marginalization. Importantly, AES should prioritize the recruitment of female teachers. Both PEP administrators and facilitators emphasized the importance of female teachers to the communities, as they can serve as role models for young girls and would likely increase the number of female students. Moreover, female teachers can teach life skills relevant to young girls, which may not be taught otherwise, including sexual and reproductive health and menstruation.

4. Create separate spaces for open-air classes: Having class at a cattle camp may be distracting especially if other community members are actively engaging in cattle camp responsibilities. Community members noted this as a distraction and recommended creating a space specifically for classes, with physical barriers. Barriers can be created simply with locally available materials, such as sticks or leaves.

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awareness raising campaigns as well as community-involvement in the boarding school and its curriculum. UNESCO. *Reaching the marginalized Educational Marginalisation in Northern Kenya,* Sara Jerop Ruto, Zipporah Nyamauncho Ongwenyi and John Kabutha Mugo, Background paper prepared for the Education for All Global Monitoring Report 2010, 2009. http://unesdoc.unesco.org/images/0018/001866/186617e.pdf.

TEACHER TRAINING, ATTRITION AND RETENTION

<u>Conclusions</u>

All teachers reported receiving trainings, but did not receive follow-up trainings; administrators also reported the same issues with teachers' trainings. Overall, the major reason for high rates of teacher attrition are the low salaries and delayed payments, as determined through interviews. One teacher interviewee was not paid for a year. Additionally, the living conditions of teachers are poor and removed from their families. Teachers suggest improving communication opportunities so they can speak with their families more often.

Teachers and administrators report a diverse number of education materials available; however, they report that they do not have enough of the items. Teachers, administrators and ethnographic observations by researchers confirmed that teachers, at times, purchase educational materials with their own salaries.

Two teachers did not work with female teachers (one did not specify) and administrators reported difficulty in recruiting female teachers. Administrators noted that it is culturally unacceptable to have a female teacher migrating with pastoralists.

Administrators and teachers report that teachers remain with communities because they feel a duty to improving the education quality within the community (as they are often from the same community).

Outside of money-generating activities, 70% or more of respondents believe they can combine their responsibilities with education. Over 90% of respondents would consider going to school if the arrangements were made.

<u>Recommendations</u>

1. MoEST should spearhead the development of curriculums and adapt materials to make schools more attractive and add value into pastoralists' lives: Materials should also be relevant to pastoralist children, especially children with special needs as they are often further marginalized, and adapted to teachers' needs in order to help them deliver education in the pastoral context. This can include examples and lessons using pastoralist-relevant examples in the local language as well as lessons on animal husbandry, animal healthcare and sustainable farming. The curriculum should be developed for all levels of education.[206]

2. Identify local and global actors to increase funding and improve the quality of education: The success of pastoralist education programs is usually the result of several actors' efforts, especially when the government does not provide much funding. The involvement of religious institutions, local and international organizations as well as NGOs in the design, implementation, monitoring and management of school programs is often critical for its success.[207]

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[206] Note: See Annex 6.1 for further information from the desk review.
[207] Note: See the list of organizations involved in pastoral communities in South Sudan the Mango Tree. *South Sudan Literacy Instructional Materials Literature Review for the Room to Learn Project p 31.*

3. MoEST and partner organizations should seek to provide teachers and facilitators with the same conditions as conventional teachers and give specific trainings: Provision of a quality education is undermined by teachers' low education levels, lack of trainings, and poor teaching living conditions. In order to foster teachers' retention as well as their instruction skills, teachers in pastoralist education programs should have the same status, rights, scale of remuneration and professional development opportunities as teachers in conventional schools.[208] Although MoEST has developed hardship allowances for teachers, retention rates remain low with interviewees reporting low payment as the main reason for attrition. MoEST, in partnership with other organizations, should seek to increase the hardship allowances and advertise these increases to incentivize teachers. Additionally, specific trainings adapted to the pastoralist context should be given. Radio broadcasts combined with tutorials and materials can be a suitable option to train remote teachers. Trainings should be designed to address the specific needs of the teachers – Room to Learn in partnership with AES should develop trainings that address these needs as well as provide guidance on how teachers can enable students to transition into mainstream primary and secondary schools. These pre-service trainings would be administered through AES, either through direct trainings or via radio/DAPs, and followed-up in quarterly periods.

4. Increased administrative oversights and monitoring of teachers and students: Due to the migratory patterns and lack of physical facilities, PEP facilitators are often left with little oversight and monitoring. The cell-system advised by the Feinstein International Center offers a method for improving teachers' abilities to monitor students.[209]

5. The Gender and Social Inclusion Directorates and AES should investigate methods to increase female teachers: Although some administrators reported a high number of girls in school, the majority of qualitative and quantitative findings suggest that girls do not receive the same access to education as boys. By increasing the proportion of female teachers, the number of female students is likely to increase because communities and parents may be more willing to allow girls to attend. Awareness campaigns on the benefits of female teachers may mitigate criticism based on customary norms against female teachers. AES and partners can target recruitment to girls attending secondary schools and enroll these students in pre-service teacher trainings. The pre-service teacher trainings are paid for by the government, and in return, the students commit to teaching in their community.

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[208] International Institute for Environment and Development. *Mobile Pastoralists and Education: Strategic Options*, Saverio Krätli and aroline Dyer, Working Paper 1, October 2009. http://pubs.iied.org/pdfs/10021IIED.pdf.
[209] Note: See Desk Review.

Conclusions

Some of the children interviewed attend school, with a higher proportion of boys than girls. In the quantitative findings, 20% of respondents go to school with all being between the ages of 10 and 25 years.

Outside of schools, quantitative and qualitative findings show that girls usually clean the household, do laundry, cook, cultivate fields, fetch water, care for children, perform small chores around livestock, dance and play volley ball, among other activities. Boys usually tend cattle or other livestock, repair buildings and fences, fish, cultivate fields, play football and watch movies. The most frequently listed reason for missing school is due to cattle camp responsibilities.

50% of respondents provide for their families financially with 41% doing so through livestock herding. Women usually provide through farming. Regardless of gender, most spend half the day in these activities. 67% of respondents have household responsibilities, with women usually cooking and cleaning and men tending small livestock. Regardless of gender, 35% spend half the day in these activities. 74% of respondents have garden or field responsibilities, in which men and women sow, dig, or plant. 46% spend half the day in these tasks. 81% of respondents have cattle camp responsibilities, with women performing small chores around the camp and men herding. 25% spend their morning, afternoons, or evenings in these tasks.

Outside of money-generating activities, 70% or more of respondents believe they can combine their responsibilities with education. Over 90% of respondents would consider going to school if the arrangements were made.

Recommendations

1. MoEST and the GESS should investigate more methods and improve upon current methods that give pastoralist communities incentives to attend school: Education is not always prioritized by parents and communities. Feeding programs, cash transfer for girls as well as boys, capitation grants, and other in-kind or monetary assistance may offer incentives to communities for allowing their children to attend school. These incentives may balance the lost labor or cost of a child missing livelihood and household responsibilities. Notably, PEP schools should not be subject to the same conditions as mainstreamed schools for receiving cash transfers and capitation grants. GESS and Room to Learn should develop guidelines that determine the conditions by which PEP schools receive capitation grants and cash transfers that specifically account for the unique circumstances of these schools.

6. Annex

6.1. Conclusion and Recommendations Based on Desk Review

INDICATORS	CONCLUSION	RECOMMENDATIONS
MOBILE SCHOOLS	Strengths: • They are compatible with the pastoralist way of life; • They allow the enrollment of many children in remote areas. Weaknesses: • Their sustainability is challenging; • They are easily affected by external factors such as climate conditions and migrations of learners; • They depend on community or external support; • The absence of monitoring and teachers' incentives inhibits qualitative education.	• Improve the quality and quantity of learning and teaching materials, the equipment such as chalkboards and tents; • Give teachers the same benefits (including financial) as conventional teachers and provide transport (e.g. bicycles); • Train teachers on pastoralist production systems and the pastoral way of life; • Promote education awareness; • Tailor curriculums to pastoralist communities' needs; • Establish local governance structures (PTA/SMC equivalent) to strengthen and maintain mobile schools; • Involve pastoralist communities, local authorities, NGOs and religious bodies if appropriate in the education programs; • Seek additional funds to support these measures.

BOARDING SCHOOLS	Strengths: • The immersion system guarantees a better quality education; • Schools are in better condition when they are sedentary. Weaknesses: • They cannot enroll many children as this implies the loss of child labor; • Girls are left behind unless there are girls only options; • They are often too far from remote pastoralist communities; • They may be attacked in war torn areas; • They are costly to sustain.	• Create girls-only boarding schools that are low cost and culturally relevant; • Develop incentives to compensate for the loss of child labor (e.g. free meals for teachers); • Improve the quality and quantity of learning and teaching materials; • Tailor curriculums to pastoralist communities' needs; • Involve pastoralist communities, local authorities, NGOs and religious bodies, if appropriate, in the education programs; • Promote education awareness; • Provide and/or strengthen local transport for remote children; • Foster the development of local services around boarding schools; • Seek additional funds to support these measures.
OPEN AND DISTANCE LEARNING	Strengths: • They enable the enrollment of children where education facilities or programs are inexistent; • They can reach remote and specific communities thus targeting the specific needs of marginalized communities; • They can target teachers and facilitators to improve their skills and methods. Weaknesses: • They rely on self-learning; • The absence of face-to face learning or supervision tends to limit the results of ODL.	• Increase the frequency of broadcasts and reach of radio programs; • Create programs in both local, national and international languages; • Provide learners with radios and written materials if needed; • Combine Open and Distance Learning with other methods, including regular face-to-face sessions (e.g.in other school facilities); • Promote education awareness; • Tailor curriculums to pastoralist communities' needs; • Seek additional funds to support these measures.

TEACHERS' AND STUDENTS' MATERIALS	Strengths: • Teacher handbooks and student workbooks provide support to learn and to teach; • Radios are particularly appropriate in the pastoral context as they do not rely on learning facilities. Weaknesses: • Conventional materials are not adapted to the needs of pastoralist communities; • Relevant materials are scarce; • Material delivery is an issue when communities are mobile and scattered. • Poor quality of radio transmissions and dependence on a power source for the radio.	• Adapt material content to pastoralist communities with stories, drawings and exercises relevant to their lives while ensuring that they are suitable for multigrade classes; • Adapt and develop materials to ensure that children with special needs are able to learn and engage in the classroom; • Include both conventional and pastoralist subjects in curriculums; • Simplify material content and presentation; • Include both English and national language; • Make materials more robust, easy to deliver, easy to carry, and foster the development of solar power energy; • Accommodate the academic diversity in learning materials. • Scope and sequence guidelines for textbook and education material developers should be developed by AES in coordination with Room to Learn. These guidelines should detail the specific educational needs of pastoralists highlighting the importance of relevant illustrations and examples. These guidance notes should also specify the importance of national languages.

6.2 Quantitative Questionnaire

S	1	**My name is _____ and I am conducting a survey on behalf of Room to Learn and the Ministry of Education, Science and Technology in Juba. We are asking people in this community about the need for primary education and how this can work best for migratory cattle-keeping communities. You could greatly help us to understand the needs of this community. We will not discuss your responses with anyone and your name will not appear in connection to the information you give us. The information you give us will be used to improve educational services in the area. The interview will last approximately 20-30 minutes. Are you willing to participate?**

Single Response

Yes

No

General demographics Instruction   **"ALL SCREENED IN" = "IF S1=1"**

Q	1	**I would like to start by asking your age. How old are you?**

Numeric [limit 10-99]

Q	2	**[note the respondent's gender. Do not ask]**

Single Response

Male

Female

Q	3	**What is your occupation?**

Multiple Response

Subsistence farming (agriculture)

Housekeeper

Animal husbandry (cattle, sheep, goats, chickens, etc.)

Primary school student

Secondary school student

College/university student

Self-employed (entrepreneur)

Employed (wage labour)

Other

Don't know

Refuse to respond

Q	3a	**Please specify.**

Open/qualitative response

Q		4	**What languages do you speak?**

Multiple Response

Arabic

English

Dinka

Toposa

Jurchol (Luo)

Didinga

Boya

Other

Don't know

Refuse to respond

Q		4a	**Please specify.**

Open/qualitative response

Education (formal, informal, alternative)

Q		5	**Have you received any education?**

Single Response

Yes

No

Don't know

Refuse to respond

Q		6	**Where did you receive this education**

Multiple Response

In a public school (formal education) in South Sudan

In a private school (formal education) in South Sudan

In a cattle camp (PEP)

In the community (other alternative educationlike ALP, BALP,etc.)

In a refugee/IDP camp

Outside of South Sudan

Other

Don't know

Refuse to respond

Q		6a	**Please specify.**

Open/qualitative response

Q   **7**   **Who was providing this education?**

Single Response

Government

Private

Local NGO or CBO

International NGO or aid agency

Other

Don't know

Refuse to respond

Q   **7a**   **Please specify.**

Open/qualitative response

Q   **8**   **What is the highest level of education you have completed so far?**

Single Response

P1

P2

P3

P4

P5

P6

P7

P8

S1

S2

S3

S4

S5

S6

College/University

Other

Refuse to respond

Q   **8a**   **Please specify.**

Open/qualitative response

Q   **9**   **Are you presently in school?**

Single Response

Yes

No

Don't know

Refuse to respond

Q	10	**Would you like to be able to go to school?**

Single Response

Yes

No

Don't know

Refuse to respond

Q	11	**Why did you have to stop your schooling?**

Multiple Response

Work

Family problems

Marriage

Lack of school fees

Migration (voluntary)

Displacement (forced)

Conflict

Other

Don't know

Refuse to respond

Q	11a	**Please specify.**

Open/qualitative response

Q	12	**In the past month,were you ever absent from school because of childcare responsibilities?**

Single Response

Yes

No

Don't know

Refuse to respond

Q	13	**How many days were you absent from school because of childcare responsibilities?**

Numeric

Q	14	**In the past month,were you ever absent from school because of domestic chores (housekeeping: activities inside the house)?**

Single Response

Yes

No

Don't know

Refuse to respond

Q	15	**How many days were you absent from school because of domestic chores (housekeeping)?**

Numeric

Q 16 **In the past month,were you ever absent from school because of responsibilities in the fields or at the cattle camp (activities outside the house)?**
Single Response

Yes

No

Don't know

Refuse to respond

Q 17 **How many days were you absent from school because of responsibilities in the fields or at the cattle camp?**
Numeric

Q 18 **In the past month,were you ever absent from school because of transport issues or the distance to walk to school?**
Single Response

Yes

No

Don't know

Refuse to respond

Q 19 **How many days were you absent from school because of transport issues or the distance to walk to school?**
Numeric

Q 20 **Can you read and write?**
Single Response

Not at all

Can read only

Can read and write a bit

Can read and write well

Don't know

Refuse to respond

Q 21 **How easy is it for you to access education?**
Single Response

Very difficult to access education

A bit difficult to access education

A bit easy to access education

Very easy to access education

Don't know

Refuse to respond

Q 22 **Do you think boys and girls have equal access to education in this area?**
Single Response

Yes, equal access

No, boys have more access than girls

No, girls have more access than boys

Don't know

Refuse to respond

Q	23	**Do you think boys and girls <u>should</u> have equal access to education in this area?**

Single Response

Yes, they should have equal access.

No, boys should have more access than girls

No, girls should have more access than boys

Don't know

Refuse to respond

Q	23a	**Please explain why**

Open/qualitative response

Q	24	**Do you think children and adults have equal access to education in this area?**

Single Response

Yes, equal access

No, children have more access than adults

No, adults have more access than children

Don't know

Refuse to respond

Q	25	**Do you think children and adults <u>should</u> have equal access to education in this area?**

Single Response

Yes, they should have equal access.

No, children should have more access than adults

No, adults should have more access than children

Don't know

Refuse to respond

Q	25a	**Please explain why**

Open/qualitative response

Responsibilities and Time Use

Q	26	**Now I would like to ask you some questions about how you spend your days. Do you have a responsibility to provide for anyone financially?**

Single Response

Yes

No

Don't know

Refuse to respond

Q   **27**   **What do you do to make money?**
Multiple Response
Beautician / Hair
Blacksmith
Carpentry
Construction site laborer
Crafts
Dobbi
Electrician
Farming (larger scale than gardening)
Fishing
Food preparation/processing
Gardening
Generator repair
Government (beside teaching and police)
House or shop cleaning
Livestock herding/selling
Livestock feed and other inputs
Masonry
Mechanic - Auto
Mechanic - Bicycle
Mechanic - Boda
Making/selling tea
Office worker
Police
Porter (carrying loads)
Restaurant/Bar
Shop Owner/Retailer/Trader
Teaching
Transportation (Bodaboda, bus)
Vegetable/Food Seller
Welding
Other
No income/Does not work
Don't know
Refuse to respond

Q   **27a**   **Please specify.**
Open/qualitative response

Q   **28**   **How much of your time do you spend on making money every day?**

Single Response

A few hours

A morning OR afternoon OR evening

Half a day

Most of the day

The whole day

Don't know

Refuse to respond

Q   **29**   **Do you think it would be possible to combine making money with going to school IF teachers and materials were available nearby?**

Single Response

Yes

Maybe

No

Don't know

Refuse to respond

Q   **30**   **Would you consider going to school if such an arrangement existed?**

Single Response

Yes

Maybe

No

Don't know

Refuse to respond

Q   **31**   **Why are you not working?**

Single Response

No one hires me because of lack of education

No one hires me because of lack of skills

There are no jobs

I do not want to work

Disability

At home/domestic

In school

Other

Don't know

Refuse to respond

Q   **31a**   **Please specify.**

Open/qualitative response

Q   **32**   **What kind of skills do you think will help you to get a job?**

Multiple Response

Beautician / Hair

Blacksmith

Carpentry

Construction site laborer

Crafts

Dobbi

Electrician

Farming (larger scale than gardening)

Fishing

Food preparation/processing

Gardening

Generator repair

Government (beside teaching and police)

House or shop cleaning

Livestock herding/selling

Livestock feed and other inputs

Masonry

Mechanic - Auto

Mechanic - Bicycle

Mechanic - Boda

Making/selling tea

Office worker

Police

Porter (carrying loads)

Restaurant/Bar

Shop Owner/Retailer/Trader

Teaching

Transportation (Bodaboda, bus)

Vegetable/Food Seller

Welding

Other

Don't know

Refuse to respond

Q   **32a**   **Please specify.**

Open/qualitative response

Q   33   **Do you feel that the skills you have learned/are learning in school will help you get a job?**
Single Response

Yes

Maybe

No

Don't know

Refuse to respond

Q   33a   **Please explain why.**

Open/qualitative response

Q   34   **Do you have any responsibilities at home (in or around the house)?**
Single Response

Yes

No

Don't know

Refuse to respond

Q   35   **What are your responsibilities at home (in or around the house)?**
Multiple Response

Cleaning

Cooking

Caring for children

Fetching water

Building or repairing the house

Keeping family/relatives safe

Looking after small livestock (chicken, goats, sheep)

Drying/processing agricultural yields

Hand crafts (weaving baskets, beadwork, etc.)

Helping others in or around the house (small chores)

Other

Don't know

Refuse to respond

Q   35a   **Please specify.**

Open/qualitative response

Q   36   **How much of your time do you spend on your responsibilities at home (in or around the house) every day?**

Single Response

A few hours

A morning OR afternoon OR evening

Half a day

Most of the day

The whole day

Don't know

Refuse to respond

Q   37   **Do you think it would be possible to combine your responsibilities at home with going to school IF teachers and materials were available nearby?**

Single Response

Yes

Maybe

No

Don't know

Refuse to respond

Q   38   **Would you consider going to school if such an arrangement existed?**

Single Response

Yes

Maybe

No

Don't know

Refuse to respond

Q   39   **Do you have any responsibilities in the fields/gardens?**

Single Response

Yes

No

Don't know

Refuse to respond

Q	40	**What are your responsibilities the fields/gardens?**

Multiple Response

Weeding

Clearing

Burning

Ploughing (manually)

Ploughing (ox plough or machinized)

Seeding/planting

Digging

Picking/sowing

Watering

Fertilizing

Protection of crops

Helping others in the fields/gardens (small chores)

Other

Don't know

Refuse to respond

Q	40a	**Please specify.**

Open/qualitative response

Q	41	**How much of your time do you spend on your responsibilities in the fields/gardens every day?**

Single Response

A few hours

A morning OR afternoon OR evening

Half a day

Most of the day

The whole day

Don't know

Refuse to respond

Q	42	**Do you think it would be possible to combine your responsibilities in the fields/gardens with going to school IF teachers and materials were available nearby?**

Single Response

Yes

Maybe

No

Don't know

Refuse to respond

Q   **43**   **Would you consider going to school if such an arrangement existed?**
Single Response

Yes
Maybe
No
Don't know
Refuse to respond

Q   **44**   **Do you have any responsibilities in or around the cattle camp?**
Single Response
Yes
No
Don't know
Refuse to respond

Q   **45**   **What are your responsibilities in or around the cattle camp?**
Multiple Response
Feeding cattle
Milking cattle
Herding cattle
Protecting cattle
Caring for cattle (administering medicine, examining health, etc.)
Maintainance of cattle camp
Helping others who look after the cattle (small chores)
Other
Don't know
Refuse to respond

Q   **45a**   **Please specify.**
Open/qualitative response

Q   **46**   **How much of your time do you spend on your responsibilities in or around the cattle camp every day?**
Single Response
A few hours
A morning OR afternoon OR evening
Half a day
Most of the day
The whole day
Don't know
Refuse to respond

Q   **47**   **Do you think it would be possible to combine your responsibilities in or around the cattle camp with going to school IF teachers and materials were available nearby?**

Single Response

Yes

Maybe

No

Don't know

Refuse to respond

Q   **48**   **Would you consider going to school if such an arrangement existed?**

Single Response

Yes

Maybe

No

Don't know

Refuse to respond

6.3. Terms of Reference

USAID | SOUTH SUDAN   Wi **WINROCK** INTERNATIONAL

Room to Learn South Sudan (RtL) Project

VACANCY ANNOUNCEMENT

CONSULTANT TO ASSESS PROGRESS MADE TOWARDS ATTAINING GOAL AND OUTCOMES OF PASTORALIST EDUCATION PROGRAM

Background
The South Sudan Room to Learn (RtL) project is a five-year, USAID-funded project awarded to a team headed by Winrock International, with FHI 360 as a major partner for the education components of the project. FHI360 is a non-profit human development organization dedicated to improving lives in lasting ways by advancing integrated, locally driven solutions. FHI360 serves more than 60 countries, all 50 U.S. states and all U.S territories.

The Room to Learn project is designed to expand education opportunities that are inclusive and promote social cohesion, which is particularly relevant in the current landscape. The goals of RtL are to: a) improve and expand safer education services, especially to the most disadvantaged populations; b) enhance relevance and promote learner wellbeing; and c) strengthen quality and management at the county and payam level to support basic education.

RtL will work in collaboration with the ministry of education to expand Pastoralist Education Program to benefit more children and youth, improve quality of education and reading outcomes among learners in the Alternative Education System (AES), Pastoralist Education Program (PEP) and in formal lower primary (P1-P3) classes.

Consultant to assess progress made towards attaining the goal and outcomes of PEP in South Sudan

Purpose of the study
The purpose of this study is threefold, namely, the consultant is required to: (i) collect information on range of pastoralist community life styles/ culture, political and social organizations and experience interacting with education; (ii) assess progress made in attaining the goal and outcomes of PEP; and (iii) provide data/information that will generate baseline benchmarks for expanding and enriching PEP. Overall, findings as well as lessons learned and recommendations made will provide evidence for informed decision making by the MOEST and development partners to further improve Pastoralist Education Program. In this regard, findings of this assessment will guide RtL in planning and implementing interventions to:

- Scale up the PEP program activities to benefit more pastoralist children and youth.
- Develop and provide culturally relevant supplementary readers which integrate and strengthen peace building, conflict mitigation, and skills for life with the aim to increase reading outcomes among PEP learners.
- Pilot culturally and life style appropriate innovations to further increase relevancy of the PEP curriculum, improve teacher development and support system in ways that enhance effective curriculum delivery.

Objectives of the study
More specifically, the consultant will conduct a study to assess and provide evidence based information on:

- Range of pastoralist community life styles/ culture, political and social organizations and experience interacting with education – whether through PEP, other AES programs, or formal primary school.
- Progress made in attaining the goal and outcomes of PEP. In this regard, among others, the study will identify and report achievements, success stories and practices that need to be scaled up as well as challenges and gaps that need to be addressed.
- Extent of PEP curriculum relevancy to pastoralist cultural values, beliefs and life style and integration of peace building, conflict mitigation and skills for life.
- Extent of PEP curriculum resource provision; effectiveness of PEP facilitator/teacher preparation and development; the impact of the literacy, peace building, conflict mitigation and skills for life components of the PEP curriculum.

Forcier Consulting

Forcier Consulting is a development research firm that operates in challenging post-conflict environments. Established in 2011 in South Sudan, Forcier Consulting has invested in developing methodologies and approaches to research that are contextually appropriate and feasible, whilst adhering to international standards for social science research and utilizing the latest data collection technology available. Our core services include population and social science research, project evaluations, market assessments for livelihoods and vocational trainings, private sector and market research for feasibility studies, strategic planning and representation, and training and capacity building workshops.

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