

Karamoja Resilience Support Unit

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Education in East Africa's Pastoralist Areas: Why are girls still not going to school?



Introduction

The 2030 Sustainable Development agenda pledges to “leave no one behind” and commits to “reaching the last first.” It posits Sustainable Development Goal (SDG) 4 as a commitment to lifelong learning and to enabling access to quality education for all; and SDG 5 focuses on gender equality. There is substantial evidence that mobile pastoralists have faced extreme marginalization in accessing formal education and that formal education typically inculcates social values that do not easily align with pastoralists’ world views (UNESCO 2010; Dyer 2016). In education, mobile pastoralists form a large segment of the “left behind” population that demands the “transformative” thinking for which Agenda 2030 calls.

Across East Africa, the Covid pandemic, the effects of ongoing conflict, and recurrent droughts are combining to increase poverty in ways that undermine progress made on reshaping gender norms to favor girls’ inclusion (Harper et al. 2020). Unfortunately, since discriminatory gender norms tend to reassert themselves in a crisis (Harper et al. 2020), the Covid pandemic is also likely to result in increased rates of early marriage, teen pregnancy, domestic responsibilities, and gender-based violence (Booth 2022). During Covid,

Uganda had the Eastern and Southern Africa region’s highest number of fully closed school days (451) (UNICEF 2022) and although schools are now reopening, many girls are failing to return to them.

This briefing paper presents learnings from global, and specifically East African, experience to support concerned stakeholders in thinking transformatively about education inclusion in Karamoja. While Karamoja is also home to agriculturalists, this paper focuses specifically on education among those pursuing livelihoods as pastoralists and agro-pastoralists, and particularly on the education of girls in those communities.

Left behind in education?

Globally, across pastoralist areas, school enrollment, retention, and achievements fall below national averages (UNESCO 2010). This trend is exacerbated for girls (Brown et al. 2017). In Uganda, the gains to school enrollment and attendance that followed the Universal Primary Education (UPE) policy at the national level were not seen to the same degree in Karamoja, where school enrollment, retention, and outcomes indicators remain far below national averages (Box 1).

Box 1 Uganda’s Universal Primary Education (UPE) policy and its effects in Karamoja

The objectives of Uganda’s 1997 UPE policy were to:

- Provide the facilities and resources to enable every child to enter and complete primary education;
- Make education equitable in order to eliminate disparities and inequalities;
- Ensure that education is affordable for the majority of Ugandans;
- Reduce poverty by equipping every individual with basic skills.

Primary education was made fee-free, but not compulsory or a legislated right.

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School enrollment and retention in the Karamoja sub-region

The Uganda National Household Survey 2019/2020 recorded a national primary school net enrollment ratio (NER) of 80%. The Karamoja sub-region falls 38 percentage points below this national average: its NER is just 42%.

Karamoja has the highest percentage of Uganda's population with either no schooling or incomplete primary education—79.8% of all females and 64.8% of all males. Primary completion rates are the lowest nationwide.

Gender differences show a slight female bias in initial primary enrollment (average 42.1%, male 41.2%, female 43%) but females in Karamoja go on to have far fewer years of formal education than their male counterparts and an adult literacy rate of just 16.4% compared with the male rate of 36.9%.

Uwezo (2016) recorded that across all categories of student performance and teacher and school quality, the northern regions, including Karamoja, generally scored the lowest. The National Household Survey 2019/2020 recorded that in Karamoja, literacy among persons aged above 10 averaged 30.4% (male 40.3%, female 22.6%) against the national rate of 76.1% (male 80.8% and female 71.85%).

Between 2015 and 2018, the National Assessment of Progress in Education (NAPE) Report identified some positive trends towards achievements of desired proficiency levels in English language literacy and numeracy achievements at Primary 3 and Primary 6 levels in Karamoja.

Sources: NAPE 2018; Crawford and Kasiko 2016; Brown et al. 2017; UBOS 2021; Uwezo 2016.

Broad explanations for pastoralists' being left behind in formal education have tended to focus on their *mobility*, alongside views that pastoralists are *unwilling* to enroll their children or *unaware* of the benefits of schooling (Krätli and Dyer 2009). These explanations have encouraged a policy preoccupation with access, which is overly focused on delivery models and overlooks the “**terms of inclusion**” (Dyer 2013) that pastoralists face when they try to use the formal education system and sustain livelihoods in pastoralism at the same time (Box 2).

Because terms of inclusion can be considered from perspectives of both demand and supply, it is an analytical approach that helps to shift discussion on from the dominant emphasis on “access” as the key policy challenge. It not only brings livelihoods and the contexts of livelihood change into focus,

but also foregrounds, in those contexts, consideration of issues around schooling's relevance and social values, including those associated with gender norms.¹

Transforming unfavorable terms of education inclusion

In livestock production, which is the main source of income and prestige across East Africa's pastoralist communities (Lind et al. 2016; Catley and Ayele 2021), pastoralists' roles are defined by gendered norms. Women bear the double burden of productive and reproductive work, and of fulfilling gendered expectations of “women's work” that include household tasks such as collecting firewood and water, and making and selling handicrafts (Kipuri and Ridgewell 2008). Sending more children to school creates labor shortages in the household that result in women

Box 2 Border crossings? Schooling's terms of inclusion

Schooling's terms of inclusion consist of various formal and informal norms, principles, and decision-making within education systems that create “borders” that prospective pastoralist school-goers must navigate, and successfully cross, in order to attend school, stay there, and achieve. Sources: Dyer 2013 and 2018.

ⁱ An online resource that helps improve understanding of pastoralism is available at <https://www.iied.org/mooc-pastoralism-development-online-learning-journey>.

bearing an increased burden for fodder and manure collection, milking and selling of milk, and grazing small stock (Wangui 2008). Pressures have been exacerbated by climate change, which has tended to force men to go further in search of water and pasture, leaving women behind to manage the household; and by other long-term trends of change, including demographic change, commercialization, land access and governance, as well as conflict and recovery from it (Stites et al. 2016; Stites and Howe 2019; Catley and Ayele 2021; Bushby and Stites 2016). The net outcome, often, is that girls are removed from school to help shoulder the increased burdens of responsibility that these trends of change impose upon women.

Transformative educational thinking involves a close, gender-informed focus on formal education's role as pastoralist livelihoods diversify, and how formal education can better promote resilience and sustainability in contexts of rapid change. Across East Africa, including in the Karamoja region, livestock possession remains a source of wealth and food security, but livestock ownership patterns are changing, livelihood diversification is increasing, and economic divisions are growing (Stites et al. 2016; Catley and Ayele 2021; Bushby and Stites 2016). In the past fifty years growing numbers of Karamojong people have "stepped out" of pastoralism—often as an outcome of losing animals, not from choice (Lind et al. 2016). Diversification into settled agriculture and town-based work may offer alternative income-generating possibilities, but it also reflects the increasing vulnerability of pastoralism (Stites et al. 2016; Stites and Howe 2019; Catley and Ayele 2021).

Since within-household diversification is now widespread in pastoralist regions, schooling needs to engage vigorously with this reality and the diversity of learning needs that it produces. Unfortunately, a characteristic norm of formal schooling is the assumption that schooling should serve as a pathway out of pastoralism (Krätli and Dyer 2009; Dyer 2016; see discussion of pastoralist pathways in Catley et al. 2016). Education service providers have been slow to recognize that schooling should also work for those who "stay in," by helping to improve the resilience and sustainability of pastoralism as a livelihood, instead of only offering an exit strategy, and that gender differences need to be considered. In general, too, school curricula rarely deliver education that connects with learners' lives and their aspiration—both within and outside pastoralism (Dyer 2016). In the Karamoja region, there is strong evidence that the education offered in formal schools is "ill-aligned to the values, culture and lifestyle of the Karamojong, rendering it inconsequential to their lives and livelihoods" (Brown et al. 2017, ii) (Box 3).

Pastoralists' demand for schooling is, nevertheless, growing. But providing an accessible, meaningful, and gender-equitable education for all children and youths, which is aligned to the needs and expectations of the community, is challenging (Brown et al. 2017; Bushby and Stites 2016). It requires an intersectoral approach (Box 4).

What is being learned? Challenges of relevance and quality

Formal education at the primary level should play an important role in helping pastoralist and agro-pastoralist

Box 3 Imprisoned in school in Karamoja

"Young [pastoralist] children experience learning apathy as they crowd in congested classrooms. Lack of teachers compounds the challenges of learning as the pastoralist children simply hang around Standard One classes to wait for meals.... It is as if schools lock children in prison and time out of school is time to catch up with natural learning that is interesting, creative, and meaningful." Source: Ng'asike 2014, 47–48.

Box 4 A holistic perspective on education system development is needed

"A piecemeal approach to resolving the development challenges of Karamoja's nomadic pastoralist community cannot work. The solution to the education problems Karamoja faces must therefore be located in the context of the more global Karamoja Syndrome perspective: to improve the education system, corresponding improvements in health, livelihoods, poverty reduction, peace and security, economic empowerment and social protection must equally be improved for Karamojong communities to benefit from the services a better education system can provide." Source: Brown et al. 2017, 4.

boys and girls to acquire the basic literacy and numeracy skills that are foundational to learning, and help with livelihood development, both in and outside pastoralism. Across the East African regions where pastoralism is the dominant livelihood, it is common for primary schools to provide poor learning environments and for children to struggle to acquire basic skills (UNESCO 2010). A low return to household investment in schooling is a disincentive, particularly in poorer households and for girls. It creates a disconnect between pastoralists' growing recognition of the importance of basic formal education for boys and girls and the capabilities of the system to ensure adequate quality provision for them (Dyer 2016).

Although basic skills are intrinsically important, poor rates of retention and achievement in primary-level education also compromise transition to higher educational levels. Staying in school, and remaining on the education pathway, is more likely to be compromised for girls than for boys because girls are often removed from school to help at home when drought or another crisis hits (such as death of a household head or loss of livestock) (Booth 2022). This is a strategic coping strategy, which is also seen in the low re-enrollment of girls now that schools have opened again, in the recovery from the Covid pandemic (UNICEF 2022).

Secondary schooling plays a well-recognized instrumental role as a strategy to support livelihood diversification, forming a pathway into work that boosts a household's income and, in turn, should ensure security for parents in their old age (Bushby and Stites 2016). However, the primary-to-secondary schooling transition is difficult for children in East African pastoralist settings since, across the region, lower and higher secondary school provision is mostly in towns. Boarding fees are thus a common term of inclusion in secondary provision for families who do not live near secondary schools.

As pastoralist households diversify, there are various "push and a pull" factors that influence the choice to live in towns (Bushby and Stites 2016). In urbanized settings, adolescent girls have better access to health and family planning services, and to secondary schooling and higher levels, than in pastoralist areas (Chetail et al. 2015). They can also engage in more diversified income-generating activities and aspire to careers that require higher education. In Karamoja, Stites (2020) reports that although education was not an explicit urban pull factor, pastoralists appreciated the better-quality schooling and availability of secondary provision in towns. However, the expected jobs do not necessarily materialize, and low levels of education attainment can trap young pastoralist men and women in low-

wage jobs with limited prospects (Bushby and Stites 2016).

For all its intrinsic and instrumental benefits, **schooling is a "contested resource"** (Levinson et al. 1996). Urban living and schooling combine to change aspirations and cultural values, leading to differences that are often unfavorably viewed by those who rely on the knowledge, skills, and values that nurture successful pastoralism. Parental fear of schooling as a culturally alienating process is reported in Kenya (Scott-Villiers et al. 2015), Tanzania (Pesambili 2020; Bishop 2007; Bonini 2006), Uganda (Krätli 2001), and elsewhere (Dyer 2014). A common term of inclusion is that children who leave school rarely return to pastoralism and may adopt negative attitudes towards it. In Tanzania, for example, Maasai pastoralist parents associate schooling with their children **"going astray"** (Pesambili 2020; see also Bishop 2007; Bonini 2006; Scott-Villiers et al. 2010).

Girls additionally face social norms that articulate concerns about going astray in terms of respect: that is, that schooling encourages girls to adopt styles of dress, food habits, speaking, and choosing marital partners that older pastoralists see as detrimental to their cultural values. "Respectable identities" (Levinson et al. 1996) in the schooled cohort lean towards urbanized styles. Parents may also resist sending girls to school because to do so may compromise early marriage and receipt of bride price (Ng'asike 2014; Johannes 2010): "When a father looks at a daughter he thinks 'cows'; as soon as she is married, she will bring cows and wealth into the family" (respondent view in Karamoja; see Crawford and Kasiko 2016, 2). In Karamoja, the strategy of introducing food rations tied to attendance to prevent early withdrawal for marriage has reportedly been unsuccessful (Kipuri and Ridgewell 2008). In some pastoralist communities across East Africa, female genital mutilation (FGM) is still seen as a rite of passage from girlhood to womanhood (Kipuri and Ridgewell 2008; Crawford and Kasiko 2016). While FGM is not widespread in the Karamoja region, it nevertheless has divisive effects: those girls who undergo the procedure rarely return to school, while for those who do not and stay at school, opportunities to get married may be reduced. For girls who do return to school, FGM leaves lasting physical and psychological impacts.

Intergenerational tensions arise because the schooling that is associated with promoting "loose morals" for girls is encouraging a justifiable questioning of what are often gerontocratic and patriarchal social norms (Crawford and Kasiko 2016). These norms situate women as male property, subject to male decision-making about their lives, bodies, and well-being (Pesambili 2020).

Rekindling the curriculum: including cultural pathways in formal education

The Western orientation of the school curriculum in East Africa's post-colonial contexts largely fails to make use of indigenous knowledge or to incorporate pastoralists' cultural pathways for development (Weisner 2002). Children learn the skills of pastoralism and social values of their community, which are pathways to becoming resilient adults, through "situated learning" (Lave and Wenger 1991). Usually, though, indigenous knowledge and situated learning approaches are a form of cultural capital that formal education fails to validate or draw upon. Ng'asike's (2014) comment in this regard about Kenya (Box 5) has wider implications.

Although schooling's tendency to undermine pastoralists' cultural capital is a common term of inclusion that pastoralists have to negotiate, it does not need to be this way. A study in Kenya's Turkana region (Ng'asike 2014) finds overlaps between situated learning and expectations of the formal curriculum. It argues that, at least in the early years, a creatively designed "African curriculum" that refines the skills of children as they participate in household chores could be "generative." This transformative approach could disrupt the abrupt separation of indigenous and Western (academic) knowledge and learning approaches that contribute to cultural dissonance. In keeping with the growing impetus to "decolonize" formal education, the study concludes, "Rekindling curriculum is an example of a cross-cultural pedagogy that creates bridges to facilitate smooth border crossing between Western culture and indigenous cultural perspective" (Ng'asike 2014, 57). It can also incorporate questioning of unfavorable gender norms. Integrating these differing forms of knowledge, with a gendered perspective, is a transformative step towards achieving complementarity between indigenous and formal education. It also responds to calls for a culturally equitable approach to ensuring the universal right to education (UN 2022).

Making formal education accessible: models of provision

This section summarizes global evidence around models of provision that attempt to make formal education accessible to pastoralists, with a critical commentary.

Fixed-place day schools

Pastoralists' difficulties in using fixed-place day schools are very well evidenced (Krätli and Dyer 2009; UNESCO 2010 and 2020; Dyer 2016; Bengtsson and Dyer 2017). In formal, place-based provision, the requisite flexibility to accommodate mobility across the year and during the school day is typically absent. There are also well-rehearsed issues with schooling quality in pastoralist regions (UNESCO 2010 and 2020): available evidence attests to routinely poor material facilities; too few, often underqualified teachers; and low learning outcome scores, particularly for girls. Policy norms that are appropriately adjusted to cover the higher costs of provision in "remote" areas are rarely in place (Dyer 2016; UNESCO 2010). Schooling networks are usually too thin to ensure accessible, continuous provision, which is a contributing factor to low rates of retention and transition to higher levels. Policy discourses around "quality" have paid less attention to "uncountable" concerns of curricular relevance and language. In pastoralist regions it is common to find that teachers and children do not share a common language. In Uganda, the "early exit" language policy that encourages English from Primary 4 leads to further pedagogical challenges in under-resourced school settings (Westbrook et al. 2022).

For girls, the water, sanitation, and hygiene (WASH) facilities that are important enablers of regular attendance after onset of puberty are rarely in place or adequate. Safe access to school is also conditioned by the distance to school and by security in contexts where armed raids are frequent. Walking a long distance to reach school, especially while hungry, undermines learning (Johannes 2010): in East Africa, girls and boys in poorer pastoralist families are disproportionately affected by contractions in the nutritional support programs.

Box 5 Cultural pathways and situated learning

There is "continuing failure to ground early childhood programs and services in local cultural conceptions, developmental values, childrearing practices, and the practical day-to-day realities of children's learning through participation and apprenticeship in the contexts of family routines, community experiences, and economic survival activities." Source: Ng'asike 2014, 43.

Overall, poor returns to the household's investment undermine the aspirations that families have for the children they send to school, and gendered norms mean that investment in girls is subject to a more critical scrutiny and greater vulnerability to being withdrawn.

Accessing such schools often requires pastoralist households to split or relocate to urban areas where more schools are located. This term of inclusion imposes an **opportunity cost** because the change in labor distribution/availability required for school inclusion can negatively affect the viability of livestock holdings, although there are differences across wealth groups (Stites 2020). Splitting can increase the burden of domestic responsibilities for women, and poorer households are more likely to adopt the coping strategy of withdrawing girls from school to help out.

Given the often-substantial distances between areas where fodder and water are available and the places where schools are located, **hostels** may help enable access. These often display low-resource issues noted below in connection with boarding schools (Dyer 2018). **Sending a child to stay** with a relative/clan member living in proximity to a school is another widely found strategy (Krätli and Dyer 2009). This option may be preferable for girls in particular, but this strategy has knock-on effects of creating potentially onerous personal and financial obligations (see also Stites 2020).

Boarding schools

Boarding schools, which enable pastoralist children to stay in one place and attend school, have been established in a wide range of pastoralist contexts including Mongolia, Kenya, Nigeria, and Oman. It is common for secondary schools in East Africa's arid districts to be full boarding schools (Johannes 2010). Experience shows that considerable financial and human resources need to be invested to ensure such facilities provide a healthy and safe residential environment. There is ample evidence of very poor-quality facilities: lack of tables, chairs, and leisure spaces; and the absence of potable water and toilets that has disproportionately negative impacts on girls' retention (Dyer 2018). The age of initial school enrollment may be seen by pastoralist communities as too young to inspire confidence about leaving children in the care of unknown others. The sexual exploitation that older girls away from home often face is common across pastoralist regions in East Africa (Kipuri and Ridgewell 2008), although it is rarely reported to authorities. It also carries the risk of unwanted pregnancy and/or HIV infection (Johannes 2010). Governments often do not act adequately to develop and implement measures that ensure protection, prevent intimidation and male

predatory behaviors, or that ensure that vulnerable young women can resume studies after interruption.

In addition to substantial state resourcing inputs to ensure quality infrastructure, capital, and running costs, including staffing, involving pastoralist communities in the management and day-to-day running of residential facilities is critical to good performance (Dyer 2016). Cost-sharing is a favored policy but can play out inequitably, as structural adjustment in Kenya has shown. It was used there to justify state exit from boarding school provision, which left such schools in a very poor material condition (Johannes 2010). Enforced enrollment of pastoralist children into residential boarding programs is to be avoided.

Alternative Basic Education (ABE)

Alternative Basic Education (ABE) expanded considerably during the Education For All (EFA) movement (1990–2015) as a response to the global EFA pledge to meet all learners' needs (Dyer 2014). ABE usually only covers the lower primary level (first four years of schooling) although, often, it attracts learners across a wide age span. "Alternative" provision has potential to extend access by offering a simpler infrastructure, lower staff qualification requirements, flexibility to adjust the school day to learners' daily routines, and curricular innovation to improve the fit between context and content. This potential is undermined where ABE becomes a variant of mainstream provision, but with lower quality, and less regulation and support than formal schools. In Ethiopia, the well-intentioned focus on establishing standards for ABE to provide equivalence with formal provision has undermined ABE's flexibility (Onwu and Agu 2010; Dyer 2018). Karamoja's Alternative Basic Education for Karamoja (ABEK) has fared similarly (Brown et al. 2017; Krätli 2009), underlining a divergence between practices on the ground and national policy (Box 6).

Often, ABE provision offers an "accelerated" curriculum that mirrors the national curriculum but can be completed in less time. This "catch-up" approach tends to assume that a learner will transition into mainstream provision after the equivalent of Primary 4, although this logic depends on the availability of such provision, which cannot be taken for granted. Poor opportunities for transition to higher level, as well as quality concerns, are disincentives to pastoralists' investing in ABE (Dyer 2018); this is an evidenced barrier in Karamoja (Brown et al. 2017).

Networked schooling

This innovative model has been trialled in Ethiopia's Somali

Box 6 Non-formal education policy in Uganda

Uganda's Education Act 2008 stipulates "a non-formal education means a complementary flexible package of learning designed in consultation with the indigenous community to suit the demands and lifestyles of the community and to enrich the indigenous knowledge, values and skills with particular emphasis to literacy, numeracy and writing skills."

Source: MoESTS 2008, 7.

region (Dyer and Echessa 2019). A networked schooling approach mitigates against the common trend of initial enrollment being followed by drop-out once migration begins and "home" provision becomes unavailable. It is embedded in the pastoralist migratory cycle: learners are equipped with cards that enable them to enroll in different schools (including ABE centers) along their route. Schools along the route are alerted and temporary shelters made where there is no provision; teachers in home schools from which learners are absent for parts of the year may be expected to work elsewhere in the network. Learners re-enroll when they return home, showing their card as evidence of learning continuity and progression, which is intended to avoid the common problem of repetition and failure to re-enroll.

This is a potentially systemic, gender-equitable model of inclusion. But it is resource intensive, and faces many operating challenges to ensure families, teachers, and officials can co-create an effective, flexible system. Temporary "host" schools are often already operating at high levels of fragility. Focused attention is needed to ensure that teachers have appropriate capacities to include and support individual learners who are only temporarily enrolled. Regional government capacities to support this model need to be developed.

Mobile provision

Moving schools to learners continues to have significant policy appeal since it apparently "solves" the mobility-induced access barrier. Despite apparent experimentation, the evidence base around the actual functioning of mobile schools—how they are constituted and what learners achieve—is very weak (Pact Ethiopia 2008; Dyer 2014; Bengtsson and Dyer 2017). Typically a teacher travels with a group, with a slim infrastructure of learning-teaching materials and a shelter. But an immediate issue is that, since pastoralists respond flexibly to variable conditions, the initial group of learners is not constant, but may splinter in ways that leave some without a teacher (Krätli and Dyer 2009). Small-scale projects in Namibia and Uganda have shown that mobile schools struggle to accommodate this reality and are highly resource intensive (Hailombe 2011;

Krätli 2001; Pact Ethiopia 2008). Notable operational challenges are the extreme difficulties of recruiting and retaining teachers willing to work in such circumstances; providing learning-teaching materials that are sufficiently durable; making consistent arrangements for the transport of materials and the tent classrooms that protect learners from dust and heat; and ensuring the daily and sustained presence of all learners. There is very little evidence that this model can successfully transition to any kind of scale when it moves from the typical trajectory of a pilot program supported by civil society organizations to state management and partnership (Bengtsson and Dyer 2017; Pact Ethiopia 2008).

In Ethiopia and Sudan, some **mobile Q'ranic schools** serving Muslim pastoralists have wrapped religious instruction around secular teaching. In general mobile Q'ranic schools, teachers are literate in Arabic but not necessarily the local language; they tend to encourage the rote learning approach adopted for learning the Q'ran that is unsuited to learner-focused secular education. While girls now do attend, the focus tends to be on boys' learning (Pact Ethiopia 2008).

Staffing and monitoring challenges in face-to-face delivery approaches

Across all of these delivery models, staffing and monitoring present consistent challenges. Recruiting and retaining teachers for face-to-face teaching in pastoralist regions is persistently difficult. It is rare to find qualified teachers from pastoralist groups. Those teachers who are from pastoralist backgrounds have been educated in school-based systems that have separated them from a sound, experiential education in, and understanding of, pastoralist production (Krätli and Dyer 2009).

Teacher education rarely ensures adequate preparation for a post in pastoralist regions. It is still not the norm to insist, as Nigeria has done (McCaffery et al. 2006), that teachers working in pastoralist areas must demonstrate knowledge of, or be trained in, pastoralist lifestyles (NCNE 2006, cited in Krätli and Dyer 2009); or that gender awareness is mainstreamed in teacher education. Rates of teacher

attrition tend to be very high, which contributes to understaffing and associated challenges around quality, and undermines investments made in staff development. Incentivizing posts in “difficult” regions frames the challenge in terms of a “rural deficit” and tends to result in temporary solutions, often relying on young, inexperienced teachers serving briefly before escaping to a “better” posting.

ABE facilitators are generally disadvantaged compared with formal teachers in terms of professional standing, remuneration, opportunities for professional development, and rights as teachers. In such settings, it is very rare to find female teachers, since they face barriers associated with reaching school in areas where transport/road links are very poor and secure accommodation is usually unavailable. Authorities charged with monitoring schools to ensure quality also often find it highly challenging to visit rural schools sufficiently often in the course of the year to offer meaningful support (Pact Ethiopia 2008).

The financial costs of education at household level

While actual “opportunity costs” of formal education among pastoralists are usually poorly evidenced, there is a comprehensive 2017 report on education financing in Karamoja (Brown et al. 2017). This report shows that each level of education, including ABE, entails a cost for households, and that costs increase as a child progresses through the education system. The household burden is proportionately highest for poorer families. Schooling’s “hidden” costs for girls may include: the removal of her labor contribution at home if she goes to school; expenses for sanitary products, extra clothing, notepads, and pens; and in some cases, delayed payment of bride price. Where overt and hidden costs limit household abilities to send any or all children to school, gendered preferences tend to favor enrollment of boys rather than girls, and/or earlier withdrawal of girls, which compromises their progression to higher levels of schooling.

Open and distance learning (ODL), e- and digital learning

Despite advocacy for open and distance learning (ODL), for example with strong state support in Kenya in 2010 (Siele et al. 2011), its potential as a systemic solution for pastoralists’ formal education has been underexploited. Early reliance on radio raised questions about the timing of programs and lack of interactive possibilities. Rather than emerging as a full, parallel system, ODL has widely been used to provide additional inputs in under-resourced formal settings.

E-technologies offer sophisticated digital affordances that have strong potential for educational use. The increasing

adoption of **mobile phones** among pastoralists suggest this avenue is a promising one, but with limitations, not least because mobile phone ownership is not universal. The practicalities of phone charging and the need for robust instruments capable of withstanding tough physical conditions mean that smartphones, which have excellent educative capabilities, may not be preferred. Further, as the Covid experience of phone-based education provision has shown, phone ownership and usage are socially embedded in ways that often prioritize males. There is some evidence of **tablets** being used, for example among the Samburu in Kenya, to support learning in classroom contexts (Petri 2018). This approach has been facilitated by ensuring broadband capability is considerably improved. Partnerships that link private providers, development partners, and state agencies, in a favorable policy environment, have been key to successful financial and technical resourcing of such initiatives (UNICEF 2022).

Pandemic experience across the East Africa region showed that school systems tended to rely on television, radio, and take-home packages during closures. Some countries offered remote learning through online platforms, but online digital learning platforms were the least-used delivery modality. UNICEF (2022) identified low levels of electrification, connectivity, and devices as “significant barriers” and noted that “the availability of digital infrastructure does not translate to uptake” (UNICEF 2022, 7). Furthermore, digital provision mainly targeted secondary school students. Among the (few) countries in the region that offered learning via mobile phones, more than half only offered this method to upper secondary school students, and less than a fifth extended this offer to primary school students (UNICEF 2022). In (the usual) circumstances where a household shares one phone, gendered norms are likely to encourage prioritization of boys’ education.

In pre-pandemic experience, innovative e-provision outside school settings focused on adolescents. The pandemic focused on the same age group. Since younger children are not such independent learners, this experience highlights the importance of ensuring high-quality support within digital learning.

Towards a transformative approach

Overall, it is widely recognized that the Covid pandemic has eroded education inclusion, particularly where gains had been fragile, and that many girls are unlikely to return to school at all (UN 2021). During the pandemic, education systems pivoted to e-learning, albeit as an emergency and unplanned response. This experience has led to a new openness among service providers to digital and e-learning

possibilities. E-learning is a delivery modality that can help enable access for boys and girls, and address this poorly resolved term of inclusion. However, it is not without many challenges that must be carefully considered (Box 7).

In dryland regions across East Africa, the combination of conflict and climate change is impacting in ways that are increasing poverty and exacerbating gender inequalities, with negative impacts for pastoralist girls' education inclusion. The pandemic, with its skewed response to sustaining education inclusion, has made this yet worse. The increasing emphasis on the need for formal education to contribute to pastoralist resilience, particularly for girls, is undoubtedly important (Diwaker et al. 2021). However, it is accompanied by a tendency to see resilience as a standalone "skill" that formal education can impart, rather than as embedded in social values and relations.

A key concluding message from the available evidence is the critical importance of ensuring the school-based education is relevant to the increasingly diverse livelihoods that pastoralist and agro-pastoralist households are adopting. It

is time to move on from schooling's current dominant orientation towards gaining qualifications and exiting pastoralism. This suggests it is timely to review the curriculum from the perspective of an increasingly wide range of learners' needs in pastoralist and agro-pastoralist communities, and particularly how it can support livelihoods in pastoralism and more equitable gender roles. The curriculum must engage better with local contexts and households' aspirations, again focusing on females in order to avoid the tendency to adopt by default a male-orientated stance.

Diversifying and improving the quality of delivery models is also critical to the transformation of pastoralists' engagements with formal education. It is likely that an intentional, systemic approach to e-based learning is a promising way forward that can add to, but not replace, the existing portfolio of delivery approaches. The greatest transformative contribution of a digital approach will be to capture the technical potential of e- and digital capabilities in the service of an imaginative, contextualized, and gender-equitable curriculum suited to the diversity of learning needs found across pastoralist and agro-pastoralist communities.

Box 7 Impact of the digitalization of education on the right to education

In her 2022 report on the accessibility of education, the UN's Special Rapporteur on the right to education, Koumbou Boly Barry, cautions about the potentially inequitable impact of digitalization. She notes:

- "25. Accessibility includes physical, economic and information accessibility to educational institutions and programmes for everyone, without discrimination. Technology can support accessibility by ensuring that all students have access to education through modern technology, including those who have limited physical access for any reason.
26. However, the digital element may become an impediment to accessibility for those students, families and teachers who do not have sufficient financial means or who reside in geographical locations not, or poorly, connected to the Internet. A lack of digital skills of students and families can cause new forms of exclusion and negatively affect families' access to information about school life and the development of constructive relationships with teachers.
36. In today's increasingly digital world, what counts from a right to education perspective is not so much the introduction of machines and programmes to "deliver" education, but the pursuit of comprehensive digital education to empower people with the digital competencies to actively and freely participate in all dimensions of human life (civil, cultural, economic, political and social) and to become active citizens." Source: UN 2022, 6–8.

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Karamoja Resilience Support Unit (KRSU)

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