An exploration of drop-in among students who are at risk of dropping out of lower secondary school in Eritrea

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Declaration

I, Khabusi Emmanuel Kamuli, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Abstract

There is consensus about the potential of education to influence the lives of individuals and society. Governments and the international community try to harness the positive potential by promoting universal access to quality basic education through periodic global goals, constitutional guarantees, deliberate national policies and increased investments in education. However, despite the multiple imperatives, evidence from national education systems and the Global Education Monitoring Reports indicates that the number of school-aged out-of-school children (OOSC) continues to grow exponentially, especially in low-income fragile contexts. The most affected are children in their second decade of life.

In this thesis I problematised the contradiction between imperatives to increase access to education and the rapid growth in OOSC numbers, especially in Sub-Saharan Africa. I analysed existing data from the Eritrea Education Management Information System and then applied conceptual frameworks drawn from literature on OOSC (UNICEF & UNESCO, 2015); on risk (Hammond *et.al.* 2007; Rumberger & Lim 2008), motivation (Deci & Ryan 2004) and resilience (Masten & Powell, 2013; Schoon, 2006; Wright *et.al*., 2013) to explore the phenomenon of drop-in among lower secondary school students who were considered by their schools to be at risk of dropping out of school. My position as an insider/outsider facilitated me to conduct complementary analysis of existing official documents from the Ministry of Education and UNICEF.

The key findings were that whereas the traditional EMIS provided information on basic education in general, it was not adept at accounting for all children of school age, particularly 'invisible' children (Carr-Hill, 2012; UNICEF, 2005) such as those in institutions including those offering non-

formal education, children living on streets, working children, or those kept out of sight due to disabilities. The Eritrea EMIS had a blind spot for qualitative data, and consequently, it did not sufficiently document the risks faced by students nor the strategies by individual children and institutions to overcome those risks. In this thesis I argue that information, which is readily available at school and community level, can be collated and analysed to advance understandings on student flows and children's ability to enjoy their right to education. I also note that whereas existing frameworks for assessing risk, motivation and resilience are helpful, they only provide a partial understanding of the way those concepts operate within the fragile communities in sub-Saharan contexts, particularly in the way individual resilience underpins students' volition to drop into school. For example, external resilience frameworks tend to base on a single system of learning whereas the students in fragile contexts function in multiple concurrent learning systems.

The thesis recommends ways in which EMIS can be strengthened to benefit from complementarities of qualitative and quantitative data to provide a more composite view of children's participation in schooling. It also makes suggestions on how drop-in can be nurtured into more sustainable participation in schooling for at-risk students in low-income contexts like Eritrea.

Reflective Statement

Introduction

I start with a brief self-introduction and how I came to this point in this study. I was born and spent my formative years in a rural Ugandan village on the slopes of Mount Elgon, where I enjoyed the rustic pleasures of a free-range life, tending animals, tilling the land, and participating in the routines of indigenous and formal educations where open air classes, play with banana-fibre balls, traditional arts and the rituals of maturation were the most memorable hallmarks of the learning experience. In my community, then as now, it was common for children to be out of school. What was different then was that elders in the community showed active concern about children who showed signs of truancy; they chased them back into school and followed up with their families and teachers. Education was neither free nor compulsory. The teaching methods and discipline regimes were rigid, yet schooling was interesting and many of us from poor rural schools transitioned to high school and tertiary education.

I recall stories about champions of education in other parts of Africa, the most memorable and closest to me being the story of Chief Odera Akang'o, of Gem in Siaya County, across the border in Kenya. Chief Akang'o, was said to have championed formal education in early 19th century, long before Kenya attained independence. He had a reputation for brooking no excuses from parents. It is reported that Akang'o's efforts resulted in that community producing the highest ever number of University professors in any community in Kenya (Odhiambo 2015). Chief Akang'o was such an influence in my village that the community elders who forced us to persist in education were nicknamed "Kango". In the context of this study, *Kangos*

were part of the protective and promotive assets that underpinned resilience in schooling.

Career path

My initial training was in secondary teacher education. After teaching in secondary schools in Uganda and Kenya, I enrolled for the M.Ed. course at Makerere University to enhance my professional profile (Ludmerer 1999,) in preparation for a possible role in education administration, assessment or quality assurance. I joined Institute of Teacher Education Kyambogo (ITEK) in 1997 as a teacher educator and because my students were experienced teachers seeking to upgrade from diploma to graduate status my approach to teaching necessarily upgraded to facilitator. After 10 years at ITEK as teacher educator, I moved to UNICEF as education specialist to lead the education-in-emergencies (EiE) effort to restore basic education services in the war-ravaged districts of Lango sub-region, Northern Uganda. Working with UNICEF exposed me to different work culture and experiences. For example, I appreciated the dilemma of different professions working within the same organisation on parallel programmes for the same recipients. The programme structure encouraged sections to work in performative silos unlike the practice in formal educational setting where teachers generally worked as a team (Ball, 2008).

Undertaking the Ed.D course

The incentive to pursue doctoral studies arose during my tenure as a lecturer at ITEK where it was a requirement for academic staff to attain a doctorate (Nansozi-Muwanga, 2004; Sebuwufu, 2017). This was crystallized during my years with UNICEF where I was exposed to diverse experiences and possibilities within the field of education. For instance,

whereas my initial training prepared me to teach Literature and English language to secondary school students, I discovered that working with UNICEF demanded a polyvalent disposition with ethical literacy, sensitivity and the ability to read dynamic situations, adapt and exercise sound judgement (Lunt, 2008). One of such instances was where I was immersed within humanitarian work with deprived children in unpredictable and low-income contexts. Those experiences brought home to me the characterization of professional identity as "a process of continuous evolution, … because of the need to adapt to the new requests and activities of contemporary society" (Voinea and Pălăşan, 2014:362)

Impact of the Ed.D. course on my work

Much as I functioned effectively in my professional work prior to joining the Ed.D programme, the course has systematized the way I conduct my professional business and enabled me to influence others with whom I interface. For the key milestones of the course I grasped opportunities to select settings for various components of the research (Dowling and Brown, 2012) and sought to apply the knowledge accordingly. My first formal opportunity to apply the Ed.D to my workspace was during the Foundations of Professionalism module. I explored the concept of professionalism and how UNICEF staff in Uganda perceived themselves as individuals and members of teams within the silos I referenced earlier. There had been efforts to reconfigure the office team into a collaborative team of professionals, using a process like Engestrom's (2004, 2007) co-configuration and expansive learning. My survey found that UNICEF staff in Uganda identified with their 'mother' professions although they knew that they were expected to identify as UN professionals. It was not clear to them what it meant to be a UN professional other than acting with integrity. My

research provided the opportunity for UNICEF staff in Uganda to reflect on their professional identity. The finding was consistent with Avis' (2005) argument that such reworkings of teams to rein in the workforce spawn the blame culture typical of performativity.

Buoyed by the possibilities of using my workspace as a base for my studies, I applied all subsequent aspects of Ed.D to the work environment wherever I happened to be. For the first Methods of Enquiry module I based on the context of Eritrea where I had been temporarily assigned by UNICEF in early 2013 to support the Ministry of Education to develop a proposal for a project to promote access, enhance quality and strengthen the capacity of the education system in Eritrea. However, as we developed the sector plan and funding proposal, it became evident that there were multiple conceptions of quality, with the predominant view being the state of infrastructure, not the curriculum or learning outcomes. Given my involvement with the Ed.D. course I was able to recommend the mixed methods of inquiry approach to the drafting committee to explore how different stakeholders defined "quality". As a result, the committee identified and surveyed the views of various categories of stakeholders including middle school students (Mannion & I'anson, 2004). Consistent with Lundy & McEvoy (2011) the students offered insights on quality that focussed on qualitative aspects of the learning experience. Those views enriched the proposal and demonstrated student agency in discussions on their education (Furrer and Skinner, 2003).

For the second Methods of Enquiry module, I seized the opportunity offered by an ongoing review of the Uganda-UNICEF Country Programme. For the education component of the country programme, the discussions centred on how to mitigate the low transition rates among beneficiaries of universal

primary education in Uganda. It was widely acknowledged that the exponential growth in enrolment due to UPE was being undermined by poor completion rates (Byamugisha & Ogawa, 2010). I tapped into the knowledge garnered from the MOE2 course to explore the factors that influenced transition from primary to post primary education in three disadvantaged districts of Uganda. The three districts had been part of an earlier study involving 160 adolescent girls (Kamuli, Younger & Warrington, 2011; Fentiman., Kamuli & Afoyocan, 2011). I used the research processes and skills from MOE2 to formulate appropriate research questions for a tracer study of the girls. I shared my methodology, tools and emerging findings with UNICEF colleagues and benefitted from their critiques of the approaches and findings. I also sensed overall appreciation of the in-depth analyses that picked up qualitative, context-specific nuances and facilitated targeted responses.

When I was substantively re-assigned to UNICEF-Eritrea in August 2013, one of my key assignments was to implement the proposed education project mentioned earlier. However, there emerged signs of tension between the Ministry of Education and UNICEF regarding the role of education, which threatened the partnership between MOE and UNICEF. That became the focus of my Institution Focussed Study (IFS). I designed the IFS to explore how UNICEF and MOE conceptualised and articulated the role of education in Eritrea. The economic imperative (Mercer 2014; Tikly & Barrett, 2011) and human rights imperative (McCowan, 2010; Spreen & Vally, 2006; UNICEF, 2011) were the competing tendencies, although I also later established that there was substantial convergence between the government and UNICEF's perception of education in fostering equity and social justice. The government's prioritization of the economic

imperative did not preclude the human rights imperative and vice versa. I presented my findings to the joint education forum and the ensuing discussion contributed to the easing of tensions.

Critical incidents

This thesis was the final part of the Ed. D journey. Since I was in Asmara at the time, Eritrea became my default research context. However, this phase experienced several critical incidents (Cunningham, 2008). Methodologically, the thesis was to be a two-step process with quantitative data collection and analysis preceding and informing the collection and analysis of student's qualitative perceptions on risk and resilience. However, it did not go as planned since I was only able to access existing EMIS for secondary data analysis (Flaxman, 2014) as opposed to collecting quantitative data directly from the schools. Nonetheless, I benefited from my insider-outsider position to access the selected rural schools to collect qualitative data (Mullings, 1999; Rabe 2003).

The incidents notwithstanding, I managed to provide preliminary feedback to UNICEF and Eritrean government officials, to the extent that by the time I left Eritrea, the Ministry of Education had started sharing statistical publications more widely with schools and subnational education offices. This tentative step was a strong signal that the EMIS processes could be made more accessible to a wider range of stakeholders. When I moved to work in Iraq, I grasped opportunities to share with different stakeholders my insights on drop-in, EMIS, professionalism, motivation and other concepts relevant to education programmes. I have found that the concepts I dealt with in Uganda and Eritrea travel and resonate in humanitarian situations in Iraq where disadvantage, vulnerability and deprivation manifest. Above all,

my undertaking of the Ed.D has provided an opportunity for me to harness the range of experiences spanning from my initial teacher training through my career as teacher educator and later as humanitarian worker.

Value added

The Ed.D has synthesised my previous knowledges and experiences and indeed it has been a handy resource and toolkit. I problematise issues; I am curious and sceptical without being unreasonable; I seek solutions embedded in challenges; I try to steer away from performativity, and I speak truth to power, carefully. The Ed.D has been a profound influence on my career and professional identity. It has given me the capacity for conscious reflection on whatever I say or do and enhanced my confidence to act in different situations. I have also inspired colleagues, relatives and strangers to tap the insider-outsider benefits of study and to view their institutions as assets, research sites and clients. The Ed.D is part of my own “social, cultural, and historical struggles” (Jenlink 2014). It enabled me to experience the concepts I addressed in my thesis. The critical moments referred to earlier placed me at-risk of dropping out of the course. The long spells of inaction were reminiscent of the drop-in experience among at-risk students. My supervisor, friends and family became my protective and promotive assets and undergirded my resilience and motivation. I was also motivated by the fear of becoming an invisible statistic (Carr-Hill, 2012) or becoming a case study for other doctoral students if I failed to complete the thesis. I concur that faltering is integral to the Ed.D learning processes and a signal of what Hunt (2008) describes as the gradual process of dropping out.

Going forward, I will continue to apply the knowledge and skills I have acquired to improve my work. I aim to refine and publish my FOP, MOE and IFS papers and some aspects of my thesis; to present on selected themes at national and international conferences, and to continue mentoring others.

Dedication

To Jeremiah Elisha Kitutu and his grandparents, Agasa Maiki Nambuya and Elisha Wanyakha.

Acknowledgements

I would like to extend my most sincere thanks to all those who have made it possible for me to get to this point with my studies. In particular, my supervisor, Professor Moses Oketch, who was extremely patient with me, pointed me in critical directions and helped plug my conceptual gaps.

Thanks to UNICEF for letting me use the workplace as a study opportunity and creating time for me to pursue this goal. I am indebted to Dr Sharad Sapra, Dr Margo O'Sullivan, Pelucy Ntambirweki, Dr Ikem Chiejine and Wongani Grace Taulo. Asmara colleagues: Tesfay Bahta Teferi, Samuel Yohannes, Fana Tekie and Aster Ghebreab were my sounding boards and helped with the translations. I acknowledge the students and teachers in Amiche, and all those who provided data.

Thanks to my family for the sacrifices that enabled me work while studying. My wife, Norah Namakambo Kamuli took early retirement to ensure that the children stayed in school to complete their studies: Jacob Kamuli in Mauritius, Elizabeth (Liz) Nambuya in Cardiff, Jonathan Khabusi in St Henry's Kitovu and Kings College Budo, and Jeremiah Kitutu in Lohana and Budo Junior (Kabinja). My siblings Apollo Masete and Michael Koyola were always handy at moments when a brother's help was the ultimate wish. My nephew David Mukiibi Semwogerere was indefatigable in providing logistical support.

I am indebted to Alicia Fentiman, Molly Warrington and Mike Younger of Cambridge University, and Dr Michael Brophy of Africa Educational Trust for sparking my curiosity about educational exclusion and motivation to stay in school. My heartfelt thanks to Dr Nambi Rebecca for her genuinely critical and empathetic support.

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Acronyms

BERA	British Educational Research Association
CRC	Convention on the Rights of the Child
CREATE	Consortium for Research on Educational Access, Transitions and Equity
DFID	Department for International Development (of the United Kingdom)
EFA	Education For All
EMIS	Education Management Information System
EPHS	Eritrea Population and Health Survey
GEM	Global Education Monitoring report
IFAD	International Fund for Agricultural Development
MDG	Millennium Development Goal
NSO	National Statistics Office (of Eritrea)
OECD	Organisation for Economic Cooperation and Development
OOSC	Out of School Children
OOSCI	Out of School Children Initiative
SDG	Sustainable Development Goals
SDT	Self Determination Theory
UDHR	Universal Declaration of Human Rights
UNESCO	United Nations Educational Scientific and Cultural Organisation
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund

Chapter 1

Introduction

1.1 Problematizing access to schooling

Education is a human right; it is also recognized as being "instrumental in the realization of other rights" (UNESCO 2007:11). Education is also presented as key to world peace (United Nations, 1948); as an agent of individual and social change, and a catalyst for human capital for national development (Fagerlind & Saha, 1986). Over time, individuals, families, governments, civil society organisations, academic institutions and international partnerships have invested time, efforts and resources to increase access to quality basic education for all. Yet despite the various efforts, the growing number of out-of-school children continues to challenge universal access to education. As the Global Education Monitoring Report (2017) noted,

> The world is still a long way from ensuring that all children, adolescents and youth are enrolled in school in the first place. In 2015, there were 264 million primary and secondary age children and youth out of school. Some 61 million children of primary school age (about 6 to 11 years; 9% of the age group), 62 million adolescents of middle school age (about 12 to 14 years; 16% of the age group), and 141 million youth of upper secondary school age (about 15 to 17 years; 37% of the age group) are out of school. After a decline in the early 2000s, out-of-school rates have stagnated. (UNESCO, 2017a:124).

The report added that most out-of-school children (OOSC) were from Sub-Saharan Africa. The observation by the GEM Report (UNESCO 2017a) reflects the growing frustration among stakeholders regarding contradictions between efforts to increase access to education and the growing population of OOSC. There have been various efforts to

understand and deal with the persistent challenge of limited access to education. Successive global imperatives like the Education for All goals, Millennium Development Goals and Sustainable Development Goals have been complemented by policy initiatives of national governments, notably constitutional provisions and policy declarations of free (and sometimes compulsory) basic education.

Research on the OOSC phenomenon has advanced understandings of the domains of risk (Hammond, Linton, Smink and Drew, 2007), the characteristics of dropout (Rumberger & Lim, 2008) and typologies and zones of exclusion (Lewin, 2011a). However, it is in low-income countries where the goal of universal access to education remains most elusive, especially among children in the second decade of life. As the UNESCO (2017a) GEM report notes,

> Regionally, out-of-school rates are highest in sub-Saharan Africa: 21% of primary school age children, 36% of middle school age adolescents and 57% of upper secondary school age youth are not enrolled. Southern Asia and Northern Africa and Western Asia follow, with 49% and 33% of upper secondary school age youth out of school" (UNESCO, 2017a:124).

Many parts of sub-Saharan Africa are affected by conflicts, poverty and droughts, making them fragile contexts. However, as tentative evidence illustrates (Hunt 2008; Kamuli, Younger and Warrington, 2011; Fentiman, Kamuli and Afoyocan, 2011), despite the odds they face, some children who are at risk of missing out on education drop into school and complete at least the primary and lower secondary school cycles. The phenomenon of drop-in has not been as widely researched as dropout. Indeed, Hunt (2008) while acknowledging the growing literature on dropout in Sub-Saharan Africa, signalled the gap in literature on drop-in, noting:

> There is little literature on dropping into school: while the focus is on dropping out, there is less known about how children can return to school,

> the difficulties they face and how schools encourage/discourage this; and on retention: why some children stay and others leave… (Hunt, 2008:51).

Hunt's (2008) recommendation to explore drop-in suggested several perspectives, namely: the data upon which inferences are made regarding children's schooling; the context in which schooling is provided; the risks to schooling; the motivation to drop into school; and the resilience that facilitates persistent schooling.

1.2 Defining drop-in

Globally, and especially in low-income countries of sub-Saharan Africa, the phenomenon of children who enroll but fail to complete a given cycle of education continues to challenge their right to education. Some scholars have attempted to explain the causes and impacts of dropout (Ackers *et.al.* 2001; Colclough & Lewin, 1993; Hammond et. Al 2007; Hunt, 2008; Lewin, 2007) and in Chapter Two I present the literature on the factors that contribute to the risk of students dropping out of education. There is growing recognition that dropout is not an event but a protracted process (Álvares & Estêvão, 2014; Hunt, 2008). However, there is also a nascent recognition that some students who may have dropped out return to school (Hunt, 2008) and that students who are at risk of dropping out of school hang in and eventually complete a given education cycle (Warrington, Kiragu & Fentiman, 2012). Álvares & Estêvão (2014:30) describe the "abandonment-permanency" continuum whereby students who are in school may be in the critical phases of the multi-stage process of dropping out of school.

The OOSC Initiative by UNESCO and UNICEF (2010), which aimed to "make a significant and sustainable reduction in the number of children who are out of school" (UNESCO & UNICEF 2015:36), identified five dimensions

of exclusion (5DE) as central to the understanding of the phenomenon of out of school children (figure 1).

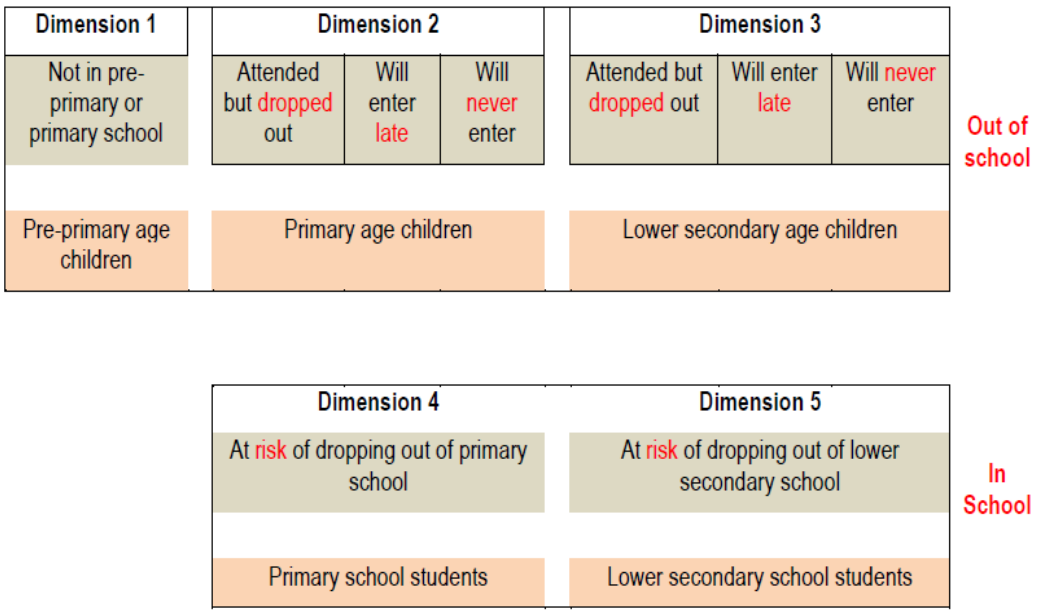


Figure 1. The Five Dimensions of Exclusion (5DE)

The 5DE model presents a modified lens for characterising children in and out-of-school from the perspective of exclusion. Thus, the model enriches the understandings about the protracted process of dropout. The first three dimensions of exclusions resonate with the traditional categorisation of out-of-school children, including those who were previously in school but dropped out, those who will enter school late and those who will never enrol into school.

The fourth and fifth dimensions recognise that some children who are physically in school may be disengaged from learning, and therefore fall within the definition of excluded children. Such children are a variant of the drop-in students defined by Hunt (2008). Whereas Hunt bases on children who return to school after dropping out, the in-school students who are at

risk of dropping out are technically in school and therefore they are administratively accounted for as children in school. In their discussion of learner engagement, Furrer and Skinner (2003) exemplify the concept of relatedness by referring to affiliation and the strength of one's connections to others within a given context. They suggest that "a sense of connectedness to teachers and peers in school is associated with multiple indicators of academic motivation and engagement, particularly emotional engagement" (Furrer & Skinner, 2003:148).

An additional way to explore the concept of drop-in is to gauge the influence of children on the circumstances of their education. Studies have shown that children have very limited influence on decisions regarding their schooling; indeed Kasente (2003) found that in rural Uganda children had only 0.2% capacity to influence decisions on their education. Other studies have demonstrated how schools push children out of school, whether directly through disciplinary actions or indirectly through gaps in provision of services or infrastructure and distance to schools (MOE 2010), poor quality of the curriculum and instruction (Kakooza 2004), violence against children (Naker & Sekitoleko, 2010), fees and incidental charges (World Bank 2008), unfriendly policies like forced repetitions (Hunt 2008) or through examination system bottlenecks (Byamugisha & Ssenabulya 2009). On the other hand, homes pull children out of school for assorted reasons such as parental concerns about the value of education or the safety of their children (de Temmerman 2001), home chores (Kasente 2003), forced marriage (Lloyd & Mensch, 2006). It is evident that the challenge experienced with exclusion are mostly caused by those who have a duty to ensure the right to education, more than the children who claim

those rights. The continued participation of at-risk children is therefore a unique form of drop-in.

In this thesis, drop-in is used to refer to a student, irrespective of age, who is known to be on the brink of dropping out but who successfully navigates diverse odds, including tardiness and protracted periods of absenteeism, to complete the lower secondary cycle of education. Unlike Hunt's drop-in student who had already dropped out, in this thesis drop-in refers to a survivor within the system, beyond the conventional definition of 'survival rate' which refers to the completion rate of a cohort of students who enrol at the same time.

1.3 Purpose of the study

This thesis therefore sought to contribute to the knowledge on drop-in by analysing the concepts of risk, motivation and resilience in relation to lower secondary (middle) schooling in the fragile context of Eritrea, with the possibility of applying the findings to similar contexts. Secondly, the thesis sought to deepen understanding of the Eritrea Education Management Information System (EMIS) and to assess how such systems can be strengthened to account for all children in a country unlike the current practice where EMIS focuses on headcounts in formal school spaces. My contention was that strengthening the EMIS would enable it to look outside and thus contribute to equity and social justice by making education more inclusive. Moreover, for my organisation, the United Nations Children's Fund, a reliable EMIS would provide a powerful tool for campaigns to foster universal access to quality education and learning. Accordingly, three main issues came into focus: (a) educational data and evidence, (b) the status of

risk of dropout, and (c) what motivated at-risk students to drop into school. In turn, the three issues suggested three research questions:

1. What did the Education Management Information System (EMIS) reports convey as the status of risk of dropout among students in Eritrea? How did the EMIS identify and measure risk of dropout?
2. What were the perceptions of risk among secondary school students in Eritrea?
3. Why did students who were considered to be at risk of dropping out of school (hereinafter referred to as 'at-risk students') drop into school?

My thesis explored how the concepts of risk, resilience and motivation have been researched in relation to education, and how the concepts have been researched and represented within Africa. This was informed by the recognition that the concepts have been researched extensively in the high-income contexts, where they have influenced policy and practice. I sought to establish whether there was comparability in literature on those concepts between high-income and low-income domains. I therefore approached the research from two flanks: (a) an analysis of existing literature on risk, resilience and motivation; and (b) my practice (combining experience and curiosity) which included my various professional experiences and the critical incidents therein (Cunningham, 2008), plus the influences of the culture, protocols and expectations of my work place. Regarding my practice, Bryman (2012) and Gray (2014) argue that personal experience is a valid basis for research interests, while Oktay (2012) notes that personal and professional experience is an important component of a researcher's "theoretical sensitivity" as it complements the researcher's understanding of the issue and enhances the ability to make sense of one's data. However,

other scholars caution that the researcher's role as insider/outsider is inherently conflicted as the researcher must navigate carefully the facilitator, collaborator and researcher identities (Day, 1998; Mullings, 1999).

I needed to decide early enough on the level at which to pitch the analysis of drop-in. I therefore reviewed EMIS data for previous years and established that the dropout indicators for Eritrea progressively worsened as students advanced from pre-school to tertiary level. As Table 1.1 below illustrates, the Net Enrolment Rates for middle and secondary school during the 2013/14 academic year were 33 percent and 22 percent respectively. The out-of-school rates for the same levels were 33 and 52 percent. This pattern was consistent across the years.

Table 1.1: Out-of-school statistics for Eritrea (2013-2014)

	Net Enrolment rate (NER)			**% of Out-of-school Children**		
	Male	*Female*	*Total*	*Male*	*Female*	*Total*
Pre-primary (age 4-5)	16.87	16.81	16.84	82.78	82.87	82.82
Primary (age 6-10)	83.99	79.22	81.71	15.76	20.51	18.03
Lower secondary (11-13)	33.13	33.31	33.21	28.97	37.76	33.17
Secondary (age 14-17)	23.12	21.11	22.14	47.45	57.16	52.16

Source: MOE Essential Education Indicators, 2013-2014.

Thus, I decided to focus my thesis on middle (or lower secondary) school which is the 11-13 adolescent age group. The reason why I did not focus on upper secondary was because the UNICEF education programme in Eritrea focused on primary and lower secondary school levels so my research would contribute directly to the work of UNICEF. Secondly, this offered me access to data as an insider.

1.4 Theoretical framework

My overall aim was to advance understanding on improving and sustaining access to education, especially among deprived population groups. This thesis reviews existing official reports and scholarly literature on OOSC and how, over time, the OOSC challenge has given impetus to various initiatives such as the World Education Conference (UNESCO, 1990), which culminated in the "Education for All" agenda. The literature sources provide a theoretical base for examining drop-in among students who are at risk of dropping out of school because they are based on empirical research on populations of similar characteristics. For instance, literature on predictors of exclusion has advanced into the development of related frameworks such as CREATE's typologies of dropout and the seven zones of exclusion especially zone 5 on lower secondary dropouts, overaged students, intermittent attendance and child labour; and zone six on students at risk due to age, irregular participation and low achievement (Ananga, 2011; Lewin, 2011a). Then also the five dimensions of exclusion, specifically dimension five on "Children who are in lower secondary school but at risk of dropping out" (UNESCO & UNICEF, 2015:18). Students who fit within the various frameworks are at risk of dropout. However, in various contexts especially fragile ones where such risks are predominant, there are students who drop into school despite the risks (Hunt, 2008; Warrington, Kiragu & Fentiman, 2012).

My interest was to explore the concept of drop-in as a theoretical construct and practical manifestation within a sub-Saharan context. I was curious that students who are at risk of dropout continued to drop into school and even completed given education cycles. The studies by Schoon (2006) and Masten, Hubbard, Gest, Tellegen, Garmezy and Ramirez (Masten *et.al.,*

1999) argued that such students who make it despite adversities are facilitated by resilience; while Deci and Ryan (2008) propounded the self-determination theory to explain the underlying motivation. Thus, the theoretical concepts that emerged from the literature to inform the design of my study were: fragility, risk, drop-in, motivation and resilience. The following diagram was my initial conceptualisation of the connections among the key terms and it also guided my review of literature:

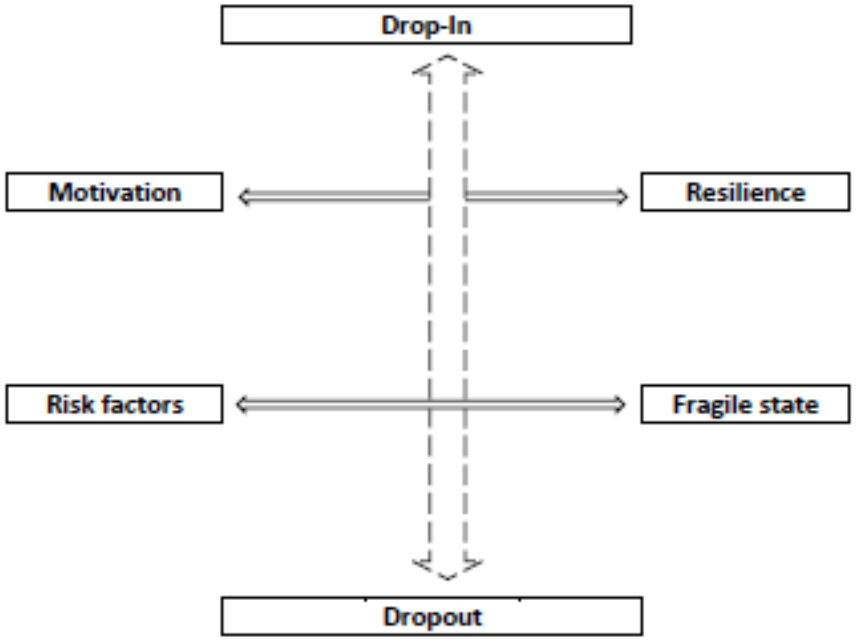


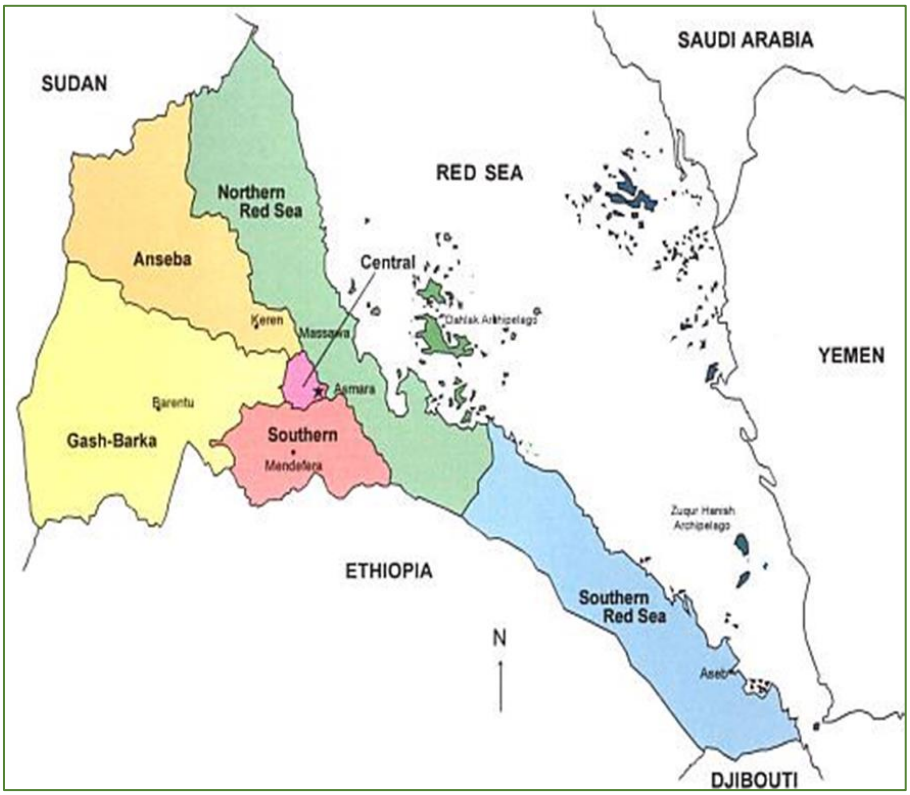
Figure 1: Conceptual framework for exploring drop-in among at risk students at middle school in Eritrea

1.5 Contextual background

Eritrea is located within the Sahel region of the Horn of Africa adjacent to the Red Sea. It borders Djibouti, Ethiopia and the Sudan. Unlike its neighbours like Ethiopia and Sudan with populations of 82.9 million and 33.6 million respectively (World Bank 2013), Eritrea has a relatively smaller

population of about three[1] million people. Eritrea sits within a volatile area characterised by conflicts (e.g. Yemen, Sudan, South Sudan, Ethiopia and Somalia). The Sahel region is also prone to recurrent droughts which cause food insecurities (European Commission Humanitarian Aid and Civil Protection, 2015). The combination of natural and manmade disasters contributed to the manifestation of a fragile context (OECD 2011). However, Eritrea also has a compelling history that this thesis cannot fully describe in a few paragraphs. What follows below is a snapshot of the context of my study.

Figure 2. Map of Eritrea (not to scale).



1 There is no consensus on the actual population figure for Eritrea.

Eritrea's population is made up of nine ethnic groups, namely Afar/Danakil, Bilen/Blin, Hedareb/T'bdawe, Kunama, Nara, Rashaida, Saho, Tigre and Tigrigna (Australia DFAT, 2017). Demographically, the Tigrigna and Tigre constitute over 80% of the population and the remaining seven ethnicities account for less than 20% of the population. All ethnic groups have links with communities across national borders with Djibouti, Ethiopia and Sudan (Fischer 2015; Gashaw, 2017; Michalopoulos & Papaioannou, 2012; Sarbo 2013; Tronvoll, 2009).

1.5.1 Colonial past and post-independence dispensation

Eritrea was part of Ethiopia until 1991. However, even if the two countries share geographical, linguistic and cultural links, historically they considered themselves as separate entities. Ethiopia was never colonised like other African countries while Eritrea was ruled by different powers including Ethiopia (Mekonnen & Weldeha 2011; Sarbo 2013). Starting in the 16th century until 1890, Eritrea was ruled successively by the Turkish Empire, Egypt and France (Denison & Paice, 2002). In 1809 Italy decreed the establishment of Eritrea as a geopolitical entity and ruled it until 1941. The British took over during the Second World War until 1952 when they handed Eritrea to Ethiopia (Healy & Plaut, 2007). In 1961 Ethiopia, unilaterally annexed Eritrea. That act sparked a 30-year civil conflict which lasted until 1991 when Eritrea won *de facto* independence (Tronvoll, 2009). In 1993 the United Nations supervised a plebiscite in which 98% Eritreans voted overwhelmingly for Independence from Ethiopia. Eritrea got *de jure* independence in 1993.

Historians like Müller (2012) and Connell (2015) report that between 1991 and 1998 Eritrea enjoyed a period of stability with steady social and political

progress. However, in 1998 the two erstwhile allies went to war over counterclaims about the ownership of Badme town (Warner, 2013; Sarbo, 2013). International arbitration of that conflict led to the Algeria Accord[2] signed in 2000. In the same year, the International Court of Justice to which the border dispute had been referred, ruled in favour of Eritrea. Ethiopia rejected the ruling. In a show of pique, Ethiopia expelled Eritreans whose families had lived in Ethiopia for generations. Thus, even if the Algeria Accord ended open hostilities, the two countries entered a state of conflict dubbed the No-War-No-Peace stalemate (Atinafu & Bayeh, 2015) which was still in force at the time of my study.

Apart from hostile relations with Ethiopia, there were other factors that contributed to the fragile context of Eritrea. The first was the tense relations with the international community because of Somalia. After the fall of the Siad Barre regime in 1991, Somalia degenerated into a failed state (Afrol 2010). Inter-clan conflicts and the emergence of piracy on the Indian Ocean worried the international community that Somalia could degenerate into a haven of terrorism (Reyskens, 2015; World Peace Foundation, 2015). Around 2000, the Islamic Courts that had been in existence since 1994 formed a Union (ICU) to try and restore law and order through Shariah courts (Barnes & Hassan, 2007). However, Kenya and Ethiopia suspected that the ICU had ulterior motives of establishing a greater Somalia and mobilised the international community against it. Eritrea was accused of supporting the ICU (Aljazeera, 2007; Ingiriis, 2013). In 2009 the UN Security Council imposed sanctions against Eritrea (UN Resolution 1907) and enhanced them in 2011 (UN Resolution 2385). Consequently, Eritrea's relations with external partners deteriorated to the extent that in 2011 almost

[2] Algiers Peace Agreement signed on December 12, 2000

all foreign aid agencies working in Eritrea were expelled (Russell, 2011; VOA, 2015). The United Nations scaled down its operations significantly; UNICEF could implement only water and health programmes while the Education, child protection and nutrition programmes were closed[3]. The World Food Programme stopped its operations altogether. The exodus of partners drained the country of complementary technical expertise and financial resources in various sectors. To mitigate the impact, the government invoked the principle of self-reliance and urged the population to go back to the stoic discipline that had enabled them to survive thirty years of the liberation struggle with very minimal support from the international community (Connell, 2015).

The second set of factors related to Eritrea's conflicts with neighbours and their collective impact on the socioeconomic status of the country. Since the 1990s there had been tensions between Eritrea and Djibouti, which culminated into a brief war in 2008 (Ehteshami & Murphy 2011). Eritrea also clashed with Yemen over the Hanish al-Kabir islands in the Red Sea (Dzurek, 1996), and with Sudan in 2002 with counteraccusations about supporting rebels (Afrol News, 2004; BBC, 2002). In 2015, Eritrea joined Saudi Arabia in its conflict with Yemen. Attending to various conflicts necessitated Eritrea's keeping its population mobilized and devoting resources to war preparedness in the context of sanctions. However, that impacted the economy and social aspects of life. UNDP Human Development Index reports for 2012-2016 consistently ranked Eritrea among the ten poorest countries globally. Earlier, the government had confirmed as such when it noted, "Eritrea is one of the poorest countries in

[3] This lasted for over 18 months so when I was assigned to Eritrea late 2013 it was to revive UNICEF's education activities.

the world, with GDP per capita of about US$200, well below the average US$270 for less developed countries" EPHS 2002:2). Eritrea's poverty levels were projected as so high that Christensen, Homer and Nielson (2011) described the situation as "grinding" and that the people "eked" a living on less than a dollar per day (Christensen *et.al.*, 2011:2044).

The third factor was the rugged topography of Eritrea and the effects of recurrent droughts. Eritrea has no permanent natural rivers and its fertile agricultural land is limited. IFAD (2014:2) and UNICEF (2015:22) respectively described Eritrea as "chronically food insecure" with "about 60% of the population consuming less than the minimum calorie requirement." A UNICEF (2016) country programme document which referenced the Eritrea Population and Household Survey of 2010 noted,

> Under-nutrition contributes to nearly half of under-five mortality. … 39 percent of children under five years are underweight, 15 percent are wasted and 50 percent are stunted. The Southern Red Sea (SRS) and Northern Red Sea (NRS) regions have the highest stunting rates of 57 percent and 58 percent respectively. Stunting is associated with long-term development risks and is a threat to human capital development. (UNICEF 2016:2)

My study was conducted in a region where harsh climatic conditions regularly drove the population into the highland areas in search of food, water and pasture. Relatedly, when Ethiopia expelled Eritreans after the 1998-2000 war, many of them ended up in areas where they had never been before, having been born in Ethiopia. They had to adapt to new habitats and nomadic lifestyles.

The fourth factor was emigration. Sobecki (2015) posits that Eritrea experienced a spike in migration in 2011 and the trend was maintained over the years, and argues that Eritrea contributed significantly to "the biggest global migration crisis since World War II" (Sobecki, 2015:1). Connell (2015)

reckons that Eritrea is third among the top five countries with the highest outward migration. Yet unlike Syria, Afghanistan, Somalia and Libya, which had active conflicts, Eritrea was overtly not at war with any other country, save for the No-War-No-Peace stalemate. However, Human Rights Watch advanced the following reasons for migration by Eritreans:

> … open-ended military conscription; forced labour during conscription; arbitrary arrests, detentions, and enforced disappearances; torture and other degrading treatment in detention; restrictions on freedoms of expression, conscience, and movement; and repression of religious freedom. Members of the Afar and Kunama ethnic groups flee because of land expropriations and discrimination by the government (HRW 2015:1).

Worabo worries that given the small population of Eritrea, migration was a potential threat to the economy (Worabo, 2017).

It was not feasible for this study to explore the four challenges exhaustively. In the next section, I situate education within the broader context in which the foregoing factors existed.

1.5.2 Historical context of education in Eritrea

The earliest recorded provision of formal schooling for “native” Eritreans was during the Italian rule although education was part of missionary activity predating the Italian era (Gottesman, 1998; Tronvoll, 2009). Gottesman (1998) reports that under the Italians, there were only 20 elementary schools to serve the entire population of Eritreans and the highest level they could attain was Grade Four. Gottesman reports that education was segregated and Eritreans had inferior curricula and facilities. The British Administration, which took over in the Second World War, is credited for opening more elementary schools, establishing secondary education and a teacher training institute for Eritreans (Gottesman, 1998). Eritreans embraced the opportunity and acquired knowledge which helped raise their

consciousness to the inequities they endured. Gottesman argues that formal education contributed to Eritreans' agitation for self-determination. The successive champions for Eritrean independence embraced education and introduced the embryonic "Zero School" system which implemented universal, free and compulsory education for fighters and their families throughout the independence struggle (Gottesman, 1998; PGE, 1982). The Zero Schools implemented the "Eritrean People's Liberation Front Elementary Education Curriculum Guidelines" for basic and adult education (PGE, 1982). Gottesman argues that "The fighters saw in education an instrument of control and an instrument of liberation" (Gottesman 1998:79).

Eritrea's current formal basic education built on the Zero School education system. The post-independence education policy "to build a peaceful, just and prosperous society" based on the fundamental principles of national unity, social justice, active participation of the people, and self-reliance (PFDJ Charter 1994:8). In a separate paper[4], I discussed the tensions regarding the role of education and the benefits of education to the individual and to the state. I noted that in Eritrea while education is a right, it is subject to the 'greater' good and therefore the state determines how that right is enjoyed.

Currently Eritrean education is structured into basic education, secondary education and tertiary education. Basic education comprises elementary school (ages 6-10), middle school (ages 11-13) and adult education/literacy (ages 19-30 years). Education is free from pre-school level to tertiary level.

[4] Institution Focused Study (IFS) 2015.

1.5.3 UNICEF and education

The first session of the United Nations General Assembly meeting on 11 December 1946 established the United Nations International Children's Emergency Fund (UNICEF) to work on behalf of children in emergencies (Clark, 1996). Its mandate at the time was to provide nutritional needs for children in emergencies. However, that changed in 1953 when the scope was broadened beyond emergencies, towards mitigating the "silent emergency" of spiraling poverty, disease and hunger that were killing many children all over the world. UNICEF championed the Convention on the Rights of the Child (CRC) as a legally binding compact between the international community and children. The CRC called for all decisions about children to be in the best interests of children and it mandated governments with the duty "to take all available measures to make sure children's rights are respected, protected and fulfilled" (CRC, 1989: Article 4). The CRC was adopted in November 1989 and has been ratified by almost all countries. It remains one of the major pillars of UNICEF's global undertakings including the Education for All agenda.

Currently UNICEF works in over 190 countries worldwide. The nature and scope of its activities depend on the specific context in which it works, although it generally adheres to the objectives laid out in its periodic strategic plans (available online[5]). Because UNICEF works in many countries, it endeavours to have a common set of strategic issues that it can contribute towards. In general terms, there is no substantial divergence between the issues UNICEF promotes and the host country's goals and

5 This very brief outline is taken from the official UNICEF website:www.unicef.org

objectives since joint country programmes derive from national development plans and are usually aligned to national goals.

In 2000 the UN Summit made the Millennium Declaration and set the Millennium Development Goals (MDGs) for 2015. Out of the eight MDGs, two were directly pertinent to education. These were Goal 2: Achieve Universal Primary Education and Goal 3: Promote Gender Equality and Empower Women. In 2015, the UN Summit adopted the Sustainable Development Goals (SDGs) “to end poverty, protect the planet and ensure prosperity for all” (UN 2015). As with the MDGs, SDGs 4 and 5 were on achieving universal primary education and promoting gender equality and empowering women respectively.

UNICEF’s global education strategic plans are consistent with the global agenda encapsulated in the MDGs and SDGs. The UNICEF Medium Term Strategic Plan for 2014-2017 listed early learning, equity, learning outcomes and education in emergencies as its four priorities, all of which were relevant to the Eritrean context. UNICEF has worked in Eritrea ever since it was a region of Ethiopia. At the time of this research, UNICEF was providing support towards programmes in basic education, health and nutrition, water and sanitation, social policy, and child protection.

In the next chapter I review literature on the key concepts of risk, resilience, motivation and fragility as they pertain to drop-in.

Chapter 2

Literature Review

2.1 Introduction

In the preceding chapter I problematized access to education and argued that although education is a human right, the number of children not accessing schools is increasing especially in low-income countries. I also introduced concepts relating to access to basic education such as risk, fragility, resilience, motivation and drop-in. I noted that existing literature on dropouts provides lenses to guide the interrogation of risk and drop-in among secondary school students in Eritrea. I summarised the socio-political context of Eritrea and closed the chapter by introducing the work of UNICEF globally and its partnerships with governments.

In this chapter I review literature that substantiates the importance of education worldwide. I also review literature on education data. Thereafter I present the theoretical perspectives that guided my analysis of risk, resilience and motivation. The literature on fragile states situates my study within the context of Eritrea. I close the chapter by summarising the key debates on access to education and the existing gaps in understanding drop-in within fragile low-income contexts.

2.2 The importance of education

Historians estimate that the Cyrus Cylinder (539 BCE) represents the earliest associations of education and human rights and that the cylinder inspired the ideals of liberty, democracy and global human rights

imperatives (MacGregor, 2011; Simonin, 2012). Some scholars (Pennycock, 2002; Peters, 1964; Powers, 2007) argue that education catalysed human civilizations by enabling the growth and transmission of knowledge and skills that powered developments. At the end of the Second World War in 1945, UNESCO adopted its constitution which articulated the vision of education and its importance to peace and security among nations. When the United Nations promulgated the Universal Declaration of Human Rights (UDHR) in 1948 the right to education was enshrined in the declaration. Article 26 of the UDHR states that "(1) Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory…" (UN, 1948:54)

Most governments enacted policies and strategies on basic education, in line with Article 26 of UDHR. Post 1948, the international community endorsed a series of agreements, covenants, conventions, declarations and frameworks to underpin the right to education (McCowan, 2010). Among them were the Declaration of the Rights of the Child (1959), International Covenant on Economic, Social and Cultural Rights (1966) and Convention on the Rights of the Child (CRC) (1989). The General Comments to article 13 of the ICESCR (1999) and to article 29 of the CRC (2001) provided more substantial accounts of education as did the extensive treatments contained in the position papers and recommendations of the World Education Forum held in Jomtien (UNESCO,1990) and the Education for All conference (Dakar Framework 2000). Although all those imperatives have been in place for several decades, the achievements have not matched the high expectations because performance on agreed milestones has lagged in low-income countries.

2.3 Education Management Information Systems

The World Bank Group (2016) stresses that information is a key ingredient in an effective education system. Indeed, there seems to be universal consensus in this regard and most Ministries of Education have databases on various aspects of education. The databases range from basic records on enrolment, teachers, classrooms and scholastic materials, to highly sophisticated systems encompassing a wide array of aspects of education (Abdul-Hamid, 2017, Trucano, 2006). The databases are broadly referred to as Education Management Information Systems (EMIS). Whereas there is no standard definition of EMIS or a shared vision of what EMIS should entail (Cassidy, 2006), UNESCO (2003) presents EMIS as "an organized group of information and documentation service that collects, stores, processes, analyses and disseminates information for educational planning and management" (UNESCO 2003:5). Powell (2006:6) concurs that EMIS is an information centre that is "responsible for the use of information for policy planning, planning and implementation, decision making, monitoring and evaluation of the education system". Additionally, as Custer *et.al.* (2018) note, EMIS has the potential for setting the agenda and facilitating external communications on emerging issues such as equitable access to quality education (Custer *et.al.* 2018). Typically, EMIS manages a large amount of data and information, and while traditional EMIS were paper-based, advances in technology have enabled the establishment of computer-based education information systems. According to the statement of the MOE, the Eritrea EMIS that I analysed in this thesis was comprehensive and intended for planning, decision making and for conducting research (GOSE, 2004).

2.3.1 Purpose and value of education data

The basic purpose of EMIS varies depending on the architects of the system. However, the core element is providing evidence to use as a gauge for progress on aspects of education. Thus, educational authorities collect data on schools as part of their routine operations. The process of collecting the data involves multiple stakeholders at the school, district, provincial and national levels of the education system (UNESCO (2010). Underlying the routine of data collection is the quest for objective information that can facilitate corollary processes of planning, resource allocation, monitoring, policy formation and decision-making. According to Villanueva, “The main purpose of an EMIS is to integrate information related to the management of educational activities, and to make it available in comprehensive yet succinct ways to a variety of users” (UNESCO 2003:5). The users range from community and school level stakeholders like students, teachers and parents, to national level policy makers and global stakeholders like the Global Monitoring Report.

With the perceived merits of EMIS and the multiple layers of stakeholders, one would be excused for assuming that the value of EMIS is self-evident. However, that is not always the case. The World Bank (2011) argues that the value of EMIS lies in its capacity to empower decision makers to make smart spending decisions that contribute to learning. Makwati, Audinos, and Lairez (2003) caution that the value of EMIS depends on the quality of statistics. Other scholars have sought to add nuance to the aspect of value of EMIS. For example, Ellison (2004) stresses timeliness and reliability of data in the EMIS, while Custer *et.al.* (2018) emphasise that a good EMIS should “fuel progress toward … improved student learning, increased equity, and stronger accountability relationships among policymakers,

school administrators, teachers, parents, and students" (Custer *et.al.* 2018: 4).

Scholars like Scot, Grebennikov & Shah (2008), Mainguet & Baye (2006); Scheerens (2011) and Lewin (2011) have interrogated the prominence given to data and to the concept of data-driven decision making in education. Mainguet & Baye (2006) and Scheerens (2011) argue that quantitative data tends to be decontextualized, that it assumes homogeneity in different contexts, and that it overemphasises process indicators. Lewin (2011) concurs by highlighting the risk of gross and net enrolment rates misleading policy makers due to their changing values, and the ambiguity inherent in composite indices. Similarly, Mainguet and Baye (2006:153) note that "Reality is more complex than one single dataset or relationship, since issues are interconnected and often embedded in not so easy to handle factors, such as the historical, cultural and economic contexts of particular countries". The foregoing illustrates the contested perception of the value of EMIS, which is not intended to downplay its role or potential to contribute to improvements in the sector, but more to find common ground in relation to the limitations and challenges facing EMIS, to which I turn in the next section.

2.3.2 Limitations of EMIS

A range of challenges constrain the establishment of robust EMIS solutions in low income countries (UNESCO 2010). The challenges can be categorised under resource limitations, quality, limited capacity across all levels of stakeholders, limited accessibility and negative user perceptions. As pointed out by Villanueva (2003) "the reality is that in most developing

nations serious limitations exist in terms of the availability, quality and costs of the range of practical and affordable technologies" (Villanueva 2003:35)

Costs are a significant limitation to the development of EMIS in low-income countries. UNESCO cautions that "the development of an effective EMIS is a complex and expensive undertaking under the best of circumstances" (UNESCO 2010:157) and maintains that many low-income countries cannot afford to establish and maintain modern EMIS on their own. UNESCO is well-placed to appreciate the challenges given its engagement with EMIS over time, especially through its Institute of Statistics (UIS). Indeed, UNESCO's caution is shared by other scholars like Carr-Hill *et.al.* (1999) and Vos (1996) who commented that low income countries rely on the financial and technical support of donors to establish or strengthen EMIS. Carr-Hill *et.al.* (1999) were concerned about over-dependence on external support that is neither guaranteed nor free of undue influence. Carr-Hill *et.al.* (1999) decried the diminished influence of the recipient Ministry of Education regarding the structure of EMIS since the donor may have specific interests and argued that in most cases donors prefer to invest in quantitative data systems. Relatedly, countries may not have the space and capacity to determine how to relate with other systems in different countries to foster cross-country comparisons and learning exchanges (Yang & McCall, 2014). Moreover, if a donor is keen to strengthen the EMIS relating to basic education, the MOE may not have the leverage to influence a more holistic sector MIS.

Linked to scarcity of resources for establishing and maintaining EMIS solutions is the inadequacy of capacity in terms of infrastructure and human resources. Literature has identified limited capacity of ministries and subnational education offices for analysing and using the data as a major

challenge (UNESCO 2011). Equally challenging is the limited data management capacity especially at subnational levels of the education system. This is exacerbated by the structure that requires subnational officials to convey data upstream without engaging with it and to defer to the interpretation of upstream officials. Limited human resource capacity, whether numerically or in skills and qualifications, can act as a deterrent to EMIS development. Cases are cited where incumbents lack the motivation to support modernization of EMIS. They either engage in outright resistance or covertly undermine modernization efforts (UNESCO 2010). This is not helped by the absence or fragmentation of professional development opportunities (Marsh *et.al.* 2006). A study conducted by Callen, Khan, Khwaja, Liaqat and Myers (Callen *et.al*. 2017) on policymakers' use of empirical evidence, found that well-educated policymakers lacked the ability to interpret evidence. They also established that even when the policymakers agreed that evidence should play a greater role in decision making, organizational and structural barriers like over-centralisation of authority and deference to the status quo hindered the use of evidence; and that evidence was accepted but moderated depending on the context in which it was received.

Linked to the constraint of cost is the factor of quality. As noted by Behrman & Rosenzweig, (1993), Marsh, Pane and Hamilton (Marsh *et.al.* 2006), Van Wyk (2006), Abdul-Hamid, Saraogi and Mintz (2017) and Custer *et.al*. 2018, concerns about quality of data can hamstring the effectiveness of an EMIS. Abdul-Hamid *et.al*. (2017) conducted a World Bank portfolio review of EMIS in several low-income countries and found instances of poor quality education data, untimely production and dissemination, incomplete data, and challenges with the EMIS value chains (in terms of leadership, data,

system and operations). In an earlier work on EMIS in low-income countries, Abdul-Hamid (2014) had similarly observed that “reliable, relevant, and easily accessible information about specific schools, teachers, enrolments, and educational outcomes is still lacking in many countries. Additionally, few countries have implemented quality assurance measures to check the quality, accuracy, validity, reliability, and usability of the data collected by their respective EMISs” (Abdul-Hamid 2014:13). The same sentiments are echoed by Custer *et.al.* who noted that EMIS “data sources tend to be fragmented across duplicative information systems within the same ministry, or worse, across several ministries in charge of different sub-sectors” (Custer *et.al.* 2018:32). They reasoned that the perception of poor quality of education data erodes stakeholder trust in the data and may lead to discontinuation of its use.

Aside from cost, capacity, quality and confidence, EMIS may fail to provide universal coverage, particularly in humanitarian situations. As noted by Bethke and Braunschweig (2004, cited in UNESCO, 2010) “Data and statistics are notoriously difficult to collect and use in emergencies” UNESCO (2010: 155). In my personal experience in humanitarian settings, emergencies pose unique challenges to education systems and they illustrate how important data are to the planning and implementation of any interventions. Yet it is not uncommon for data gaps to be experienced in non-humanitarian settings.

Another key challenge that affects some low-income countries is the absence of reliable population data to provide the denominator for computing key indicators such as gross or net enrolment rates (DFID/Ellison, 2004). In countries grappling with challenges of conflict, disasters, migration or epidemics, mathematical models may not

adequately substitute reliable population data and this may result in erroneous indicators.

Limited access to EMIS data manifests as another major limitation. Flowing from the way data collection and processing is configured, the outputs of EMIS processes are not universally accessible to key stakeholders, especially at the subnational levels (Marsh *et.al.* 2006). Marsh *et.al.* reason that limited access is a significant obstacle that "affect[s] educators' ability to turn data into valid information and actionable knowledge" (Marsh *et.al.* 2006:3). Voorhees and Cooper (2014) highlight the frustration that accompanies inadequate access to data. They argue, "it is imperative that leaders demonstrate and model their commitment to using data and setting the expectation that data offered in evidence will be used when making decisions, allocating resources, and assessing institutional, department, and student success" (Voorhees & Cooper, 2014: 29).

It is therefore hardly surprising that EMIS encounters negative perceptions. Partly, this derives from the fact that not everyone believes in evidence-based policy-making (DFID 2004). This is more so in societies where authority 'confers' wisdom and where status quo takes precedence over objective data. Secondly, there are concerns that those who process the data may manipulate it to convey a particular position or vision, thus exercising negative influence on the data. There have been reports of deliberate distortion and falsification of education indicators to present countries in a better light on global rankings or to justify subjective stances in national policy making and resource allocation (Carr-Hill *et.al.* 1999, Nichols & Berliner 2005, UNESCO 2017).

Carr-Hill *et.al.* (1999) enumerate seven ways in which data can be manipulated to influence public sector managerial behaviour. They cite

‘tunnel visioning’ where the focus is deliberately zoomed on specific outcome-related performance indicators to the exclusion of input, access and output indicators; sub-optimization on narrow objectives at the expense of strategic objectives; concentration on short term issues to the exclusion of long-term issues; anxieties about being exposed as an outlier instead of seeking to be outstanding; and disinclination to experiment with new and innovative methods. Others were altering behaviour [to] obtain strategic advantage and “misrepresentation or … 'creative' accounting and fraud’” (Carr-Hill *et.al.* 1999:44). Instructively, UNESCO (2003) reported that “Some Ministers of Education know that data collection does not function properly and thus they do not trust it. This is also true of other senior decision-makers in education and other ministries” (UNESCO 2003:11). Thus, as Custer *et.al.* noted “There is little indication that decision-makers are systematically using education data and analysis to inform their policies or decisions” (Custer *et.al.* 2018:9)

The foregoing review represents the potential and concerns about education data and the implications for policy-making. The concerns simply reinforce the need to constantly develop and reinforce education information systems into robust databases that can guide the planning, budgeting and other critical monitoring and decision-making processes in education. For this study, it was important to assess the reliability of EMIS data and its capacity to provide information on students regarding drop-in and risk in the fragile context of Eritrea.

I now turn to analyse literature on risks to sustained access to education.

2.4 Risks to children's education

Studies by individuals (Ananga, 2011; Hunt, 2010; Palme 1998), research teams (Hammond *et.al.*, 2007; Ngware, Oketch, Ezeh & Mudege, 2009), consortia such as RECOUP[6] and CREATE[7] (Reddy & Sinha, 2010) and global organisations (UNESCO, UNICEF, the World Bank, DFID) identify various risks to children's education. The manifestation of risks and their effect differs (Hammond *et.al.* 2007; Hunt 2010). Some contexts aggravate risks while others mitigate them through social protection and policy provisions (Fine, 1986; Reddy & Sinha 2010; Unterhalter, 2014).

An influential resource on risk and dropout is the meta-analysis of researches that Hammond *et.al.* (2007) conducted in the United States of America to identify programmes that had successfully addressed specific risks and fostered student retention. The analysis spanned 25 years of scholarly research. Hammond *et.al.* (2007) identified and categorised the significant risk factors into individual, family, school and community domains. That categorisation is replicated in similar researches like the Out-of-School Children Initiative (OOSCI) by UNICEF and UNESCO (2015). The five dimensions of exclusion identified in OOSCI (UNICEF & UNESCO, 2015) and the categories of risk by Rumberger and Lim (2008) referenced the work of Hammond *et.al.* (2007).

A similar meta-analysis by Rumberger and Lim (2008) characterised the risk factors into individual and institutional categories thus clustering Hammond *et.al.*'s (2007) three domains of family, school and community under "institutional factors". Even if most of the literature on risk is from high-

[6] Research Consortium on Educational Outcomes and Poverty, Cambridge University.
[7] Consortium for Research on Educational Access, Transitions and Equity, University of Sussex.

income country contexts, there is growing literature based in low income countries (Ananga, 2011; Reddy and Sinha, 2010; Abuya et. al, 2012 & 2013; Nyambedha & Aagard-Hansen, 2010) whose themes and categories resonate with those identified in high-income country researches. Thus, literature provided evidence of the capacity for analytical frameworks to travel across geographically, culturally and socially different settings in high-income and low-income contexts. I have borrowed the broad categories for the literature review.

2.4.1 Individual risk factors

Within the individual domain, Hammond *et.al.* (2007) analysed six major factors which influence students' participation in education. These were demographic factors, early adult responsibilities, risky attitudes and values, poor performance at school, disengagement from schooling, and education stability. Under demographic factors they found that race or ethnicity, gender, limited cognitive ability and disabilities were key risks. I found the factors salient given the demographic composition of Eritrea where two tribes constitute eighty percent of the total population against the remining seven tribes. Also, given the various wars and reported high levels of stunting there might be challenges with disabilities, adult responsibilities and general cognitive abilities. UNDP (2010) agrees that the six factors manifest in differing degrees among students in developing country contexts. UNDP (2010) argues that the six factors tend to "circumscribe every aspect of … life opportunities" of entire communities; including education services (UNDP 2010: i).

Regarding early adult responsibilities, Hammond *et.al.* (2007) noted that students who take on adult roles like caring for siblings, work for pay or

those who marry before they are physically and emotionally ready, are at higher risk of dropping out of school. Literature on early adult roles for children in the sub-Saharan Africa context offers many examples (Carr-Hill & Peart, 2005; Kepler & Rugira, 2013). Richter & Desmond (2008) and Meintjes, Hall, Marera & Boulle, (2009) reported that child-in-adult roles became prevalent during the Human Immuno Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) pandemic when adult caregivers died or became incapacitated and children below the age of 18 became caregivers for siblings and adults, even in cases where one of the parents was still alive. The AIDS pandemic demonstrated the potential for crises to trigger early adult responsibilities among children. Krätli and Dyer (2009) also report that because of the rigid timetables of formal education in Kenya, which do not provide time for herding, families withdraw students from schooling to herd animals. In this case, while the adult role is not sudden, the structure of the formal curriculum becomes a risk to the participation of pastoralist children in schooling.

Unlike the United States context of the meta-analysis by Hammond *et.al.* (2007), in Africa, the commonest incidences of child-headed households are associated with orphanhood. Parker and Short (2009:817) reported that research on orphan status and schooling had “shown that parental death, particularly maternal death, is detrimental to children’s schooling outcomes”. UNESCO and UNICEF (2005) also identified being an orphan as a major risk factor while Nyambedha and Aagaard-Hansen (2010:566) cited cases in Uganda where school authorities declined to exempt orphans from statutory fees, claiming that such exemption “might create a privileged class of educated orphans”. Nyambedha and Aagaard-Hansen (2010) also researched on orphanhood and schooling in western Kenya and found that

whereas non-attendance and dropout was a common problem in the community irrespective of orphanhood, “a higher proportion of orphans dropped out of school, which indicates that orphanhood *per se* contributes” to absenteeism and dropout (2010:565). They also found that there was a close interrelation between poverty and orphanhood.

Hammond *et.al.* (2007) also identified high-risk attitudes, values and behaviours within the individual domain. Among these were antisocial behaviour, early sex, fraternising with negative peer groups, low self-esteem and low self-confidence. Hammond *et.al.* (2007) also identified students’ performance at school, grade repetitions and frequent changes of schools as signals of student disengagement with schooling. They argued that disengagement could be manifested in secondary characteristics like absenteeism, truancy, indiscipline and poor social skills. The analysis by Rumberger and Lim (2008) also yielded similar findings. Thus, I sought to explore how individual risk related to students’ participation in schooling in Eritrea.

2.4.2 Family related risk factors

The second category was the family domain, about which Hammond *et.al.* (2007) reported that previous research had identified background characteristics as main signals of students’ dropout. They argued,

> A student’s family background and home experience exert a powerful influence over educational outcomes, including dropping out of school. One of the most consistent family background factors found to impact dropout has been socioeconomic status (SES), whether measured through parental education, income, or occupational level (Hammond *et.al.,* 2007:14).

Ngware *et.al.* (2009) also found that even in situations of free primary education, the socioeconomic status of the child’s family influences

children's participation in schooling and that in Kenya's informal urban settings (slums), "it appears that the poorest of the poor are not adequately served by the [free primary education] policy and that equity remains elusive even when education is said to be free" (Ngware *et.al.* 2009:605). Surprisingly, poor families opted for schools that charged fees while richer families enrolled their children into free primary education. Similarly, Abuya, Oketch, Mutisya, Ngware and Ciera (2012) analysed the effect of a mother's education on children's maths attainment in Kenya. Working off "the conventional notion that parental education increases children's achievement", Abuya *et.al. (*2012:636) found instead that a "mother's education [was] negatively associated with children's achievement … in maths" although the interaction of both mothers' and fathers' education was positively associated with children's scores. The interaction was reaffirmed in a subsequent study on "family structure and education attainment of children in the slums of Nairobi" by the same research team of Abuya, Mutisya, Ngware and Oketch (2013). The latter study concluded that "Children in double parent households were 1.23 times more likely to be in the right grade for age compared to children in one parent households" Abuya *et.al.* (2013:18).

Not only did the finding of Abuya *et.al.* (2013) that single mothers' education negatively associated with learning outcomes contradict prevailing notions about an aspect of family status and its impact on students' achievement, it brought to the fore the issue of family setups and how their roles are perceived across geographical spaces. What is worth noting is the range of definitions for 'family' from the more nuclear and restricted one-man-one-wife norm in high income countries to the more expansive and extended setups, including polygamous families in Africa (Amoateng, Heaton and

Mcalmont, 2014). Studies on family structure and child outcomes in Africa highlight the positive contributions of the extended family in enabling children's schooling. Amoateng *et.al.* (2014) argue that evolving cultural contexts are increasingly making it possible to witness new varieties of family norms and practices, where women establishing their own households and raising children is no longer surprising. Abuya *et.al.* (2013:7) characterise this as a "growing prevalence of non-traditional family structure in Africa".

Other family factors identified by Hammond *et.al.* (2007) were levels of family stress (e.g. domestic violence, residential moves, sudden changes like death or divorce, parental attitudes and values about education) and overall parenting skills. Abuya *et.al.,* 2013 and Mabikka & Shapiro, 2011 also highlight the number of siblings and their potential either to have a "dilution effect" on resources available to education; or the potential to offer mutual support and inspiration to facilitate educational progress. Whereas residential moves in the context of Hammond *et.al.'s* (2007) study referred to transfers of households within a relatively sedentary lifestyle, I considered that in the Eritrean context it could apply to nomadism, which is a way of life but it "disrupts" the rhythm of formal education for the concerned students (EPHS, 2010). The work of Hammond *et.al.* (2007) is significant in highlighting family risk factors, much as it tends to focus on sedentary lifestyles that may not fit with the transient family setups of nomadism and migration such as those found in Eritrea, hence the effort to complement it with literature from other social settings.

2.4.3 School related risk factors

Hammond *et.al.* (2007) identified school risks as the third domain. They explored factors related to the setup of the school and the environment created through regulations, physical provisions and intra-school relationships. Among the issues were: school size, class size and ratios of teacher and curriculum material coverage, involvement of students in school affairs and general 'feel-good' possibilities. They concluded that negative school environments are linked to increased dropout rates. They also identified students' perceptions about safety and fairness of school systems as important considerations.

Similarly, Rumberger and Lim (2008:5) explored school membership, encompassing the "social dimension of schooling [as] influenced by … social ties to others, commitment to the institution, involvement in school activities, and beliefs in the value and legitimacy of school". Rumberger and Lim (2008) expanded the scope of school to include community partnerships and relations, thus providing for a holistic perspective to the domain of institutions. Their clustering of family, school and community within the institutional category provides coherence to the exploration of the four types of school characteristics within the main categories of student composition; structural characteristics (e.g. school size and location); resources (physical, fiscal and human) and practices (parenting, pastoral and instructional).

I drew on the analyses of school related risk factors by Hammond *et.al.* (2007) and Rumberger and Lim (2008) to explore drop-in in Eritrea.

2.4.4 Community level risks

Schools are integral components of the communities they serve. Haupt (2010) describes schools as microcosms of the communities and their heritage. Hammond *et.al.* (2007) identified school neighbourhoods and the related social setups as influential factors for determining drop-in or dropout, which Ngware *et.al.*'s (2009) study echoed. Hamond *et.al*. (2007) also noted that conditions in communities including poverty, violence, crime and overcrowding, could increase or lower the likelihood of dropout.

Earlier work by Fine (1986) argued that low-income groups were generally marginalised in terms of education services and highlighted the influence of poverty, shame, low self-esteem, family considerations, and a sense of futility about the processes and outcomes of education, as determinants for dropping into school. Fine's analyses based on New York neighbourhoods in 1986 are valid and applicable to present day sub-Saharan contexts where marginalisation in education is partly a function of system inadequacies (DFID, 2010). Similarly, while drop-in can be the result of student volition, it is also facilitated by push-in factors at family and community levels as well as pull-in factors at school level (Boylan & Renzulli, 2017; Reddy & Sinha, 2010). Nevertheless, Hunt's (2008) observation about the scantiness of literature on drop-in remains pertinent.

In conclusion, the typologies of dropout, especially zones 5 and 6 (Ananga 2011; Lewin 2011a), domains (Hammond *et.al.,* 2007), categories (Rumberger and Lim, 2008) and the dimension five of exclusion (UNICEF & UNESCO, 2015) concur on the types of risks and therefore provide different ways of analysing risks to drop-in. Although the analytical categories and domains were developed from research carried out in non-African contexts and for different purposes, they are complemented by a

growing body of local literature and thus they offer lenses to view risks and how the affected students navigate them to drop into school.

2.5 Resilience and motivation

I now turn to review literature on resilience and motivation. Resilience is a concept that is applied to signify the attributes of tenacity, survival, adaptation, renewal or recovery from the effects of fragility, adversity, hardship, risk or vulnerability. While motivation is depicted as the force that arouses enthusiasm and persistence to pursue a certain course of action (Geren, 2011). Geren suggests that motivation represents the psychological goal-directed processes including needs, values, attitudes, interest and abilities, which differ in everyone.

The Organisation for Economic Cooperation and Development argues that "fragility and resilience should be seen as shifting points along a spectrum" (OECD 2013:1). Tools such as the guidelines for developing resilience (OECD 2014), resilience measurements (Connor & Davidson, 2003; Frankernberger, Mueller, Spangler, & Alexander, 2013; Schipper and Langston 2015) and training packages (Maddi, 2013) have been developed to guide systematic analysis and responses to resilience. Similarly, expressions like 'resilience agenda' are common in formal and fugitive[8] literature. Lovell, Bahadur, Tanner and Morsi (2016) note that literature on resilience is also growing at an exponential pace as a developmental concept and as a means of explaining the complexities of social change. Educational research applies the concept of resilience to try and explain

[8] According to Brown and Dowling fugitive literature is credible information, usually official documents of organizations, which is not readily available in the public domain (Brown & Dowling, 2012). The expression was first used by Light, Singer & Willet (1990).

why some students persist in school despite the risks they face (Mayunga, 2007; Morrow, 2008; Schoon, 2006; Wright, Masten and Narayan, 2013).

2.5.1 Conceptualizing resilience

Literature offers several definitions of resilience (Mayunga, 2007). According to Masten and Powell "Resilience refers to patterns of positive adaptation in the context of significant risk or adversity" (Masten & Powell, 2003:4). Schoon (2006) defines resilience as "human capacity to overcome extreme privation and trauma and to show positive adaptation in the face of that trauma" (Schoon 2006:1). Whereas Mayunga (2007) and Morrow (2008) highlight the difficulty in identifying a unified definition of resilience, the various definitions concur on common features such as adversity, tenacity, survival, bouncing back and recovery. Part of the dilemma of definitions stems from the fact that resilience can be conceptualised from different perspectives, for example, as a manifestation among individuals and entire communities (Akala 2006, Mayunga 2007, Morrow 2008); because of natural or manmade disasters (Sanders, Munford, Thimasarn-Anwar, Liebenberg, Ungar, Osborne, … Urry (2013), Lovell *et.al.* 2016); and as a life course trajectory (Masten & Powell, 2003; Schoon 2006). Thus, Mayunga (2007) argues that a common definition of resilience is difficult to formulate since "individuals, groups, and communities may each possess different degrees of resilience which vary significantly over time" (Mayunga 2007:3). Prince-Embury (2013) adds that there is a link between the lack of a common definition of the resilience construct and the lack of a common screening tool to assess resilience and develop preventive intervention strategies. However, Masten and Powell (2003) and Connor and Davidson (2003) respectively provide a short list and a scale for assessing resilience.

In reviewing the literature on resilience, I was mindful of the context of Eritrea, characterised by protracted fragility, poverty, isolation and the disturbance of nomadism (GSDRC, 2016; Muller 2012). I also noted that most of the students and families living in Amiche had been translocated involuntarily after having been born and lived Ethiopia for generations. That disturbance was bound to have lingering effects.

2.5.2 Levels of resilience, competence and adaptation

Wright *et.al.* (2013) explore the capacity of children and adolescents to "make it" in the face of adversities such as poverty, neglect, maltreatment, war, parental disability, or natural disasters. Noting that risks can manifest singly or in combination, they argue that children are more typically at-risk due to multiple protracted adversities, sometimes for very long periods of their lives. They therefore view resilience in terms of success in adaptation of the system (where system refers to macro level policy and micro-level institutions, local community facilities and service providers). They position the child at the micro level, as a dynamic system. Wright *et.al.* (2013) cite research which shows that children have different vulnerabilities and protective systems at different levels of growth, whereby for example infants are highly vulnerable to mistreatment because of their total dependence on adults; yet they are better protected from the atrocities of war or major disasters due to their lack of understanding of what is happening. On the other hand, Wright *et.al.* (2013) reason that adolescents have more advanced capabilities for adaptation in the world on their own but they are exposed to loss or devastation concerning friends, faith, schools and governments.

Noting that the systems in a child's life are embedded, interacting and interdependent, Wright *et.al.* (2013) propose two criteria to define resilience: risk (disturbances) and adaptation. Accordingly, risk refers to the cumulative disturbances or acute/chronic adversities that challenge the child's systems, whereas adaptation relates to the competence of the system in responding to developmental tasks such as going to school, forming friendships or adhering to school and community rules. Wright *et.al.* (2013) conclude that resilience in children is dynamic, with many pathways in which it can be promoted. They add that the capacity for adaptation to adversity is distributed across systems and the child as a system has a major influence in the way adaptation is exercised. Wright *et.al.* (2013) also note that individual resilience depends on resilience of other systems such as families, communities and society.

The Wright *et.al.* (2013) study identified a range of human protective factors including those internal to the child like hope, self-esteem and self-efficacy, personal attractiveness, talent, faith groups, mentors outside the family and overall connections to others, as important to the development of individual resilience. They also signalled good fortune and the knack for resilient individuals to seek out supportive people and environments as potential affordances although they acknowledged that the latter two have not been empirically demonstrated. The work of Wright *et.al.* (2013) linked to earlier work by Masten and Powell (2003) based on the longitudinal study conducted under the 'Competence Project'. One of the premises of the competence project was that when you describe a person as resilient you imply some criteria and judgement call on whether the person is "doing okay" and whether there is or has been a significant adversity to overcome. Masten and Powell (2003) argue that doing okay relates to psychosocial

competence in developmental tasks associated with one's age in a given social context at a historical time. They illustrate with an example where in America there are expectations on a school-age child to demonstrate academic competence, social competence and conduct. They explain how the expectations evolve as a child transitions from childhood through adolescence into adulthood.

Regarding the second judgement call, Masten and Powell (2003) distinguish between non-independent and independent events when assessing adversity. They clarify that non-independent events relate to a person's own behaviour such as breaking up with a lover or expulsion from school, while the death of a parent or loved one is an independent event. Bouncing back from such events would be indicative of a person's resilience. Masten and Powell (2003) highlight two protective processes that foster competence in the presence of risk and adversity. These are variable-focused approaches that explore linkages among competence, adversity and protective factors such as quality of parenting, intellectual functioning or family socioeconomic resources. The second are person-focused strategies which "focus on identifying people who meet definitional criteria for resilience" (Masten & Powell 2003:11).

After reviewing related literature Masten and Powell (2003) developed a short-list of protective factors (Figure 3) that can predict individual competence and resilience. The three major categories of attributes are individual differences, relationships and community resources and opportunities.

TABLE 1.1. *Examples of Attributes of Individuals and Their Contexts Often Associated with Resilience*

Individual Differences
Cognitive abilities (IQ scores, attentional skills, executive functioning skills)
Self-perceptions of competence, worth, confidence (self-efficacy, self-esteem)
Temperament and personality (adaptability, sociability)
Self-regulation skills (impulse control, affect and arousal regulation)
Positive outlook on life (hopefulness, belief that life has meaning, faith)
Relationships
Parenting quality (including warmth, structure and monitoring, expectations)
Close relationships with competent adults (parents, relatives, mentors)
Connections to prosocial and rule-abiding peers (among older children)
Community Resources and Opportunities
Good schools
Connections to prosocial organizations (such as clubs or religious groups)
Neighborhood quality (public safety, collective supervision, libraries, recreation centers)
Quality of social services and health care

Figure 3. Shortlist of protective factors (Masten & Powell, 2003)

While the short-list provides a reference for assessing individual resilience in different contexts, my contention is that the table may not be sufficient for exploring attributes related to community resources and opportunities in low-income contexts as I will expound in chapter five.

2.5.3 The life-course theory

The work of Ingrid Schoon (2006) provided an additional theoretical perspective for conceptualising risk, vulnerability and resilience in relation to the concept of drop-in among susceptible at-risk students in fragile settings. Schoon (2006) carried out secondary analysis of large datasets from two longitudinal studies of two British birth cohorts of 1958 and 1970. She analysed the large-scale data using the life-course approach which looks at the gamut of a person's life as opposed to the life-cycle approach

that bases on phases like childhood, adolescence and adulthood. Schoon noted that children raised in disadvantaged or deprived circumstances are at increased risk of adverse developmental outcomes ranging from educational underachievement and behavioural problems to adjustment problems in later life, such as low occupational status and poor health. Schoon (2006) was inspired by Glen Elder's life course theory which calls for understanding the development process contextually, and proposed the life course approach to human development, as a dynamic process that is partly constructed through human agency and partly shaped through the changing (proximal and distal) contexts through which the individual moves. Schoon reiterated that resilience theory should focus on understanding healthy development despite risk exposures and on strengths rather than weaknesses, within the *salutogenesis* paradigm.

Like the other works that I have cited, Schoon's (2006) work was in a different temporal and spatial British context compared to that of Eritrea. Secondly, Schoon's (2006) study spans generations whereas my research took a snapshot in the lives of at-risk students, with no prospect of my ever engaging with them in later life. Nevertheless, Schoon's (2006) analysis remains crucial to my study in terms of contextualising education in adversity. Like other meta-analyses (Hammond *et.al.,* 2007; Masten and Powell, 2003, Rumberger & Lim, 2008; and Wright *et.al.*, 2013), Schoon (2006) reiterates the idea that the experiences of individuals live with them and that resilience is a two-dimensional process that considers:1) the positive adjustment an individual or group experiences and 2) the adversity or risk that they must overcome. Lastly, Schoon offers criteria for examining how the participants adjust amid adversities to continue schooling despite

the identified risks. Schoon underscores the need to understand individual challenges and adjustments within their immediate contexts.

The foregoing literature is about resilience initiatives in the global north. The question for me was whether the lenses were applicable to sub-Saharan Africa. This observation was borne out of the recognition that culture is not homogenous across the two broad geographical zones. Yet it is culture which provides the overarching structure in which resilience is manifested. I was curious to explore whether the construction and interpretation of resilience travels across cultural spaces and whether the frameworks identified by scholars in high-income countries can apply in low-income contexts.

2.5.4 Motivation and Self Determination

In this section I explore motivation as the force that translates resilience into action to drop into school. Motivation has been theorised by various scholars over a long time for example, Maslow's hierarchy of needs propounded in 1954, the two-factor content theory by Herzberg and the human motivation theory by McClelland. Those earlier theories on motivation were criticised for being bound to the Western culture and value systems (Ryan 2009); for focusing on the individual more than the community or groups in which the individual operates (Geren 2011), or for not being directly relevant to education since they focused on workplace models and environments (Suh, Diener, Oishi, & Triandis, 1998; Guay, Ratelle & Chanal, 2008). I therefore chose to analyse the self-determination theory (SDT) based on the claim that SDT transcends cultural boundaries (Ryan 2009) and that it engages more systematically with educational contexts (Guay *et.al.* 2008).

Advanced by Deci and Ryan (2007) as a substantive macro theory about motivation, SDT examines human motivation, development and wellbeing, on the premise that individuals seek experiences that fulfil the fundamental need for competence, autonomy and relatedness through interaction with the environment. According to Ryan (2009), the theory focuses on volitional behaviour and the sociocultural conditions that promote that behaviour. Unlike other theories that treat motivation as a unitary concept that defines wellbeing based on happiness alone, SDT "assumes that people are active organisms with inherent and deeply evolved tendencies toward psychological growth and development" (Ryan 2009:1).

SDT proposes three categories of motivation, namely autonomous, controlled and amotivation. Autonomous motivation is inspired by the experience of individual intention. It can be intrinsic (inborn desire to learn or seek challenges) or extrinsic motivation for example, when a person seeks to identify with the value in an activity and integrates it into their sense of self. Controlled motivation is the product of experiencing external pressure. It also falls into two subtypes: external regulation through reward or punishment; and introjected regulation where an action may be internalised and energised by approval or shame. Amotivation is the sheer lack of intention and motivation. SDT also addresses the context or social conditions in the way they enhance or diminish motivation. Through the process of internalisation, we take in and integrate the social practices and values around us. Ryan (2009) reckons that the social conditions constitute the nutriments for psychological growth, integrity and wellness. When the three needs of autonomy, relatedness and competence are satisfied within a social context, a person experiences vitality, self-motivation and wellbeing. Thwarting them diminishes self-motivation.

According to Ryan (2009) SDT has undergone several developments and research iterations resulting in five mini theories, which collectively constitute the framework for SDT. The five are: cognitive evaluation theory (CET), organismic integration theory (OIT), causality orientations theory (COT), basic psychological needs theory (BPNT) and goal contents theory (GCT). CET explores how social contexts and interpersonal interaction either facilitate or hinder intrinsic motivation. Deci, Koestner and Ryan (1999) argue that rewards, deadlines and feedback enhance of hinder intrinsic motivation.

Where CET addresses intrinsic motives, OIT examines the way extrinsic motives are internalised by an individual. Ryan and Deci (2000) refer to the continuum of internalisation (external regulation, introjection, identification and integration) and emphasise the role of contextual support for autonomy, competence and relatedness. They conclude that an individual is more likely to internalise and integrate a practice or value if they have an opportunity to exercise choice with respect to the value or practice, including efficacy in engaging in it and connection with those who convey the practice or value. For my study, I reflected on whether going to school is presented as a value that students should aim for and if it cohered with their personal ideals about education, and especially if it was out of their own volition that they persisted in schooling.

The third mini theory is COT. According to Ryan (2009), COT describes individual differences in the way people align to different aspects of their environment to regulate their behaviour. Ryan distinguishes between autonomy orientation whereby a person acts with congruence to what interests them; and control orientation in which a person responds to the rewards or social controls.

BPNT is the fourth mini-theory, which articulates a direct connection between basic needs and wellness, such that each need exerts unique effects on wellness. Ryan notes that the impact of any behaviour on wellbeing is largely a function of its relations with need satisfaction. The final mini theory (GCT) argues that motivation is not necessarily contingent upon satisfying the basic needs; instead, higher ideals like intimate relationships, personal growth or philanthropy facilitate wellness.

Regarding schooling, SDT hypothesises that students who are regulated by autonomous motivations experience positive consequences at school. Guay *et.al*, (2008) reviewed studies that examined motivation based on SDT, particularly those studies that looked at the link between motivation and student behaviour and outcomes. They concluded that the social connections of parents and teachers were key to the development of student motivation. Guay *et.al.* (2008) also reported that students who dropped out of high school had lower intrinsic motivation and identified with regulation and higher amotivation compared to students who persisted.

Additionally, Ryan (2009) posits that students coming into a schooling context possess a personal motive however ambiguous it might be. Thus, according to SDT the degree to which students perceive that the school context meets their psychological needs determines their level of school engagement.

In the next section I conclude the chapter with a review of literature on fragile contexts.

2.6 Fragile contexts

In Chapter One, I provided an overview of the context of Eritrea and the perception that it is a challenging context (Christensen *et.al.* 2011;

Fedderke & Klitgaard, 2013; Tronvoll, 2009). The global Fragile States Index of 2016 (Messner, 2016) ranked Eritrea 18th out of 178[9] countries based on an aggregate score of twelve[10] key political, social and economic indicators. Moreover, the publication noted that Eritrea declined significantly from the previous year's aggregate and thus became more fragile.

The concept of "fragile states" refers to countries that manifest the characteristics of vulnerability to risk or failure. However, IFAD (2015) argues that each definition of fragile state conveys the policy stance of the entity formulating the definition. Prior to the emergence of the concept of fragile states, the World Bank labelled countries that showed signs of socioeconomic strain as "Low-Income Countries Under Stress" or LICUS (Carvalho, 2006). LICUS were characterised by inability "to reach development goals [and] the adverse economic effects they have on neighbouring countries and the global spill-overs that may follow" (Carvalho 2006: ix).

At stake is the capacity of the state to conduct its mandated business. Turrent and Oketch (2009) define fragile states as countries lacking the capacity or will to deliver core state functions for most of their people. Whereas Turrent and Oketch (2009) looked at fragility in relation to conflicts, their definition applies to non-conflict situations where delivery of state mandates is challenged. That point was emphasised by the International Fund for Agricultural Development (IFAD 2015) which defined a fragile state as one that is "… characterized by weak policies, weak institutions and

[9] The least fragile was Finland at 178th position with an aggregate score of 18.8 while Eritrea's aggregate was 98.6.

[10] **Social indicators**: demographic pressures, refugees and internally displaced persons, group grievance, human flight and brain drain. **Economic indicators**: uneven economic development, poverty and economic decline. **Political and military indicators**: State legitimacy, public services, human rights and the rule of law, security apparatus, factional elites, external interventions.

weak governance, resulting in meagre economic growth, widespread inequality and poor human development" (IFAD 2015:2). IFAD noted that the fragile state may be poor or well-endowed in resources, which points to the quality or effectiveness of statecraft. Echoing Opiyo (2010) IFAD (2015) argue that fragile states are more vulnerable to the risk of outbreaks of violence and conflict.

Apart from the conceptualisation of fragility from the perspective of the state, there are scenarios of fragility within fragility whereby a fragile state can have varying degrees of fragility depending on location. Similarly, there are cases of fragility within countries that are not considered fragile, especially in countries that are within the middle-income bracket but where some of the conditions such as conflict obtain. In this regard, IFAD (2015) argues that basing on the criteria of the World Bank Country Policy and Institutional Assessment (CPIA) excludes communities which demonstrate "fragile conditions" even if they are within a country of middle income status.

2.6.1 Migration

Eritrea experienced significant levels of external migration, with some sources claiming that at least one third of its population has emigrated (Hirt, 2013; Ong'ayo 2015). Migration is a cause and consequence of fragility (GSDRC, 2016; Muller 2012). I was interested to examine whether migration was viewed as part of fragility and whether it impacted on schooling for at-risk students in Eritrea. Bredl (2011) investigated the impact of migration and remittances on children's educational outcomes in Haiti. Bredl found that migration upsets family setups and may end up shifting responsibilities to children who are still in school, which echoed the argument that migration contributes to the opportunity cost of schooling

(Dyer, 2006). Bredl (2011) also found that migrants' remittances contributed to household wealth and thus helped poor households to keep deprived students in school, a finding that was confirmed by Amoateng *et.al.* (2014) regarding remittances stabilising household incomes and supporting the education of children from poorer households, particularly those faced with high costs of enrolment. However, Amoateng *et.al.'*s results did not uphold the hypothesis that the absence of a father had a detrimental effect on students' learning outcomes. Neither did living in a household with people having migration experience negatively impact on learning outcomes.

Ong'ayo (2015) discusses the contradictions in Eritrea where the state controls emigration through issuance of exit visas and demonstrates how most Eritreans who emigrate brave considerable risks to exit the country. Yet when they succeed and settle in other countries, they dutifully remit part of their income to the state and some to their families. Ong'ayo (2015) argues that the Diaspora are an integral part of the Eritrean economy because they support families and the government through their remittances. Their informal remittances are said to contribute towards stabilising family setups (Hirt, 2013; Ong'ayo, 2015). Therefore, remittances contribute to education through the informal support that alleviates the burdens on families and lessens the opportunity cost of education (Bredl, 2011); and through support to the budget which enables the government to provide education services in the face of financial crises (Ong'ayo. 2015; Hirt, 2013). According to Hirt (2013):

> Eritrean embassies around the world have been keeping a record of the exact sums every Eritrean has paid since 1991…. Those who pay the tax receive a "clearance" that enables them to enjoy government services such as obtaining birth and marriage certificates, the right to purchase and own land and buildings in Eritrea, to operate a business, get exit visas for elderly relatives or to obtain permission to repatriate the bodies

> of deceased persons who wished to be buried in their home village. Yet the most important service for many is the extension of passports, the provision of which also depends on the payment of the 2 percent tax. (Hirt, 2013:14)

The UN Security Council describes the two percent tax as an extortion (UN Security Council Resolution 2023).

2.6.2 Pastoralism, nomadism and education

Mobile pastoralism and formal education have a historically problematic relationship (Krätli, 2001; Leggett 2005). The tension is partly due to the inherent differences between pastoralist and sedentary lifestyles (Zinsstag *et.al.* 2016; Maro *et.al.* 2012; Krätli & Dyer 2009; Suri 2014) and the fact that mobile pastoralists are often in the minority (Davies & Hatfield, 2007; Krätli & Dyer 2009). It also derives from the misconception that pastoralism is backward (Rao, 2006) and that it is incompatible with formal education (Amadi 2015). According to Krätli (2001), nomadic pastoralists include some of the poorest and most vulnerable of all southern populations, although Bishop, Aminu (1991, in Bishop 2007) and Amadi (2015) contest the characterization of pastoralists as poor. Aminu argues that by 1991, pastoral nomads exercised a dominant control of the protein sector of Nigeria's nutrition, a point reinforced by Amadi (2015) who reported that the minority pastoralists contributed about 95 percent of the 12 million cattle in Nigeria. Studies conducted elsewhere have evidenced the knowledge that pastoralist communities are crucial to the economic and food security status of the countries and communities they traverse (Dyer, 2018; Krätli 2001). Thus, some information about pastoralists is inaccurate and this could be the result of bias or working from a position of ignorance about the way of life of pastoralists.

Definition

Mobile pastoralists are usually a large and significant minority of the population in any country (Davies & Hatfield 2007). However, they are often an ethnic minority (Davies & Hatfield, 2007; Krätli & Dyer, 2009). The defining attributes of nomadic pastoralism include mobility within and across geographical borders, and a search for natural resources to sustain livestock (Arnot, Schneider and Welply, 2013; Dyer, 2018); conflict (Randall, 2015); ecological dislocation and unsettled habitation (Amadi 2015); and marginalization or exclusion (Dyer 2016; Suliman, Shah and Ullah 2017; Suri 2014). As Dyer (2018) notes, mobile pastoralists navigate a complex livelihood as they try to maintain an optimal balance between pastures, livestock and people in uncertain circumstances. Zinsstag, Schelling, Bonfoh, Crump & Krätli also note that "Pastoralism is a complex system, driven by interacting ecological, social and economic factors that cannot be adequately addressed by one discipline or sector alone" (Zinsstag *et.al.*, 2016:335).

Key issues on pastoralism in literature

The question of formal education for mobile pastoralists continues to test scholars, policy makers and practitioners (Abdulrahman 2016; Dyer 2018; Krätli, 2001; Krätli & Dyer 2009). Formal education is a systematic and organized process that facilitates learning and the acquisition of knowledge, skills, values, beliefs and habits within a given set of laws and norms (Dib 1988; Kasomo 2009). Formal education has been presented as a human right (UN 1948; UNESCO 2007), an instrument for positive change (Suri 2014), and a catalyst for social and economic development (Abdulrahman 2016; Dyer 2016). Theoretically the positive attributes place education in a

strategic position to address the challenges experienced by mobile pastoralist communities in low-income contexts. Yet literature continues to highlight the deprivations experienced by pastoralist communities either because of, or despite formal education (Arnot *et.al.* 2013; Leggett 2005; Suliman *et.al.* 2017). The persistent concerns hinge on what form and substance formal education should comprise to meet the aspirations of pastoralist children and their communities while responding to national goals of education (Dib, 1988; Mayunga, 2007).

Literature has shown that the perception that pastoral communities are opposed to formal education is unfounded and that nomadic pastoralist families value formal education (Birch, Cavanna, Abkula & Hujale 2010; Dyer 2010; Krätli & Dyer 2009). However, it is evident that the demand for formal education among pastoralist communities has not been adequately addressed. Scholars argue that whereas mobile pastoralists are adaptive (Leggett 2005) and they view change as an inherent and diachronic process (Carr-Hill & Peart 2005), formal education is slow to adapt and is inherently a "take-it-or-leave-it" model (Leggett, 2005). Thus, where pastoral communities are labelled conservative, it can also be argued that it is the formal education systems that have remained conservative and slow to adapt.

For example, a study of nomadic education in Nigeria, conducted by Tahir, Muhammad and Mohammed (Tahir *et.al.* 2005:15) under the auspices of ADEA, found that access to education for nomadic pastoralist children was constrained by constant movement, the opportunity cost of children's labour, unsuitability of the formal curriculum, physical isolation and unfavourable land tenure systems. The constraints identified reinforced similar findings by other scholars including Arnot *et.al.* 2013; Birch *et.al.*

2010; Bishop 2007; Carr-Hill et a. 2005; Davies & Hatfield 2006; Dyer 2018; Krätli 2001; Maro *et.al.* 2012; Reda 2014; and Suri 2014. However, as Dyer (2010), Suliman (2007) and Suri (2014) have pointed out, it is in the suggested strategies to address those issues that policymakers have failed pastoralist communities. The remedies tend to revert to the premise that formal education for pastoralist communities should "liberate [the pastoralists] from themselves" instead of trying to help them better their circumstances within their cultural and ecological environments (Krätli & Dyer, 2009). Indeed, it can be argued that the remedies prescribed for the education of pastoralist communities derive from the views of the majority, who happen to control political power and are based in sedentary lifestyles. Amadi even suggests that "The best method to educate the nomad is to settle him [sic], to give him a permanent abode where he can be located and taught" (Amadi 2015:18).

Secondly, formal education is tied to physical spaces or the "stillness of educational institutions" (Suliman *et.al.*, 2017:542). Arnot *et.al.* (2013) highlight the challenges of tying education to "geographic catchment areas" (Arnot *et.al.* 2013:571) and Dyer (2010) cautions that school-based models of learning are not sufficient in addressing the needs of pastoralist communities. Thus, Dyer's (2010) argument is that rigid school-based systems effectively exclude pastoralist children who are engaged in the productive tasks that are core to their communal existence. It is in this regard that Arnot *et.al.* (2013) call for "rethinking the role of education in relation to new movements, flows and networks, and new forms of diversity and identity" (Arnot et. al 2013: 567).

There have been counterarguments about the positive narrative on formal education and mobile pastoralism. Dyer's (2016) reasons that extolling the

virtues of formal education unquestioningly downplays the instrumental role of formal education in state-building and social reproduction, and the contradictions experienced by nomadic pastoralists because of formal education. Similarly, Rao (2006) argues that the choice of terminology applied to mobile pastoralist communities, such as 'backward culture' is part of the political discourse that entrenches marginalization and hegemony over minority groups. Such observations justify Sharma's (2011) call "to re-examine the so-called transformational possibilities of education from the point of view of the periphery, such as nomads" (Sharma 2011: vi).

Overarching recommendation on education for pastoralist children

Having examined the possibilities and challenges of education for pastoralist children, I now explore some of the strategies that have worked and what else promises to galvanize formal education in such disadvantaged communities. From the list of challenges highlighted by Tahir *et.al.* (2005) one can assume that flipping them will point to potential solutions. However, past approaches such as forced sedentarisation in parts of Africa (Carr-Hill & Peart 2005), offering incentives to families to compensate for child labour (Bishop 2007), developing customised curricula (Carr-Hill & Peart 2005) and land consolidation (Johnson 1993) demonstrate the shortcomings of superficial analyses and responses by policymakers. One of the key gaps is in the claim by policy makers to participatory processes which they hardly practice to harness the views and inputs of the target communities while developing formal education policies and interventions. Based on studies conducted in Wajir District of north-eastern Kenya, Leggett (2005) cautioned that the process of formulating equitable policies must acknowledge local dynamics and conditions of pastoralist communities, and back the policies and strategies with

comprehensive and imaginative initiatives. “Policy makers need to listen to the concerns and opinions of pastoralists to develop policies and practices that will make education accessible to nomadic people” Leggett (2005: 154). Similarly, Birch *et.al.* (2010) questioned the assumption that the education of pastoralist communities is a unidimensional challenge, noting, “Pastoralists are clear that education cannot be addressed in isolation. Many factors, including drought, disease, conflict, mobility, and the availability of infrastructure and technology, will have an impact on learning in pastoralist areas” (Birch *et.al.* 2010:22).

Several innovative strategies have been tried with varying degrees of success. Among these are the operation of boarding schools (Krätli & Dyer 2009), radio schooling (Birch *et.al.* 2010), MOOSC[11] (Dyer & Echessa 2019); shift system whereby the entire school moves in tandem with livestock (Amadi 2015); evening classes where the teacher finds the class during their rest periods, and distance learning where materials are sent to learners to learn at leisure (Amadi 2015). The fact that evaluations of their effectiveness have yielded mixed results reaffirms the view that interventions need to be context-sensitive and nuance with the insights of the intended beneficiaries. The interventions require discipline, specialist skills and commitment on the part of the teachers or instructors, and resilience and motivation among the learners. Dyer (2010) also recognizes the drawbacks to such alternative strategies, among them being teacher recruitment and retention, curriculum relevance, medium of instruction, and transition bottlenecks for students wishing to transition to post elementary education levels.

[11] Mobile out of school children

So far, beyond the traditional media, the potential of technology has not been sufficiently harnessed to foster equitable inclusive education. Efforts to implement eLearning programmes based on electronic tablets have remained at pilot level with no rigorous evaluation of their efficacy (UNICEF 2017).

2.7 Summary and research questions

The seed for this thesis was planted by Hunt's (2008) comment that there was abundant literature on dropout but scant literature on drop in. In seeking to address the conceptual gap on drop-in, I reviewed literature on educational data, risks to schooling, motivation and resilience, and on fragile contexts, nomadism and migration. The review has highlighted some debates worth taking forward. For example, whereas countries have education information management systems, there is neither convergence in opinion about the data and indicators they provide nor about the faith in educational data. Secondly, the literature pointed to the overemphasis on quantitative data, moreover noting that stakeholder participation in its generation, processing and utilization is inadequate. The second debate related to frameworks for analysing risk and resilience among students in low income countries, specifically whether frameworks developed in high income countries could be applied to generate understanding of risk, motivation and resilience in a low income fragile context. The following diagram updates the conceptual framework in section 1.3 and shows how the study was approached.

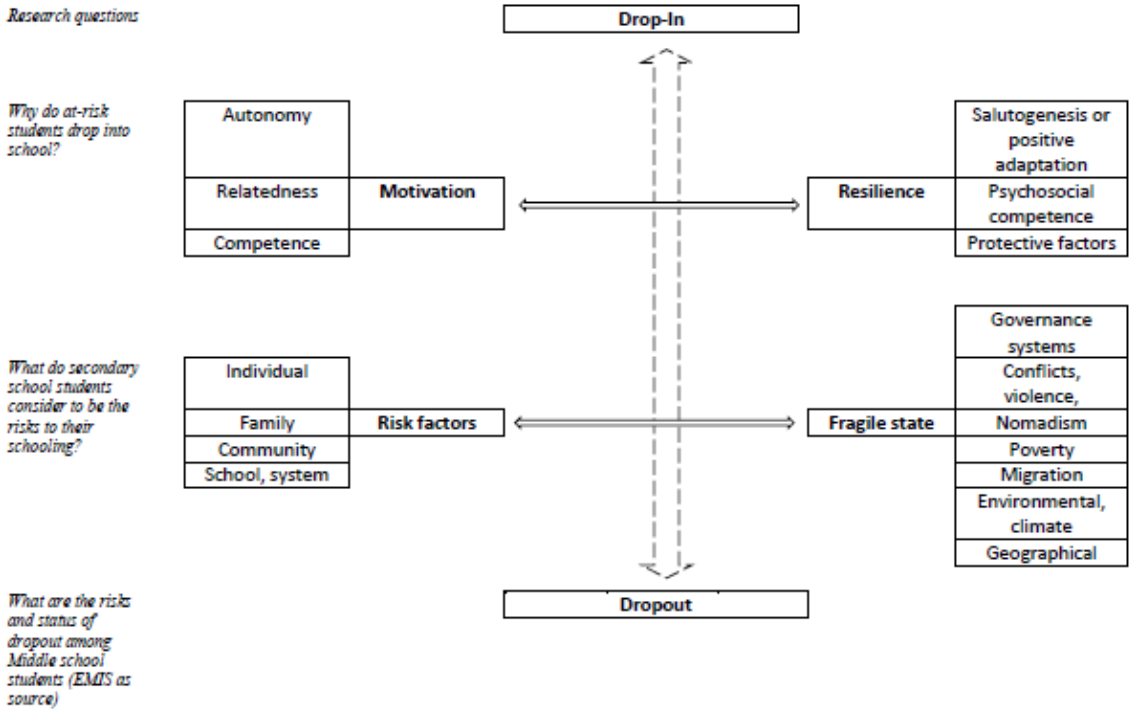


Figure 4. Updated conceptual framework for exploring drop-in

Figure 4 shows the interconnections implied by the literature, namely that drop-in and dropout are endpoints along a continuum that is influenced by fragile conditions and risk factors on one hand, and resilience and motivation on the other. Within the relationships, it is possible that risk facilitates resilience and drop-in just as the lack of motivation can be a risk factor. The broken line depicts the uncertainty of schooling within the context.

Building on the key concerns I identified in chapter one, namely relationship between risks and motivation to drop into school, and considering the debates emerging from the literature, I zeroed in on the following specific research questions:

1. What, according to the EMIS reports, is the status of risk of dropout among Middle school students in Eritrea?
    - How does the Eritrean EMIS identify risk of dropout?
    - How does EMIS measure risk of dropout in Eritrea?
2. What do secondary school students in Amiche[12] district of Eritrea consider to be the risks to their schooling?
3. Why do at-risk students in Amiche district drop into school?

My intention was to assess how applicable the conceptual framework would be in explaining the phenomenon of drop in among middle school students. In the next chapter I present the methodology.

[12] All names used in this research to refer to participants and places are pseudonyms used to anonymise identities.

Chapter 3

Methodology

3.1 Introduction

I aimed in this study to explore the phenomenon of drop-in, whereby secondary school students, whom teachers and fellow students consider to be at risk of dropping out of school, defy the odds and drop into school and may end up completing the lower secondary education cycle. The three research questions were:

1. What, according to the EMIS reports, is the status of risk of dropout among middle school students in Eritrea?
    i. How does the Eritrean EMIS identify risk of dropout?
    ii. How does EMIS measure risk of dropout in Eritrea?
2. What do secondary school students in Amiche district of Eritrea consider to be the risks to their schooling?
3. Why do at-risk students in Amiche district drop into school?

In this chapter I provide my research perspective and design and then I describe the data collection tools, the ethical considerations and the procedure for data analysis.

3.2 Methodological perspective

My research was influenced by the interpretivism and constructionism. Denzin and Lincoln (2008) characterise interpretivism as seeking to decipher the hidden patterns within specific cases or human experiences,

values, beliefs and symbols. I adopted constructionism as an approach. Constructionism offers that the results of research and involved assumptions are culturally and socially constructed (Crotty, 1998). As such I sequenced my research, starting with the analysis and interpretation of the existing EMIS reports, followed by qualitative field research in which I tapped into the constructed reality of the respondents (Bryman, 2012; Tashakkori and Teddlie, 2010).

My professional work, like my worldview, has evolved through professional formations and spaces and developed in me the ability to look at the world as a social reality. Thus, my exploration of risk and motivation among the specific group of students sought to find meaning, not as a discovery but as constructed within their social setting (Crotty, 1998). As Crotty notes, constructionist epistemology allows for on-going construction of meaning within social contexts through interaction with subjects. Robson (2002) and Denscombe (2007) add that this facilitates the understanding of subjective human experience. Crotty (1998:42) defines such reality as “contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context.” Similarly, Rubin and Rubin (2005) and Bogdan and Biklen (2003) note that interpretation is neither an autonomous act, nor is it determined by any force. They suggest that interpretations are shaped with the help of others, in the “cultural arena” where people are likely to understand meanings in a similar way. The concept of sociocultural connectedness runs through the literature on risk (e.g. Hammond *et.al.*, 2007), resilience (e.g. Schoon 2006) and motivation (e.g. Deci and Ryan 2009). The qualitative dimension of this study was useful in answering the second and third research questions which focused on the types of risks of

dropout, the mechanisms and manifestations of resilience and how at-risk students of Amiche district were motivated to keep dropping into school.

3.2.1 The case study approach

The intention of analysing the EMIS data was to zoom into a region with the highest indicators of risk. However, due to challenges with accessing the field to collect data (section 3.3) and anomalies with the available data (sections 4.3 and 4.4), I conducted a descriptive analysis of existing quantitative EMIS data and complemented it with insights from MOE officials. This enabled me to, narrow my focus to Amiche district, which I considered as my case for exploring student drop-in at middle school level. In the entire Amiche district, there were only two lower secondary schools. The schools were different in terms of infrastructure, community status and urban/rural setting (section 5.2). However, I did not set out to compare the two schools, much as I was open to note any unique differences that might have arisen. Instead, I considered the two schools as parallel sites whose data was complementary to understanding how drop-in permeates different spaces and circumstances. The case of Amiche accorded with Crotty's characterisation of social life that requires culturally derived and historically situated interpretation (Crotty, 1998). Yin (2009:18) defines case study as "an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident". In this study the contemporary phenomenon was access to education for at-risk students. The real-life context was a fragile environment within a fragile geopolitical region where fragility and challenged schooling were mutually reinforcing. Eisenhardt (1989) and Johansson (2003) also point to richness in evidence deriving from a focus on "single settings", and the embeddedness of case

studies in real life situations, while Stake (2008:120) argues that the case can be anything that fits the description of “a bounded system” of interest – a person, enterprise, an institution, a programme, a responsibility, a collection, or even a population.” My bounded system was Amiche district.

Robson (2002) cites the potential of case study to achieve theoretical generalisation, while Thomas (2010) argues that intrinsic interest among research respondents to further their own understanding of the issue at stake enhances the functionality of case studies. As noted in chapter one, drop-in is a phenomenon that touches many but one which has not attracted sufficient scholarly attention like dropout has (Hunt, 2008). I therefore used the case study approach for my fieldwork to learn and to activate the intrinsic interest among my research participants.

3.3 Research design

I adopted the mixed methods research design. Creswell and Tashakkori (2007) present mixed methods research as a third way between positivist research and interpretivist research, while Bryman (2012) and Tashakkori and Teddlie (2010) commend mixed methods research for its inclusivity in accommodating data, findings and inferences of qualitative and quantitative methods in a study. Driscoll, Appiah-Yeboah, Salib and Rupert (2007) argue that mixed methods research is “a conscious blending of approaches within and across the stages of the research process” (Driscoll *et.al.* 2007: 20). Of relevance to my study was the understanding conveyed by Bryman (2012) and Gray and Densten (1998) that qualitative and quantitative approaches are a continuum rather than an incommensurate dichotomy that researchers must choose from. That view echoed Frazer (1995) who argued that the divide between positivism and interpretivism was a false

dualism. Tashakkori and Teddlie (2010) also reiterate that the mixed methods design facilitates the research to simultaneously answer confirmatory and exploratory questions. In this study, the first research question on the extent of risk of dropout in Eritrea was confirmatory, while subsequent questions on the types of risk and motivation to drop-into school were exploratory.

Thus, I approached the study as a two-step sequential process of (a) descriptive analysis of secondary quantitative Education Management Information System (EMIS) data from twelve annual reports of the Ministry of Education 2003-2015 followed by (b) a qualitative inquiry using the case study approach.

3.3.1 Secondary analysis of existing data

Below I provide a short review of literature on secondary data in research, to explore its affordances and the debates regarding ownership, extent of coverage and convergence between original and new purposes (Creswell and Tashakkori 2007, Boslaugh 2007, Driscoll *et.al.* 2007).

Flaxman (2014:12) defines secondary data analysis as “any analysis where the data were collected by someone other than the analyst” while Cheng and Phillips (2014) highlight important differences about secondary analysis of data as they explore the benefits and challenges of working with such data. Cheng and Philips distinguish between the research-driven approach whereby the researcher has a hypothesis or research question in mind and looks for datasets to address the question; and the data-driven approach to analysing existing data in which the researcher teases out a research question by looking at the available data. Cheng and Phillips note that “the two approaches are often used jointly and iteratively. Researchers typically

start with a general idea about the question or hypothesis and then look for available datasets which contain the variables needed to address the research questions of interest." (Cheng and Phillips, 2014:373). Similarly, in my research I set off with a set of research questions seeking to explore the factors that foster drop-in among at-risk secondary school students in Eritrea.

There were compelling reasons for deciding to use secondary data given my insider/outsider position. The first reason was practical, to use the data that were readily available to me by virtue of my association with the Eritrea education sector as a UNICEF worker. This was consistent with the thrust of the Ed. D programme of UCL/IoE. Ordinarily, I should have collected raw data and processed it using routine procedures of data cleaning, analysis, interpretation and reporting. However, being a foreigner I had to abide by host Government guidelines on internal travel by foreigners, which made it difficult and unpredictable to access rural schools to collect my own data. Therefore, an existing database was the most pragmatic alternative in the circumstances. But aside from the practical considerations, I also sought to tap the benefits of economy and low cost as suggested by Cheng and Philips (2014). Devine (2003) also commends secondary data for the breadth and depth offered by large databases. Moreover, Boslaugh (2007) and Cheng and Philips (2014) argue that secondary data are usually cleaned by highly qualified professionals, and that the data collection processes for large data sets benefit from expertise and professionalism that individuals or smaller teams may not easily command.

That notwithstanding, scholars have identified some disadvantages of analysing already existing data (Cheng & Philips, 2014; Boslaugh, 2007). The main one is the fact that the data were collected for a different purpose

and may not suit the new research purpose and question. Secondly, additional variables may not have been captured and the data may not cover all subgroups or geographical areas. Furthermore, since identifier variables are usually deleted to protect the identities of respondents (apart from the generic identifiers like sex and age-rages), it may be difficult to pick out the nuancing identifiers which would be of interest to other researchers (Cheng & Philips, 2014). For instance, a decision to maintain political correctness, or to mask inequities, may result in the data entrenching disadvantage by not highlighting the sources of vulnerabilities. As I note in section 4.3, these might have been the considerations that underpinned the anomalies detected with the EMIS data for Eritrea. The fourth major disadvantage is that since the secondary analyst was not part of the original team they may be unaware or unintentionally insensitive to the study-specific glitches in the data collection process and may not be in position to remedy evident faults. Boslaugh (2007) therefore suggests that once the researcher has located a secondary dataset for analysis, they should address the following questions:

1. What was the original purpose for which the data were collected?

2. What kind of data are they, and when and how were the data collected?

3. What cleaning and/or recoding procedures have been applied to the data?

My preliminary responses to the foregoing questions were as follows:

1. The various Eritrean MOE reports (2003-2015) indicated that the original purpose of collecting data was to provide useful, relevant, reliable and up-

to-date information on education for various stakeholders within and outside the education sector.

2. The data collected annually were on Early Childhood Education (ECE) and General Education (Elementary, Middle and Secondary level).

3. Scholars including Broeck, Argeseanu, Cunningham, Eeckels & Herbst, (2005); Hellerstein (2008) and Winkler (2003) note that even with the most carefully designed studies, errors are bound to occur. Broeck *et.al.*, (2005) argue that all experimental and observational researches must deal with errors from various sources and their effects on study results. As part of the process of quality assurance, researchers therefore undertake the process of data cleaning to minimise the impact of such errors on the results of the study. Data cleaning is the process of detecting or screening, diagnosing and editing faulty data. However, as Broeck *et.al.* (2005) note, data cleaning is not without controversy. They argue, “Data cleaning is emblematic of the historical lower status of data quality issues and has long been viewed as a suspect activity, bordering on data manipulation” (2005: 966). That caveat notwithstanding, data cleaning is supposed to deal with data problems that have already occurred and it can be conducted at any point during the process since error detection can occur at any point. Broeck *et.al.* (2005) advise that once a suspicion about data is aroused, it is more efficient to search for the errors systematically.

A systematic screening activity is when the researcher tries to distinguish four basic types of oddities in the data. These are lack of data or excess data; outliers, including inconsistencies; strange patterns in distributions; and unexpected analysis results and other types of inferences and abstractions. In the diagnostic stage of data cleaning the researcher seeks “to clarify the true nature of the worrisome data points, patterns, and

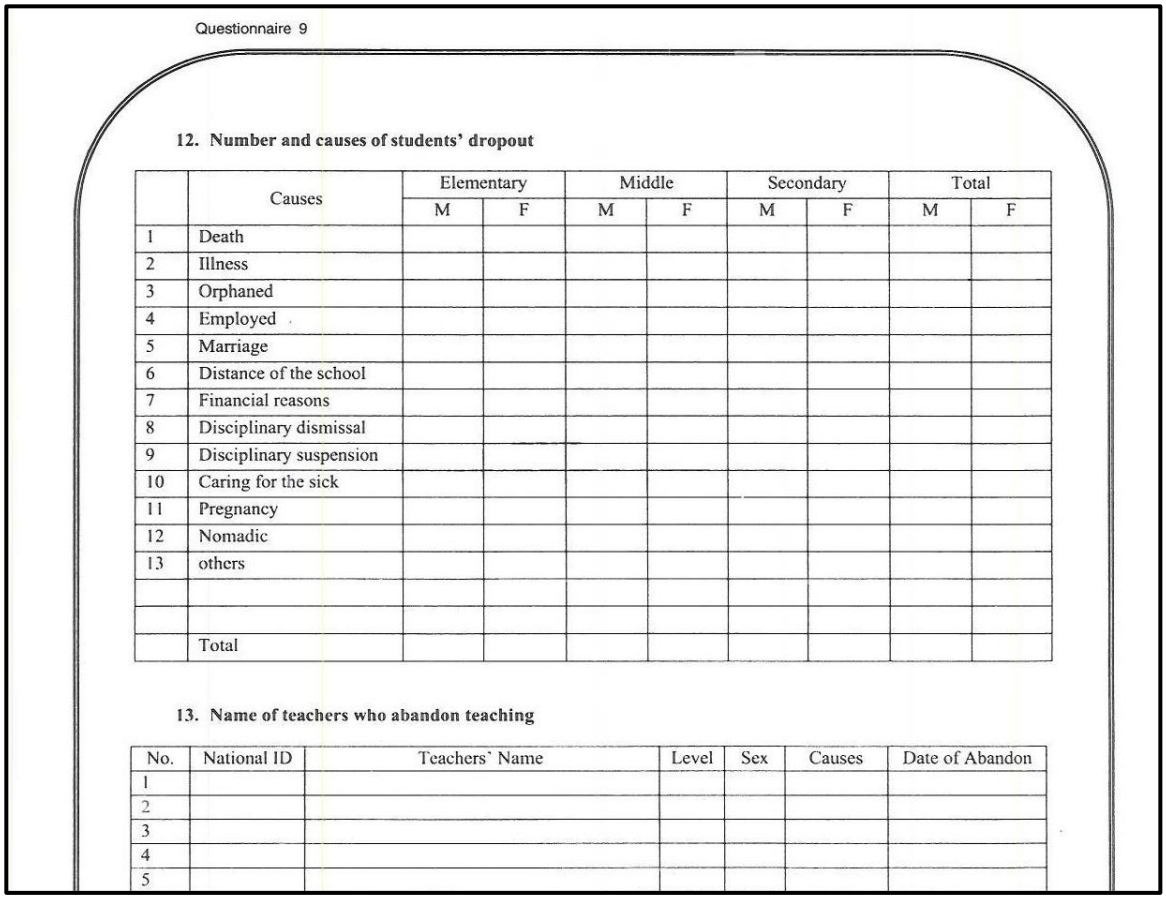
statistics" (Broeck *et.al.* 2005: 968) with the diagnostic possibilities for each data point being erroneous, true extreme, true normal (i.e. the prior expectation was incorrect), or idiopathic (i.e. no explanation found, but still suspect). They note that some data points are clearly logically or biologically impossible. Thus, Broeck *et.al.* (2005) recommend some diagnostic procedures such as going to the previous stages of the data flow to see whether a value is consistently the same; looking for information that could confirm the true extreme status of an outlying data point; and collecting additional data e.g. by questioning the data collector about what may have happened and where possible repeating the measurement. However, they also note that these procedures can only help if the data cleaning starts soon after data collection.

3.3.2 Quantitative data collection

Every academic year the Eritrea MOE distributes questionnaires to basic education institutions to gather information on various aspects of education. Questionnaire 7 focuses on pre-primary education, while questionnaires 8 and 9 are on elementary to secondary school levels. EMIS does not collect information on non-formal education despite the role of the non-formal complementary elementary education programme since 2006 and catering for over 200,000 out-of-school children by 2011 (UNESCO, 2012). The explanatory notes to the questionnaires explain thus,

> The first two are closed questionnaires, in which schools and institutions send back the November data on pre-primary, primary, secondary, special education, technical schools and [Technical Education Institutes] TEI's to the MOE … Questionnaire item 9 covers a school's physical, financial and internal efficiency particulars. The expected time of completion of this Questionnaire is July, after the end of each academic year in the country. (GOSE, 1991:2)

For this study, I was interested in Questionnaire 9 which collects information about the school, causes of dropouts, teacher attrition, flow rates across the elementary to secondary levels, health and nutrition, and school finances. Figure 5 is an extract from the questionnaire. I noted that even if the EMIS questionnaires focus on quantitative data, they also collect qualitative data on student dropout and teacher attrition although they seek to quantify the qualitative responses. Q9 provides 12 pre-determined causes with space for “other” causes if they are not among the 12 listed. The 12 listed causes are: death, illness, orphanhood, employment, marriage, distance to school, financial reasons, discipline (suspension/dismissal), caring for the sick, pregnancy, and nomadism. Then Q9 asks for data on teacher attrition including a column for causes. Thereafter Q9 moves to school health and nutrition indicators such as stunting, eyesight, hearing, skin infections, dental, Vitamin A supplementation, Iron supplementation, co-curricular health promoting skills, and teacher capacity to deliver and monitor the health and nutrition aspects of students. Subsequent sections of the questionnaire are about the water and sanitation provisions, school health policies and annual income and expenditures of the school.



Questionnaire 9

12. Number and causes of students' dropout

	Causes	Elementary		Middle		Secondary		Total	
		M	F	M	F	M	F	M	F
1	Death								
2	Illness								
3	Orphaned								
4	Employed								
5	Marriage								
6	Distance of the school								
7	Financial reasons								
8	Disciplinary dismissal								
9	Disciplinary suspension								
10	Caring for the sick								
11	Pregnancy								
12	Nomadic								
13	others								
	Total								

13. Name of teachers who abandon teaching

No.	National ID	Teachers` Name	Level	Sex	Causes	Date of Abandon
1						
2						
3						
4						
5						

Figure 5. Extract from Eritrea EMIS Questionnaire 9

School Principals are responsible for providing the information. Once they complete the exercise they submit the questionnaires to the District Education Office that transmits the sets of questionnaires to the Provincial Education Office for collating, cleaning and preliminary analysis of data. The results of the preliminary analysis and the screed questionnaires are then transmitted to the EMIS Unit of the Department of Research and Human Resources for further analyses with the support of the National Statistics Office (NSO). It takes at least twelve months for the MOE to publish the *Basic Education Statistics* and *Essential Education Indicators* booklets.

I requested and received from the MOE physical and electronic copies of the two publications for 1994/95 to 2014/15.

My analysis revealed that between questionnaires 8 and 9 there is a lot of vital data that is captured on risks faced by students. Internally within each questionnaire, sections provide complementary insights on the status of students. For example, Q8 parts 1.3 (catchment area and population), 1.4 (feeder schools), 4 (enrolment and flow rates) and 5 (special needs) are thematically connected. Similarly, Q9 item 12 on the number and causes of dropouts, item 14 on flow rates and item 18 on school health and nutrition are closely interlinked. Moreover, the two linkages are mutually reinforcing across the two questionnaires and they resonate with the domains, categories and typologies of exclusion as proposed by Hammond *et.al.* (2007), Rumberger and Lim (2008), Ananga (2011) and Abuya *et.al.* (2013) in Chapter Two. However, the final EMIS reports did not reflect or convey any critical analysis of the qualitative factors.

3.3.3 Qualitative data collection

The second phase was to collect qualitative data to address the second research question about the risks of dropout as perceived by the students and their teachers. Related to the main question, I sought to know why at-risk students dropped into school and what aided their dropping into school. In the sub sections that follow I present the procedures for selecting the research context, the participants and the rationale for my research methods.

As noted in the literature review, I was not able to identify literature on risk, resilience and motivation in sub-Saharan Africa on the scale of Hammond *et.al*. (2007), Rumberger and Lim (2008), Schoon (2006), Masten and

Powell (2003) and others. The closest were country case studies on out-of-school children conducted under the OOSC Initiative by UNICEF and UNESCO (since 2010) and the Global Partnership for Education (since 2013); and the study by Amoateng *et.al*. (2014) which examined the relationship between family structure and learning outcomes in 26 African countries. However, Amoateng *et.al*. (2014) and the OOSC country studies were modelled on the western conceptualisation of risk, resilience and motivation. Unlike the OOSC studies which are led by Ministries of Education and are increasingly influential in policy formulation, the smaller scale studies by individual researchers such as Ananga (2011); Kepler & Rugira (2013); Krätli & Dyer (2009); Meintjes *et.al* (2009); Ngware *et.al.* (2009); Nyambedha & Hansen (2010); Palme (1998); Richter & Desmond (2008); Vavrus (2002) have not yet been analysed to the scale of Hammond *et.al.* (2007) and have not attracted governmental buy-in and investment of resources to influence policy and practice on a national scale the way Hammond *et.al*. (2007), Schoon (2006) and Masten and Powell (2003) did. Moreover, of the studies I reviewed from sub-Saharan Africa, only two related to Eritrea directly. These were by Carr-Hill & Peart (2005) which reported on education of nomadic peoples of East Africa, and Ong'ayo (2015) on migration and diaspora remittances.

I compared the issues highlighted in the EMIS Q9 against what was covered in the literature from high-income countries. I noted that Q9 gave specific attention to orphanhood and pregnancy as causes of dropout. Hammond *et.al*. (2007) and Rumberger and Lim (2008) did not treat these as standalone factors but explored the preventive provisions at community and institutional levels such as drop-in centres and availability and accessibility of adolescent-friendly health and reproductive programmes. Generally, the

frameworks provided more aspects to consider, thereby enabling deeper analysis of the issues around drop-out and children's participation in education. For example, at the individual level, they added absenteeism, school engagement, school performance, school behaviour and individual background characteristics (learning challenges or emotional disturbances) and special needs. At family level, they highlighted family residential moves (which was different from the nomadism and regular migration due to drought experienced in Eritrea). At the school level, the frameworks added issues of ethnic minorities, school structure and student performance. The comparison also enabled me to determine that Q9 made no systematic effort to look beyond the school bounds and thus could not explore non-school factors that hindered access to schooling e.g. absence of facilities and community attitudes on special needs children. Q9 lumped all factors together and did not distinguish among individual, family, community and school related factors as was the case with other frameworks.

From the foregoing process, I adapted the issues from the existing literature on high-income and low-income studies to enrich the Eritrea EMIS Q9 and this resulted in a matrix for analysing data from the students and teachers of Amiche. The table below was the result of the triangulation.

Table 3.1: Data collection and analytical matrix of dropout and drop-in factors

Q9 factors plus literature	***Additional factors from the literature review***			
Individual	***Family***	***Community***	***School***	***Other***
Death[13]	Family change due to death			
Illness	Family change due to illness		Provisions for special education students	
Orphanhood				Statutory provisions for orphans and vulnerable children e.g. family integration
Pregnancy				Social norms vs. government policy
Early marriage	Family conflicts Gendered parental roles			Other initiatives that contribute to drop-in (e.g. Chief Justice's campaign against child marriage)
Distance from/to school Education stability and progression	Para-boarding and host family arrangements	▪ Geographic location ▪ Type (rural/urban) ▪ Environment	▪ School structure; School resources, size and ratios ▪ Academic policies and practices ▪ Supervision and discipline ▪ School environment	
Financial reasons Child/student poverty	▪ Socioeconomic status ▪ Parental income	Poverty		Opportunities e.g. diaspora remittances

[13] Italicized entries were in the original Q9

Q9 factors plus literature	***Additional factors from the literature review***			
Individual	***Family***	***Community***	***School***	***Other***
Child labour		Attitudes and practices towards child labour		
Discipline/dismissal or suspension Social attitudes, values, behaviour			▪ Absenteeism ▪ Tardiness	
Caring for the sick Early adult responsibility	Effect of family change (health hardships)			
Nomadism	Nomadism and other residential moves		Mobility rates	
Others ▪ Demographic factors (race, gender, etc.) ▪ School engagement ▪ School performance ▪ School behaviour ▪ Individual background characteristics (learning challenges or emotional disturbances) ▪ Special needs	Levels of stress: ▪ Violence ▪ Child abuse ▪ Substance abuse ▪ Family change (divorce) ▪ Emigration		▪ Ethnic minorities ▪ School structure (public) ▪ Student performance (low achievement and repetition)	Effects of a fragile context: ▪ United Nations sanctions ▪ No-war-no-peace ▪ National Service ▪ Limited social services ▪ Poor infrastructure ▪ Female and child-headed households

a) Selection of research context

While analysing the EMIS data I realised that apart from a basic comparison in flow rates by region, the EMIS did not provide disaggregated flow rates for post elementary education. The absence of such disaggregation meant that I could not identify the regions with the highest manifestations of risk from the EMIS reports. To mitigate that challenge, I used the available EMIS data to calculate wastage, survival and transition rates for the six regions of Eritrea to compare and determine the region with the highest risk assessment. That procedure enabled me to identify Amiche district as the one with the highest risk of wastage through dropout and repetition.

I then contacted the Regional Education Office (REO) of Northern Region for assistance to identify the most disadvantaged schools. The REO noted that all schools (pre-school to lower secondary) in Amiche district were disadvantaged but added that since there were only two post-elementary schools I could work in either of them. Beles Middle School and N'Hafash Middle School were government owned (there were no private schools in the district). Thus, the two schools were purposively selected for case study because they showed the indicators of risk and resilience within a fragile setting (Denscombe, 2007; Paton, 2002).

b] Research participants

In November 2015, I made initial telephone contact with the two Principals to secure their permission before I could travel to the schools. After agreeing with the Principals, I requested clearance from the Ministry of National Development to travel to the schools as part of my routine work, which was an affordance of being an insider/outsider. Even then, clearance was withheld several times but eventually I got permission to travel. At each

school, the Principal assigned me two teachers to work with based on their additional pastoral roles with the students. In Beles school where there were no female teachers for the lower secondary section, the Principal referred me to the senior woman teacher at the elementary school who supported the secondary schoolgirls.

Table 3.2: Teachers who participated in the study

School	Name of teacher	Sex	Comments
Beles[14]	Ayagal	M	Deployed on National Service
Beles	Mariam	M	Deployed on National Service
Beles	Simret	F	Volunteer from D'Hando Elementary school
N'Hafash	Aster	F	Deputy Headteacher
N'Hafash	Haile	M	
N'Hafash	Diila	M	

I requested the Principals' formal consent before I started my discussions with the students and their teachers (Appendix 1). In Chapter Five I give a more detailed account of the research context and schools.

Accessing the students was through two levels of gatekeepers. The first gatekeeper was the government policy which required all non-citizens wishing to travel outside of the capital city to seek travel authorisation two weeks ahead of planned travel dates. The permit was separate from the permission from the MOE to conduct the study. Typically, feedback on the application for the permit was not given until the day of the planned travel

[14] Names of participants and locations are pseudonyms

so it was not possible to finalise travel arrangements and confirm plans with the schools. Eventually only two out of nine requests were granted and that was how I managed to interface with the research respondents in the two schools.

The second set of gatekeepers were parents and community elders who monitored contact between young people and outsiders, even though secondary school students were old enough to judge and decide whether they wanted to participate in meetings with an outsider. Being in secondary school, the students were already considered to be mature. Many were staying on their own in rented accommodation and some were already engaged in paid labour. As we see later, some of the students were under pressure to marry which implied that the community considered them mature enough to take on adult roles; yet the elders kept an eye on them. Without the approval of the elders it would have been impossible to interact with the students. It was hinted that this was part of the security measures among nomadic communities, although it could also have been part of the overall security consciousness encouraged by the state. Therefore, I requested the Principals to intercede on my behalf and explain to the community elders the objectives of my study. In that way, I secured the oral consent of the elders to talk with the students. In so doing I heeded the observations of Denscombe (2007) and Miles, Huberman and Saldana (2014) regarding the importance of securing the consent of gatekeepers. Above all, it was evident to me that the Principals were very influential stakeholders within the communities. They enjoyed the confidence of the community and the students and they were trusted to represent the interests of the government in their daily interactions with outsiders. In effect, they were the *de facto* gate keepers.

Thereafter I separately briefed the selected teachers and the students who had been identified by the teachers as being at risk, and then I secured their written informed consent. I used the standard template provided by the Institute of Education (Appendix 1a) plus a translated version which the students used to provide their consent (Appendix 1b). I also discussed with the participants and secured their consent to record the conversations prior to the discussions. They understood that if there was anything they did not want recorded, they would demand that I turn off the recorder and take notes. I also observed their body language and offered to turn off the recorder whenever I sensed discomfort.

In the two schools, the four teachers identified a total of 44 at-risk students. Out of that number 21 students self-nominated to participate in the focus group discussions after I had taken the entire group through the ethical procedures. Those who opted out did so, not because of any concerns with the ethical procedures, but because they felt they could not express themselves fluently in English language.

Table 3.3: Students who participated in the study

Name of School	Name of Student	Age	Sex	Grade
N'Hafash	Abdalla	14	M	6
N'Hafash	Alem	11	M	6
Beles	Amina	14	F	6
N'Hafash	Bilal	15	M	8
Beles	Burhan	17	M	8
Beles	Elsa	11	F	6
N'Hafash	Ermias	13	M	8
Beles	Ghebre	16	M	8

N'Hafash	Ghinda	15	M	6
Beles	Hakosay	12	M	6
N'Hafash	Keshi	17	M	8
N'Hafash	Mehret	12	F	6
Beles	Mikele	15	M	8
N'Hafash	Molobar	16	M	7
N'Hafash	Ngussie	11	M	6
Beles	Nuhu	17	M	8
Beles	Petros	12	M	6
N'Hafash	Ribka	15	F	7
N'Hafash	Sabila	12	F	6
N'Hafash	Usman	13	M	6
N'Hafash	Zighe	15	F	8

Focus group discussions

In the focus groups with the students I explored the concept of drop-in and why they go to school despite the risks. I used the approach of focus group discussions, which are deemed to be spontaneous and empowering to the research participants whereby group dynamics counter the power and dominance of the researcher (Smithson, 2000). Focus groups also allow participants to complement or challenge opinions, while reflecting on their own viewpoints (Silverman, 2004). Thus, I used focus groups to tap the insights of individual students while also exploring the group construction of their reality (Crotty, 1998). Morgan (1997) cautions that when a researcher is preparing to conduct focus group discussions, they need to consider project-level issues (e.g. ensuring that the questions for all groups are

standard and that sampling of participants follows similar criteria) and to consider also group-level issues (regarding the size and composition of the groups as well as the researcher's own involvement in the discussions).

Therefore, I started off by talking about myself, where I come from and aspects of rural life in my country, then went on to ask general questions about how people pass their time during different seasons. This helped to break the ice and set the mood for the discussions. Then to approach the main questions with the students, I asked the following question, "On my way here I met a young man on the roadside and he said he had not completed his secondary education. What makes such young people leave school?" By using this depersonalised approach, I invited the students to participate as equals (Solberg, 2014) and eased them into the frame of the discussion without them feeling essentialised (Bryman, 2012; Crow & Wiles, 2008; Gray, 2014; Silverman, 2004). In both schools, the students were quick to point out that even if I had probably not seen young women, they were equally excluded from schooling. Eventually they shared their own experiences and examples about their schooling, the challenges they faced and how they managed to drop into school. While standardisation of the prompting questions was intended to enable data analysis and comparison (Creswell 2007, Crow & Wiles 2008) I framed the questions to probe issues that emerged from the discussions iteratively.

Key informant interviews

Denzin and Lincoln (2008) and Silverman (2004) note that interviews and focus group discussions are the most effective means of delving into the inner workings of the human mind. To gather data from the teachers I opted for the open-ended interview method (Gray, 2014), partly because of limited

time but also to get their individual insights on the students, the risks, motivations and what they considered to be the contributors to the students' resilience in the face of adversity. The interviews followed the focus group discussions with the students. They were guided by the second research question, "What do secondary school students in Amiche district of Eritrea consider to be the risks to their schooling?"

Altogether I conducted four formal interviews with the six teachers. In two instances, I also followed up with individual students to clarify issues that they had touched upon during the focus group discussions but which I noticed they were uncomfortable to expound on in a group. The follow up interviews with the two students were informal and not electronically recorded.

Table 3.4: time in the field account

Pseudonym of Participant	**Sex**	**Status**	**Pseudonym of School**	**Focus Group Discussions**				**Interviews**			
				10 Dec 2015	11 Dec 2015	21 Jan 2016	22 Jan 2016	10 Dec 2015	11 Dec 2015	21 Jan 2016	22 Jan 2016
Abdalla	M	Student	N'Hafash		X	X					
Alem	M	Student	N'Hafash		X	X				X	
Amina	F	Student	Beles	X			X				X
Aster	F	Teacher	N'Hafash						X	X	
Ato Ketema	M	Director	MOE					X	X	X	X
Ayagal	M	Teacher	Beles					X			X
Bilal	M	Student	N'Hafash		X	X					
Burhan	M	Student	Beles	X			X	X			
Diila	M	Teacher	N'Hafash						X	X	
Elsa	F	Student	Beles	X			X				

Ermias	M	Student	N'Hafash		X	X						
Ghebre	M	Student	Beles	X			X	X				
Ghinda	M	Student	N'Hafash		X	X					X	
Haile	M	Teacher	N'Hafash						X		X	
Hakosay	M	Student	Beles	X			X					
Keshi	M	Student	N'Hafash		X	X					X	
Mariam	M	Teacher	Beles					X				X
Mehret	F	Student	N'Hafash		X	X						
Mikele	M	Student	Beles	X			X					
Molobar	M	Student	N'Hafash		X	X						
Ngussy	M	Student	N'Hafash		X	X			X			
NSO officials	M	Directors	NSO					X	X			
Nuhu	M	Student	Beles	X			X					
Petros	M	Student	Beles	X			X					X
Ribka	F	Student	N'Hafash		X	X					X	
Sabila	F	Student	N'Hafash		X	X						
Simret	F	Teacher	Beles					X				X
Usman	M	Student	N'Hafash		X	X						
Zighe	F	Student	N'Hafash		X	X					X	

In all focus group discussions and interviews, I made notes while recording the conversations. The notes were my initial codes on important angles in the way the discussions evolved. Consistent with Gray (2014), Patton (2002) and Saldana (2011), whenever I finished the focus group discussions and individual interviews I retreated to my accommodation at the end of the day, transcribed the materials into a written record and

replayed the recordings in slow motion to crosscheck and ensure that the transcripts were aligned to the recordings. Patton (2002) cautions that an interview is wasted if the words of the interviewee are not captured accurately. For this research, I decided that the data from students constituted a single collective unit as opposed to viewing them as individual voices, and the data from teachers constituted a second complementary unit since the focus from the outset was on students' perceptions.

3.4 Validity of data

My main concern was whether the qualitative data would depict the objective reality regarding risk and dropout, and whether it would facilitate an understanding of the problem of dropout to help develop plausible recommendations to foster drop-in (Kaberuka, 2014; Shaida, 2010). Mindful of the challenges of analysing secondary data, I analysed the national EMIS data and referred to the two national demographic survey reports (EPHS 2002; EPHS 2010) to triangulate the information on education.

For the qualitative data, I collected the testimonies of students and the teachers' views on risk and related these to the literature on risk. The teachers were key informants to this process because they interacted with the students on a regular basis and had a substantial understanding of the students' circumstances. This gave their insights contextual validity. Secondly, the teachers came from other parts of the country so their perspectives were broader than those of the students; yet having lived in the context for much longer they could empathise with the local population. Thus, whereas they were outsiders like me, they were also insiders by association and residence, and this gave their insights added value. Consistent with interpretivist and constructivist epistemology, my role was

to use my professional knowledge and research tools to make sense of the testimonies of the research participants (Bryman 2012). I triangulated, probed and checked the fidelity of the respondents to their views; compared the views across the two sites of conversations (Beles and N'Hafash) to tease out salient themes.

3.5 Procedure for data analysis

Various tools for determining the number of out of school children have been developed by agencies like UNICEF and UNESCO (2015)[15], government departments like the United Kingdom Department for Education[16] (UKDfE, 2012), and academic institutions and scholars (Klasen 2001). Mostly, the tools are designed to analyse administrative and population data. However, increasingly literature has demonstrated that existing models may not necessarily consider children who are invisible to formal administrative databases (Carr-Hill, 2012; Carr-Hill, 2013; Randall, 2015) or even that the databases may not be immune to manipulation for various reasons. Indeed, when UNICEF and UNESCO developed the visibility model (2015) the intention was to enable national OOSC studies to deal with the challenge of children "who are not recorded in any government, administrative or school records" (UNICEF & UNESCO, 2015:17).

The OOSCI operational manual offers two complementary options for statistical analysis of children at risk. The first is to quantify the number of children in school who are likely to drop out. The second is to calculate indicators for the most important risk factors associated with early school leaving. Even if both approaches rely on the same administrative data, they provide tools for differentiating and considering the potential impacts of

[15] The OOSCI framework and operational manual
[16] A profile of pupil exclusions in England. Education Standards Analysis and Research Division.

invisibility. However, when I evaluated the EMIS data against the OOSCI framework I found that it was not possible to conduct an analysis of EMIS data using the OOSCI framework because the data had significant anomalies (section 4.3). I was also able to establish that some of the concerns I had were also encountered by the Global Monitoring Report (UNESCO, 2015) which was consequently unable to calculate the various education indicators for Eritrea and either left the relevant spaces blank or filled in actual (raw) figures. Therefore, I used the existing MOE data to reanalyse student flow rates, dropout and repetition, and complemented them with inputs from the EMIS officials (section 4.2).

For the qualitative analysis, I started by transcribing verbatim the audio recordings and then I compared them with the written transcripts that I made during the discussions. While doing this, I also simultaneously did interpretive analysis to make sense of the accounts of my research participants as I engaged with their accounts (Walsh & Kowanko, 2002). The interpretive analysis enabled me to create analytic memos, which were my personal signals of emerging themes that matched with the key theoretical concepts that guided my study. It was from the memos that I derived codes to categorise the data from the students' and teachers' accounts. Saldana (2011) explains that a code is a word or phrase that symbolically assigns a summative, salient, essence-capturing, evocative attribute for a portion of language-based or visual data.

3.5.1 Coding and analysing the qualitative data

After transcribing the responses, I clustered similar responses into categories of related concepts e.g. "poverty" and "low income" fell into the category of socioeconomic status (Miles *et.al.*, 2014). However, some responses proved difficult to assign to a single category e.g. whether a decision to work while attending school constituted child labour or

motivation. Other responses merited a separate category instead of being a subset of an existing category, for example the special efforts made by communities to keep girls in school, which was initially under the category of support mechanisms yet given there were no formal boarding schools, it presented itself as a unique category. Some responses seemed to offer explanations of other responses for example where students reported that girls deliberately became pregnant to avoid being conscripted into national service when they reach matriculation stage, which linked to reports that some students deliberately repeated grades to avoid national service. There were also responses that contradicted other responses, for example where some students claimed they worked for their fees yet they also reported that education was free or that their relatives in the diaspora remitted funding that saw them and their siblings through school. Recognising that students have a range of formal needs (fees, scholastic materials) and informal needs (snacks, make up) related to education, I did not think that the contradictory statements undermined the integrity of the students' information.

The same transcription and coding process was repeated for the teachers' responses. I then referred to the literature to compare the categories and to situate the emerging findings within the broader literature on risk, resilience and motivation. This process assisted me to develop and refine my own thematic codes, which in turn, I used to analyse and interpret the findings. Specifically, for the findings on risk, I worked with the frame of the four domains provided by Hammond *et.al.* (2007) and Rumberger and Lim's (2008) categories; for resilience, I based in Masten *et.al.*'s (2014) examination of the impact of the interaction of systems within which the child operates on child vulnerability, and Schoon's (2006) life course theory; while for motivation, I drew on the literature on self-determination advanced mainly by Deci and Ryan (2009).

3.6 Ethical considerations

In this section I explain how I took into consideration the contextual issues and risks to handle the ethical concerns involved and the mitigation measures I took for this study.

3.6.1 Child 'adults' and expectations

I encountered some practical ethical difficulties. Whereas my primary research participants were children by international definition, their community considered them adults based on their transition into adolescence which was equated to readiness for adult roles including marriage. Thus, my dilemma was how to balance between my knowledge that they were children and the community perception that the students were adults, more so when many of the students also projected themselves as adults.

Secondly, like me, the students came into the research process with expectations and assumptions. I expected answers to my questions and assumed that I would get them from the students. The students also expected solutions to the issues affecting them (Thomas 2010). We negotiated common points where I clarified that I did not have ready answers at the beginning but hoped that the research might enhance the knowledge of the community and trigger reflection within the education system and its international partners about the risks to and opportunities for formal schooling in difficult circumstances. Below I explain the ethical procedures I used.

3.6.2 Guiding ethical frameworks

Ordinarily, I should have conducted my research within the parameters of the national guidelines on research provided by the government or its mandated institutions. However, the National Council for Higher Education did not provide any formal guidance on research in Eritrea. In the absence of any other national frameworks, I situated my data collection within the provisions of the British Educational Research Association whose preamble calls upon researchers working in challenging contexts to "… weigh up all aspects of the process of conducting educational research … and to reach an ethically acceptable position in which their actions are considered justifiable and sound" (BERA, 2011: 4). In addition, my research went through the UCL-IOE ethical review process including the review panel and discussion with my supervisor as part of the upgrade to doctoral candidate status. I also worked within the provisions of UNICEF's "Procedure for Ethical Standards in Research, Evaluation, Data Collection and Analysis", which provides a comprehensive framework for conducting research with persons with limited personal agency due to age, situation or capabilities.

BERA's provisions on responsibilities to participants, highlight the ethic of respect which requires that "Individuals should be treated fairly, sensitively, with dignity, and within an ethic of respect and freedom from prejudice" (2011:5). The BERA guidelines on voluntary informed consent, openness and disclosure, right to withdraw, working with children and vulnerable people, incentives, adverse effects of participating in research, privacy, and disclosure, resonate with the ethical framework of UNICEF which emphasises the three principles of respect, benefits (beneficence and non-maleficence) and justice. The guidelines also require that any evidence gathering activity must have social value (why it is important and what it will

contribute) which aligns with Thomas (2010); that it should contribute to the knowledge base (rationale for selecting certain populations or locations), and be scientifically sound (validity and reliability of the procedures). The guidelines emphasise rigour about any evidence gathering initiatives that are likely to impact the safety and wellbeing of participants within their context.

3.6.3 My relationship with stakeholders

I disclosed my personal and professional interests to all the stakeholders, starting with my employer. I explained the study to my supervisor and we agreed that I would provide a summary of my study for the 2016 integrated monitoring and evaluation plan (IMEP) for the country office. The office also approved my participation at the Conference of the Comparative and International Education Society which took place in Vancouver, Canada (7-9 March, 2016) where I was to give a talk on “the strategies used by children and communities to facilitate drop-in and retention in schooling -- how the informal initiatives by communities in difficult circumstances foster the right to education.” However, I was not able to attend the conference.

I made full disclosure of my professional background and academic interests to all stakeholders with whom I worked. I provided the objectives and purpose of my research and emphasised that I was conducting the research in a personal capacity, although the study findings would be made available to UNICEF and MOE.

3.6.4 Reflections on language and social dimensions

Literature has highlighted challenges that typically affect the conduct of focus group discussions. The limitations pertinent to language include

limited researcher control over proceedings, the tendency of a few participants to dominate the discussions, group effects such as muting of voices of reticent participants and the possibility of participants expressing culturally or politically 'correct' views instead of expressing objective views (Bryman, 2012). Gray (2014) also highlights the potential to breach confidentiality, conflicts due to group dynamics, complexity of monitoring verbal and non-verbal responses of participants. These limitations informed the planning process for the focus group discussions and interviews. In particular, given the sensitivity of the context, I took measures to anonymise the participants including anonymising the research sites.

Indeed, during the focus group discussions and the key informant interviews, there were instances where language was contextually nuanced. In Eritrea, the term nomadic people refers to those who dwell in the southern parts of the country which are prone to drought. It was more specific to location rather than to a transhumant way of life. Yet not all the people who dwell in those parts practice seasonal movements. It was in that context that the nomadic education policy was framed and understood. Secondly while the Tigrigna language differentiates feminine and masculine through inflectional endings on the nominal stem (Manzine, Savoia & Yohannes, 2016), the concept of gender does not have a direct equivalent. Discussions relating to gender entailed explaining the gender construct and

associated social aspects. However, students were also familiar with the concept but related it more to issues relating to females. The third nuance related to the definition of migration. In Eritrea the term was used to refer to people who escape the country rather than the general movement of peoples. Thus, the Eritreans who relocated from Ethiopia to parts of Amiche (section 1.5.1) were not considered migrants. Even those who had moved internally to settle in other parts of the country were not considered migrants.

Nevertheless, I did not detect any reticence among the female students that I would have ascribed to gender. Girls and boys spoke assertively and the turn taking was supportive. The supportive aspect among the students was helpful in navigating the emotional phases of the discussions such as the references to tragic events of Lampedusa that directly affected some of the participants.

In the following chapters I present the findings from the two consecutive processes.

Chapter 4

Findings from the EMIS data

4.1 Introduction

In this chapter I present the findings relating to the first research question:

> *What, according to the EMIS reports, is the status of risk of dropout among Middle school students in Eritrea?*
>
> i. *How does the Eritrean EMIS identify risk of dropout?*
>
> ii. *How does EMIS measure risk of dropout in Eritrea?*

My literature review provided an overview of EMIS as "an organized group of information and documentation service that collects, stores, processes, analyses and disseminates information for educational planning and management" (UNESCO, 2003:5). As noted in Chapter 3, the Eritrea MoE uses a bottom-up system to collect information about schools. Principals fill out questionnaires and transmit them through the Regional Education Office to the Statistics Unit at MOE. No analysis is done at the school level.

4.2 Status of risk among Middle school students in Eritrea

The EMIS questionnaires collected data on the causes of dropout. Questionnaire Number 9 (Q9) had a preselected list of 12 risk factors plus "other", which schools could use to report on causes that did not fall within the list of 12 (figure 5). However, since the questionnaire was closed, it was not possible for schools to explain what the "other" causes were. The quantitative data were analysed by level of education (elementary, middle

school, etc.), teaching staff and internal efficiency of the system. It was in the latter that data pertinent to this thesis was provided, in the form of flow rates.

I consolidated the data on promotion, dropout and repetition for 12 academic years 2003/4 to 2014/15 (Table 4.1) and analysed it to develop an understanding of their link to the risk of dropout from schooling (Suguru, 2016; UNESCO,2012).

Table 4.1: Combined flow rates (percentage) for middle school students in Eritrea (2003/4-2014/15)

Year	Grade	Dropout (percent)			Repetition (percent)			Promoted (percent)		
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2003-4	6	7.3	6.5	7	17.7	16.8	17.3	75	76.6	75.7
2004-5	6	8.3	6.6	7.7	17.9	14.8	16.7	73.7	78.5	75.6
2005-6	6	16.5	8	13.1	17.4	15.8	16.8	66.1	76.2	70.1
2006-7	6	8.4	5.3	7.2	19.7	18.1	19.1	71.9	76.6	73.8
2007-8	6	7.9	4.9	6.6	21.2	18.7	20.2	70.9	76.4	73.2
2008-9	6	10.1	5.1	8	14.1	11.3	12.9	75.8	83.6	79.1
2009-10	6	7.7	4	6.1	16.1	12.1	14.4	76.2	83.9	79.6
2010-11	6	6.98	4.4	5.87	15.84	11.9	14.14	77.18	83.71	79.99
2011-12	6	7.6	4.8	6.4	19.5	14.3	17.3	72.9	80.9	76.3
2012-13	6	7.5	4.1	6.1	19.3	13	16.6	73.2	82.9	77.3
2013-14	6	4.8	10.1	7.8	14.1	20.1	17.5	81.1	69.8	74.6
2014-15	6	9.6	4.8	7.5	22.2	14.6	18.9	68.2	80.6	73.6
2003-4	7	6.5	5.9	6.3	12.9	10.3	11.8	80.6	83.8	81.9
2004-5	7	8.7	7	8	21.3	15	18.8	70	78	73.2
2005-6	7	20.3	8.7	15.8	12.8	11.3	12.2	66.9	80	71.9
2006-7	7	7.6	5.2	6.6	15.5	13.6	14.8	76.9	81.2	78.7
2007-8	7	6.3	4.8	5.7	12.9	10.6	12	80.8	84.5	82.3
2008-9	7	9.4	5.1	7.6	9.8	7.6	8.9	80.8	87.3	83.6
2009-10	7	6.6	4	5.4	10.5	8	9.4	82.9	88	85.2
2010-11	7	6.31	3.9	5.24	9.96	7.36	8.8	83.73	88.74	85.97
2011-12	7	7	4.3	5.8	12.4	9.6	11.2	80.7	86.2	83.1

2012-13	7	7	3.8	5.6	11.6	7.4	9.8	81.4	88.8	84.6
2013-14	7	4.9	10.5	8.1	8.9	13.5	11.5	86.1	76	80.5
2014-15	7	9.1	4.4	7	15.3	8.8	12.3	75.6	86.7	80.7
2003-4	8	7.9	6.4	7.3	16.9	10.7	14.5	75.2	82.8	78.1
2004-5	8	10.2	7.4	9.1	19.9	11.2	16.5	69.9	81.4	74.4
2005-6	8	27.3	11.1	20.4	5.8	5.1	5.5	66.9	83.8	74.1
2006-7	8	7	7.8	7.4	11.1	9.4	10.3	81.9	82.7	82.3
2007-8	8	5.6	6.2	5.9	12	9	10.7	82.4	84.8	83.4
2008-9	8	9.5	6.6	8.2	10.2	6.4	8.6	80.3	87	83.2
2009-10	8	6.9	4.2	5.7	10.7	6.3	8.7	82.4	89.5	85.6
2010-11	8	5.64	4.82	5.27	11.35	6.83	9.29	83.02	88.35	85.45
2011-12	8	7.1	5.6	6.4	15.5	9	12.4	77.4	85.5	81.2
2012-13	8	7	5.4	6.2	18.9	10.6	15.1	74.1	84	78.7
2013-14	8	7.1	12.2	9.8	11.9	20.8	16.6	81	67	73.5
2014-15	8	9.7	6.1	7.9	20.8	10.6	15.9	69.5	83.3	76.2

Source: MOE EMIS, Asmara (with my highlight)

By compiling the totals for each year, I summarised the data on dropout, repetition and promotion, as shown below.

Table 4.2: Eritrea – Middle school annual flow rates

Year	Dropout (percent)			Repetition (percent)			Promotion (percent)		
	Boys	**Girls**	**Total**	**Boys**	**Girls**	**Total**	**Boys**	**Girls**	**Total**
2003-4	7.2	6.3	6.8	15.9	13.1	14.8	76.9	80.6	78.4
2004-5	9	7	8.2	19.6	13.8	17.3	71.4	79.2	74.5
2005-6	20.7	9.1	16.1	12.7	11.2	12.1	66.6	79.7	71.8
2006-7	7.8	6.1	7.1	15.9	14	15	76.4	80	77.9
2007-8	6.7	5.3	6.1	16	13.3	14.9	77.3	81.4	79
2008-9	9.7	5.5	7.9	11.6	8.6	10.4	78.7	85.8	81.7
2009-10	7.1	4.1	5.7	12.7	9	11.1	80.2	86.9	83.2
2010-11	6.3	4.4	5.5	12.6	8.8	10.9	81.1	86.9	83.7
2011-12	7.2	4.9	6.2	15.9	10.8	13.6	76.9	84.3	80.2
2012-13	7.2	4.5	6	16.9	10.4	14	75.9	85	80

2013-14	5.7	10.9	8.6	11.8	18.4	15.5	82.5	70.6	75.9
2014-15	9.5	5.1	7.5	19.7	11.6	16	70.8	83.3	76.5

Source: MOE EMIS, Asmara (with my highlight)

From the analysis, I realised that dropout and repetition were proxy indicators of risk. There was no evidence that the MOE considered or analysed the 12 and "other" factors collected using Q9. The question that arose for me was why MOE collected information on causes of dropout but never analysed it.

4.2.1 Dropout statistics

Within the period of 2003-2014, Eritrea experienced the highest dropout rates at middle school level in 2005/06 when 16.1 percent of the students dropped out.

Table 4.3: Annual middle school dropout rates 2003/4 – 2014/4

Year	Dropout		
	Boys	**Girls**	**Total**
2003-4	7.2	6.3	6.8
2004-5	9	7	8.2
2005-6	20.7	9.1	16.1
2006-7	7.8	6.1	7.1
2007-8	6.7	5.3	6.1
2008-9	9.7	5.5	7.9
2009-10	7.1	4.1	5.7
2010-11	6.3	4.4	5.5
2011-12	7.2	4.9	6.2
2012-13	7.2	4.5	6
2013-14	5.7	10.9	8.6
2014-15	9.5	5.1	7.5

Source: MOE EMIS, Asmara

Disaggregated data showed that the worst affected category of students were boys as 20.7 percent dropped out during the 2005/06 academic year compared to 9.1 percent girls in the same year. The rest of the academic years had lower dropout rates averaging 6 percent. Analysis of dropout by grade showed that boys in grades 7 and 8 were at greater risk of dropping out. In the 2005/06 academic year 27.3 percent boys in grade 8 and 20.3 percent boys in grade 7 dropped out of school.

My contention was that since Grade 8 is the terminal grade for middle school, describing students who fail to transition to grade 9 as dropouts is inaccurate since they do not exit schooling voluntarily. Rather it is the education system that pushes them out by not providing options for schooling (Lewin 2007). The MOE strategy report (GOSE, 2002) referred to the Eritrea examinations process as a 'tournament' in which students are literally knocked out of education if they do not attain the pass grades to proceed to the next level of schooling. The lowest overall dropout rate of 5.5 percent was experienced in the 2010/11 academic year (6.3 percent males and 4.4 percent females). The lowest ever dropout among boys was 5.7 percent in 2013/14 and among girls it was 4.1 percent in 2009/10. Coincidentally this was the time when MOE lowered the estimate population retroactively (section 4.3.2).

While this information was helpful in establishing the extent of the problem, it signalled gaps in the information in terms of what factors led to dropout, particularly in the years like 2005/06 and 2013/14 where spikes were experienced (i.e. 16.1 percent and 8.6 percent dropouts respectively) or why some years had favourable rates. The data did not explain why particular grades were more prone to dropout than others (e.g. 20.4 percent of grade 8 students dropped out in 2005/6 compared to 13.1 percent of

grade 6 students in the same year). Neither did the data explain the significant differences among different sexes, including whether there were any specific strategies that enabled students to drop-in and persist with schooling.

As noted earlier, the education system collected data on the causes of dropout by gathering the numbers of students who left school due to any of the 12 factors in Q9. However, no analysis was made and no feedback was provided based on the findings relating to the 12 items. If the grade 8 students left schooling because of lack of infrastructure for post-middle school level, that would have been important information for planning purposes. It was surprising that by Grade 6 an average of 7.4 percent of enrolled students (8.6 percent male and 5.7 percent female) dropped out. The survivors went on to Grade 7 where an average of 7.3 percent students (8.3 percent male and 5.6 percent female) dropped out. Of the remainder who made it to Grade 8, at least 8.3 percent (9.2 percent male and 7 percent female) dropped out. The cumulative effect of dropout was significant.

4.2.2 Repetition of grades

All the Eritrea EMIS reports that I analysed cited grade repetition as the other major risk factor for wastage. Consistent with UNESCO (2012), any Eritrean student who is not promoted to the next grade or does not complete an educational programme and who remains in the same grade the following school year is called a repeater. UNESCO (2012) notes that often, repetition results from academic failure, unsatisfactory progress, insufficient examination marks to advance to the next level of instruction, age of a student, poor attendance or from lack of local educational opportunities. Much as repetition is sometimes considered to be a good solution if learning

objectives for that grade level are not achieved (UNESCO 2012), it is nevertheless globally acknowledged as a sign of system wastage and a significant risk factor since it often demotivates the affected students. Surprisingly, respondents claimed that some students in Eritrea were motivated to repeat classes (see 5.3.1e). From analysing the Eritrea EMIS data, I noted that in all the 12 years, repetition rates at Middle school level in Eritrea were above 10 percent. As the table below shows, the worst years in descending order were 2004/5 (17.3 percent), 2014/15 (16 percent), 2013/14 (15.5 percent) and 2006/7 (15 percent). The years 2007/8 and 2003/4 had close to 15 percent.

Table 4.4: Annual Repetition rates for Middle School level

Year	Repetition		
	Boys	**Girls**	**Total**
2004-5	19.6	13.8	17.3
2014-15	19.7	11.6	16
2013-14	11.8	18.4	15.5
2006-7	15.9	14	15
2007-8	16	13.3	14.9
2003-4	15.9	13.1	14.8
2012-13	16.9	10.4	14
2011-12	15.9	10.8	13.6
2005-6	12.7	11.2	12.1
2009-10	12.7	9	11.1
2010-11	12.6	8.8	10.9
2008-9	11.6	8.6	10.4

Source: MOE EMIS, Asmara (my highlight)

As with dropout, boys were more likely than girls to repeat grades. In three out of the 12 years analysed, girls' repetition rates fell below 10 percent; the highest ever recorded was 18.4 percent in 2013/14. For boys, the lowest ever recorded was 11.6 percent in 2008/9 and the highest was 19.7 percent in 2014/15. Much as I did not apply a gender lens when analysing the data,

it was striking that gender counted in relation to repetition. Overall, average repetition rates across the 12 years were 11.8 percent (12.8 percent for males and 10.3 percent for females). This was significantly higher than the sub-Saharan regional trends for 2000, 2005 and 2010 reported by UNESCO (2012), which were consistently below 6 percent, making Eritrea's repetition situation critical within the sub-Sahara region.

Despite the stipulation of official policy that grade repetition "is a prime concern of the MOE [and] that students should not and need not repeat classes" (MOE 2003:10), EMIS reported on the phenomenon regularly without providing any insights or qualitative explanations as to why students were repeating grades and why certain years returned significantly higher repetition rates than others. There was no reference to the MOE policy (2003) regarding repeating. It was not also clear whether the reasons advanced for repeating were exhaustive, and whether mitigation measures had been explored.

While the Eritrean EMIS reports ranked the performance of regions on a range of indicators for elementary education, they did not do the same for post elementary education levels. Therefore, it was not possible for me to reconstruct the extent of risk at lower secondary level using available official data, nor was it possible to identify the most affected region. I noted this as an odd omission given that the problems of exclusion were more significant at post elementary levels (see Table 1.1).

4.2.3 Other risks of dropout

In its questionnaire, the Eritrean EMIS acknowledged that there was a range of causes of dropout from schooling.

Questionnaire 9

12. Number and causes of students' dropout

	Causes	Elementary		Middle	
		M	F	M	F
1	Death				
2	Illness				
3	Orphaned				
4	Employed				
5	Marriage				
6	Distance of the school				
7	Financial reasons				
8	Disciplinary dismissal				
9	Disciplinary suspension				
10	Caring for the sick				
11	Pregnancy				
12	Nomadic				
13	others				
	Total				

Figure 6. Pre-selected risk factors for dropout in Eritrea

A critical examination of Q9 templates across the years noted that ever since the MOE developed the list of 12 causes in 1993, it had not revised them by 2015. Apart from the absence of any analytical report on the 12 items, I considered that while the 12 factors were still valid, other risk factors had emerged to affect the ability of students to persist in education. As testimonies from the students reveal in Chapter Five, issues such as migration and open-ended national service were potential risks. As such Q9 was limited in its scope and needed to be updated.

A related finding which I detail in Chapter Five was to do with the way schools documented risks of dropout and how their basic but innovative efforts were neither harnessed nor acknowledged by the EMIS. At Beles and N'Hafash schools, I tried to establish how qualitative information on

risks was collected and stored and how or whether such school-level information fed into the annual EMIS reports.

The two schools had different ways of collecting the information. In N'Hafash the Principal had an incident book in which teachers on duty reported any concerns they noted during the week. This was a general log of whatever happened in the school. It was a good practice although it was not confidential. In Beles, whereas there was no female teacher for the lower secondary section, the school Principal had arranged with a female teacher in D'Hando elementary school to provide confidential counselling and support to female students. Unlike N'Hafash, Beles school maintained a separate logbook on incidents affecting students' participation. The principal and deputy principal maintained the logbook which I noticed had a lot of entries for the academic year. That suggested that the school was dealing with many problem cases.

What I noted as a gap was that the information on risk that was gathered at school level was not compiled and sent to the MOE to be woven into the narrative of EMIS. Thus, EMIS reports did not benefit from school level insights, particularly how teachers and students converted their risk cases into drop-in cases. Even if Q9 provided 12 suggestions and space to identify 'other' factors, school principals did not have the chance to explain what "other" risks they were dealing with, what actions they had taken, the challenges they faced or what lessons they had drawn from dealing with the risks to foster drop-in.

Secondly, given that EMIS questionnaires are filled in once a year, this was a major gap in collecting and processing vital information on students. In my discussions with the teachers at Beles school, one of them asked me if I had come across such a system as the one I was implying. Since I had not

yet seen one in operation elsewhere, I acknowledged that this could be a general gap with traditional EMIS systems. Nevertheless, I left with the impression that school communities in general and teachers could benefit from MOE guidance on how to systematically document, analyse, report and utilise the locally generated qualitative information on the risks of dropout, and more importantly on how schools could collate their experiences of drop-in and convert them into important lessons for the education system and its partners.

There was a procedural omission that could be remedied to enhance the value of EMIS reports to various stakeholders: regarding who accessed the EMIS reports once they were published. While it was laudable that the MOE published the annual EMIS reports within a year of collecting the data, circulation of the reports was limited to MOE and regional education offices. Schools never received copies of the EMIS reports whose data they helped to compile. That contributed to the schools' sense of exclusion from the findings of the EMIS questionnaires.

Therefore the direct answers to the two subsidiary questions on identification and measurement of risk were that (a) much as the EMIS questionnaires suggested possible risk factors or causes, there was no follow up analysis of the responses provided by the schools to determine which of the 12 possible causes of dropout (death, illness, orphanhood, employment, marriage, distance to school, financial reasons, discipline, caring for the sick, pregnancy, and nomadism) were instrumental in causing dropout in different locations. The EMIS did not address the likelihood that other factors caused dropout. (b) There was no mechanism for measuring risk in the Eritrean EMIS. Even at the school level there was no yardstick for measuring risk of dropout. Instead the system relied on dropout and

repetition data, which arguably did not provide a complete depiction of the risks associated with dropout. Consequently, there was no systematic tool upon which the MOE or its partners relied to foster drop-in.

While carrying out the foregoing analyses, I detected some inconsistencies in the data that my position as an insider/outsider researcher enabled me to bring to the attention of relevant authorities at the MOE and NSO. Below, I present the findings from the preliminary analysis and follow up with the responses of the government officials.

4.3. Preliminary findings on EMIS data

As I explained in section 1.3, my position as an insider/outsider complemented my processes of data collection and analysis (Day, 1998; Mullings, 1999) and my professional experiences informed the entire research process (Bryman, 2012; Gray, 2014). The insider status allowed me to access vital information while carrying out my duties at UNICEF, through meetings, correspondences, anecdotal observation and fugitive literature (Dowling & Brown, 2010). For example, while attending an international meeting on EMIS (outside Eritrea), I witnessed an animated discussion between high-ranking Eritrean MOE officials and UNESCO representatives regarding the data provided by the UN Population Division. The MOE delegation complained that UNPD was publishing inflated population estimates for Eritrea which led to negative exaggerations in education indicators. I was curious to know more about the complaint. I therefore compared the OOSC reports by UIS with OOSC data from Eritrea EMIS. Table 4.5 provides the finding:

Table 4.5: Comparison of UIS and MOE data for 2011-2015

	2011	2012	2013	2014	2015	2016
UIS[17]	314,551	313,014	350,503	361,719	383,685	NA
Eritrea MOE[18]	120,993	78,439	64,388	64,301	62,301	59,344
Variance	260%	399%	544%	563%	616%	

What I found was that the UIS data on OOSC grew exponentially while the EMIS data shrank for progressive years. Secondly, UIS figures were more than twice the figures of MOE. If indeed the population of Eritrea was about thee million, then every year at least 10% of the population was out of school. However, by 2016 UIS had given up reporting on Eritrea which could be that they had yielded to the pressure from the MOE. Nevertheless, the animated discussion and my findings informed my stance towards EMIS data which facilitated the findings I present below (Cruickshank, 2011). My insider position also enabled me to access communities to which other outsider visits were prohibited. However, the outsider status delayed the onset of my fieldwork considerably, as explained in section 3.3. I also concede that the insider/outsider status challenged my ability to remain objective and maintain theoretical sensitivity (Oktay, 2012).

I conducted a preliminary analysis of Eritrean EMIS data from 2003 to 2015. The qualitative component was in the 2014/2015 academic year although I acknowledge that narrowing the focus to one academic year was a limitation considering that the literature review that provided me with the conceptual and methodological moorings, showed that longitudinal studies followed the same cohorts of participants for generations (Hammond *et.al*., 2007;

[17] Source: http://data.uis.unesco.org/#
[18] Source: Essential Education Indicators 2015/16, MOE

Masten *et.al.,* 2014; Rumberger & Lim, 2008; Schoon, 2006). A proper life course approach was not feasible within the scope of this study because I would not be tracking the same cohorts of participants. Secondly, since I did not collect the original quantitative data myself, the analysis fell within the realm of secondary data analysis. Given I could not access the raw EMIS data for 2013/2014 I could not subject the secondary data to the excel spread sheet for Dimension 5 developed by the UNICEF and UNESCO (2015) OOSCI framework to quantify the number of students at risk of dropping out by locations. Broeck *et.al.* (2005) note that many data errors are detected incidentally when undertaking other research activities. This happened during my analysis of EMIS, as shown below:

4.3.1 Inconsistent population figures

The first issue was inconsistency in population figures. Carr-Hill (2012) argues that reliable census data is one of the pillars of a sound EMIS. However, he notes that in low-income countries, vital demographic registration systems are not fully functional. Donors and multilateral agencies have a stake in national data systems (UNESCO 2003; Carr-Hill, 2012). As I demonstrate below, the international community had an interest in determining the population of Eritrea but also contributed to the lack of consensus about the population estimate. The population of Eritrea was critical to my research, since the population figure is vital in computing education indicators.

Available records indicated that between 2001 and 2009 Eritrea's population grew from 3.2 million to 3.9 million and then in 2010 it reverted to 3.2 million (Table 4.6). Population estimates cited in the Eritrea EMIS publications indicated an average annual increase of 110,000 persons between 2000 and 2009, and then a sudden decline of over 700,000

persons in 2010. I considered this to be an illustration of a strange pattern (Broeck *et.al.* 2005).

Table 4.6: Comparison of the population estimates by MOE and NSO.

Year	MOE Pop estimate	Annual Increase	Source/reference
2001	3,200,000		EPHS 2002: 2
2002	3,300,000	100,000	UNICEF Country Note 2001: 3
2003	3,320,995	20,995	MOE, Essential Education Indicators 2004: 3
2004	3,397,515	76,520	MOE, Essential Education Indicators 2005: 2
2005	3,491,299	93,784	MOE, Essential Education Indicators 2006: 3
2006	3,603,495	112,196	MOE, Essential Education Indicators 2007: 3
2007	3,735,560	132,065	MOE, Essential Education Indicators 2008: 3
2008	3,860,833	125,273	MOE, Essential Education Indicators 2009: 3
2009	3984162	123,329	MOE, Essential Education Indicators 2010: 3
2010	3,200,000	-784162	EPHS 2013: 3

Source: collated from various Government sources.

The graph depicts the gradual rise and sudden population decline.

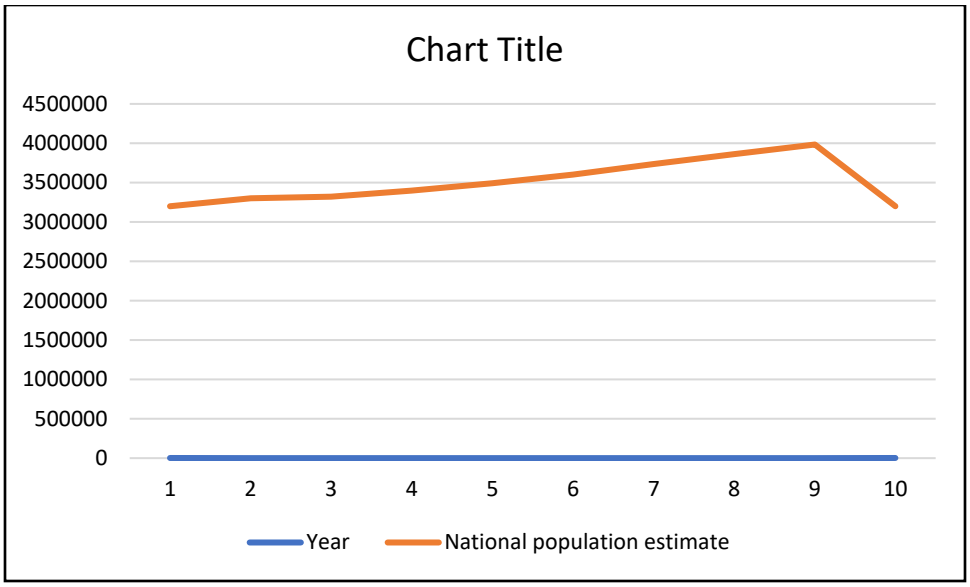


Figure 7. Eritrea national population trends 2001-2010

Notably, the population estimate by the NSO was the same for 2001 and 2010. My analysis of the annual EMIS reports revealed that starting with the 2010/2011 academic year the MOE discontinued the practice of giving the population figures upon which it based its EMIS calculations. The EMIS report of 2011 did not explain the discontinuation. However, from Table 46 of the annual EMIS booklet (2010/11), which gives detailed information on age-specific enrolment, it was possible to prorate the school aged population of 2,155,951 to arrive at a population figure of 3,142,228 for that year. This was evidence of an inconsistency as described by Broeck *et.al*. (2005). The change represented a drastic fall in the population estimate from that of 3,984,162 in the previous academic year.

The declining population estimates had attracted the interest of Woldemicael (2005, 2008), an Eritrean scholar who hypothesised that the declines were indicative of long-term fertility transition or prolonged spacing of births, cessation of further childbearing, delayed age at marriage, and

possibly the effects of conflicts and economic hardships. Woldemicael's studies raised concerns about the estimations of Eritrea's population. However, the dilemma of unstable population estimates was not unique to the MOE. A scan of other sources indicated that there were diverse 'credible' sources of Eritrean population estimates and that this was partly due to the absence of a national census (Randall, 2015) given that by 2016 Eritrea had not conducted any national population census since 1938 according to the European Asylum Support Office[19] (EASO, 2015) or since 1984 when Eritrea was still part of Ethiopia, according to the Ethiopia Central Statistical Authority (EASO, 2015). For the EMIS the NSO provided national population estimates. However, for organisations like UNICEF and UNDP, Eritrea population estimates were provided by the UN Population Division. Yet interestingly UNICEF and UNDP figures for Eritrea's population in any given year were usually different. The World Bank, Central Intelligence Agency and other organisations also had different estimates. On the other hand, even internally among government departments including the Ministry of National Development which supervised the NSO, the population figures were not consistent much as they all cited the NSO as their source. The figure below shows the discrepancies in population estimates for 2011 from various 'authoritative sources' on Eritrea:

[19] The Ethiopia Central Statistics Authority claims that Eritrea participated in the 1984 population census. However, this is disputed because security concerns at the time made it impossible to include Eritrea Region.

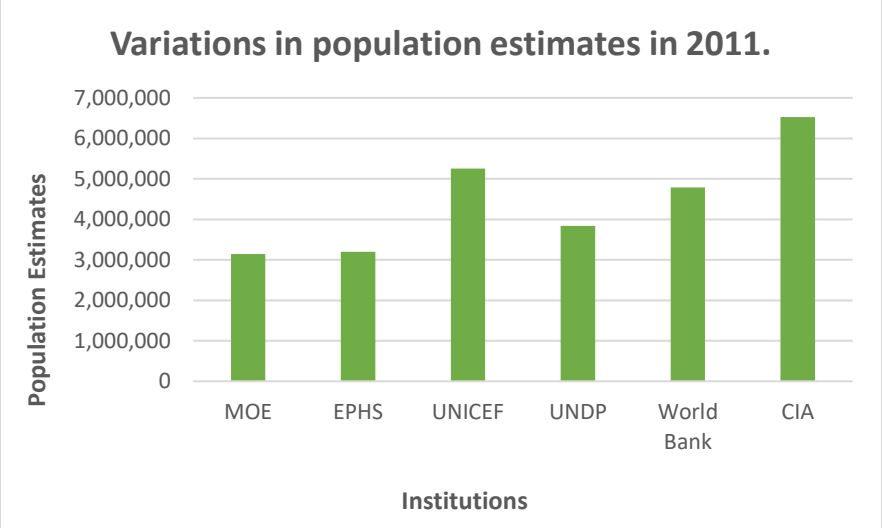


Figure 8. Different population estimates by source

What emerged from the analysis was that there was no single reliable population estimate for Eritrea. Triangulation of figures from the various sources confirmed the absence of a reliable estimate. But then, the challenge of population figures was not unique to Eritrea as the following quote illustrates regarding UNICEF and UNESCO estimations of OOSC in 2004.

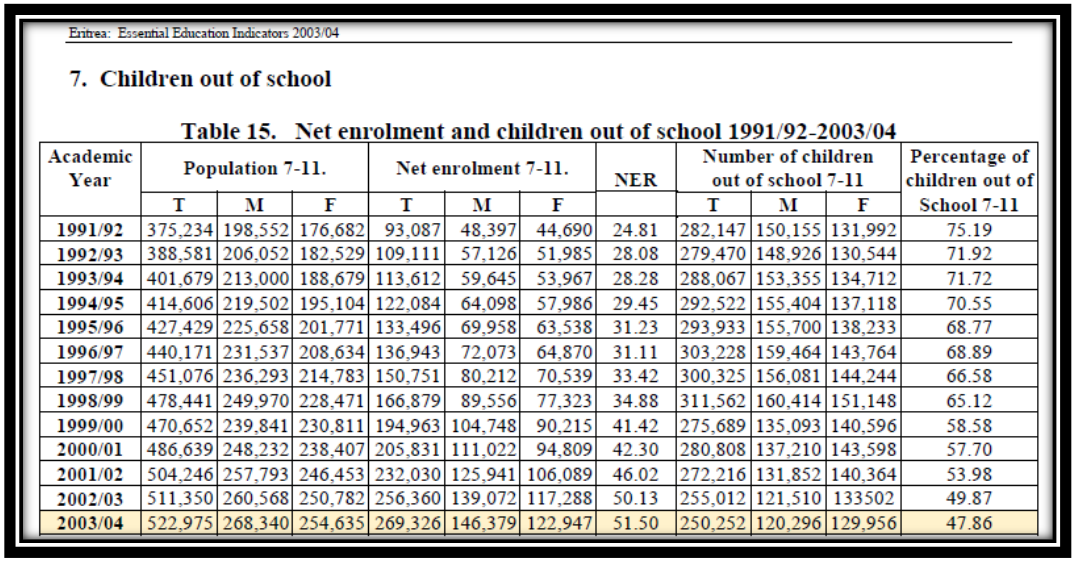
> The number of out-of-school children reported by UNESCO and UNICEF has often differed substantially. In 2004, UNESCO published the figure of 104 million out-of-school children in its Education for All Global Monitoring Report. In the same year, UNICEF published the figure of 121 million in its flagship report, The State of the World's Children. ... What explains the differences among these measures? For the 2004 estimates, both organizations used the same definition of school age population and the same population data. But they used different sources for education data. UNESCO estimates were based solely on administrative data. UNICEF used as a first-choice administrative data – but complemented them with data from household surveys – especially where enrolment data were less recent than survey data or were considered unreliable." (UNESCO and UNICEF, 2005: 13)

The foregoing analysis was therefore not an indictment on the EMIS of Eritrea but rather an exemplification of the idiopathic anomalies relating to

population data which is used as a basis for key decisions and studies (Broeck *et.al.* 2005).

4.3.2 Observed mismatches for OOSC trends

The second issue was mismatched trends. While reviewing the EMIS data, I noticed a change in the historical figures for out-of-school children (OOSC). As illustrated in the figures below which were extracted from Tables 15 of the 2003/04 and 2010/11 EMIS reports, there was a significant change in the values of OOSC. The change affected the period from 1991 to 2010. Thus, whereas the 2003/04 report indicated that there were 250,252 children aged 7-11 who were out of school, the 2010/11 report reduced the figure for 2003/04 by 45 percent to 112,785 OOSC. The 2010/11 EMIS report did not provide the rationale for revising historical OOSC rates.



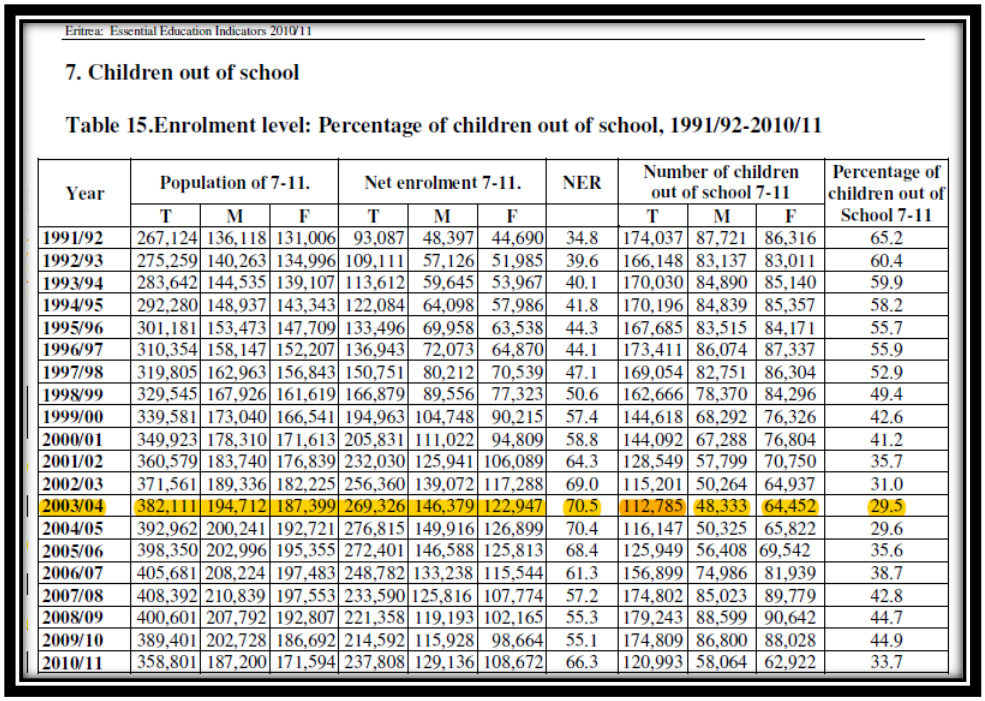
Eritrea: Essential Education Indicators 2003/04

7. Children out of school

Table 15. Net enrolment and children out of school 1991/92-2003/04

Academic Year	Population 7-11.			Net enrolment 7-11.			NER	Number of children out of school 7-11			Percentage of children out of School 7-11
	T	M	F	T	M	F		T	M	F	
1991/92	375,234	198,552	176,682	93,087	48,397	44,690	24.81	282,147	150,155	131,992	75.19
1992/93	388,581	206,052	182,529	109,111	57,126	51,985	28.08	279,470	148,926	130,544	71.92
1993/94	401,679	213,000	188,679	113,612	59,645	53,967	28.28	288,067	153,355	134,712	71.72
1994/95	414,606	219,502	195,104	122,084	64,098	57,986	29.45	292,522	155,404	137,118	70.55
1995/96	427,429	225,658	201,771	133,496	69,958	63,538	31.23	293,933	155,700	138,233	68.77
1996/97	440,171	231,537	208,634	136,943	72,073	64,870	31.11	303,228	159,464	143,764	68.89
1997/98	451,076	236,293	214,783	150,751	80,212	70,539	33.42	300,325	156,081	144,244	66.58
1998/99	478,441	249,970	228,471	166,879	89,556	77,323	34.88	311,562	160,414	151,148	65.12
1999/00	470,652	239,841	230,811	194,963	104,748	90,215	41.42	275,689	135,093	140,596	58.58
2000/01	486,639	248,232	238,407	205,831	111,022	94,809	42.30	280,808	137,210	143,598	57.70
2001/02	504,246	257,793	246,453	232,030	125,941	106,089	46.02	272,216	131,852	140,364	53.98
2002/03	511,350	260,568	250,782	256,360	139,072	117,288	50.13	255,012	121,510	133502	49.87
2003/04	522,975	268,340	254,635	269,326	146,379	122,947	51.50	250,252	120,296	129,956	47.86

Figure 9. Extract from EMIS report showing original flow rates (with my highlight)



Eritrea: Essential Education Indicators 2010/11

7. Children out of school

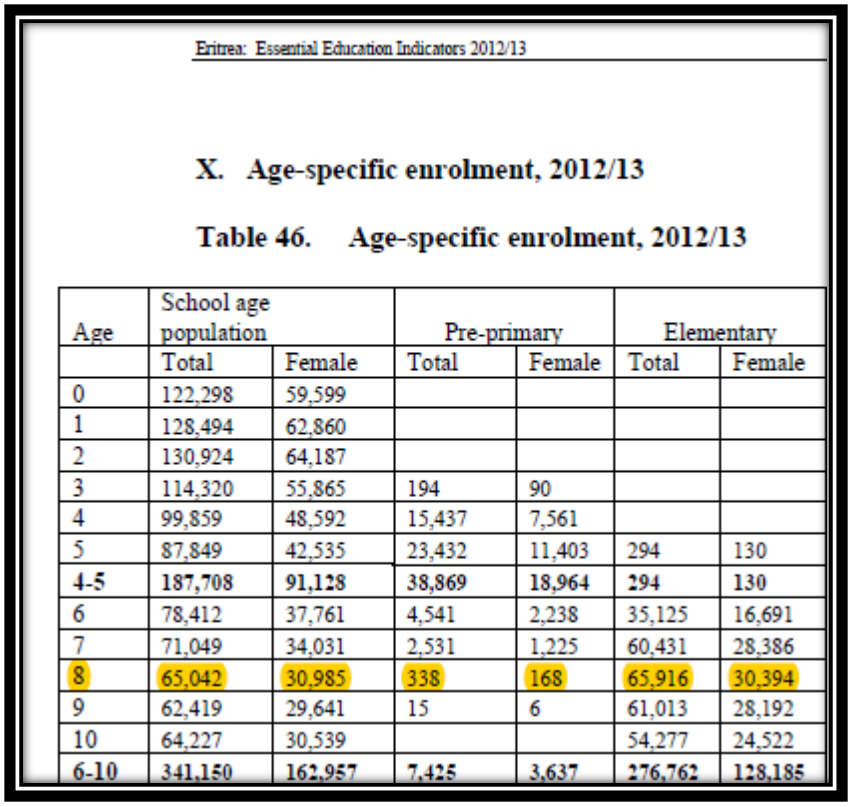
Table 15.Enrolment level: Percentage of children out of school, 1991/92-2010/11

Year	Population of 7-11.			Net enrolment 7-11.			NER	Number of children out of school 7-11			Percentage of children out of School 7-11
	T	M	F	T	M	F		T	M	F	
1991/92	267,124	136,118	131,006	93,087	48,397	44,690	34.8	174,037	87,721	86,316	65.2
1992/93	275,259	140,263	134,996	109,111	57,126	51,985	39.6	166,148	83,137	83,011	60.4
1993/94	283,642	144,535	139,107	113,612	59,645	53,967	40.1	170,030	84,890	85,140	59.9
1994/95	292,280	148,937	143,343	122,084	64,098	57,986	41.8	170,196	84,839	85,357	58.2
1995/96	301,181	153,473	147,709	133,496	69,958	63,538	44.3	167,685	83,515	84,171	55.7
1996/97	310,354	158,147	152,207	136,943	72,073	64,870	44.1	173,411	86,074	87,337	55.9
1997/98	319,805	162,963	156,843	150,751	80,212	70,539	47.1	169,054	82,751	86,304	52.9
1998/99	329,545	167,926	161,619	166,879	89,556	77,323	50.6	162,666	78,370	84,296	49.4
1999/00	339,581	173,040	166,541	194,963	104,748	90,215	57.4	144,618	68,292	76,326	42.6
2000/01	349,923	178,310	171,613	205,831	111,022	94,809	58.8	144,092	67,288	76,804	41.2
2001/02	360,579	183,740	176,839	232,030	125,941	106,089	64.3	128,549	57,799	70,750	35.7
2002/03	371,561	189,336	182,225	256,360	139,072	117,288	69.0	115,201	50,264	64,937	31.0
2003/04	382,111	194,712	187,399	269,326	146,379	122,947	70.5	112,785	48,333	64,452	29.5
2004/05	392,962	200,241	192,721	276,815	149,916	126,899	70.4	116,147	50,325	65,822	29.6
2005/06	398,350	202,996	195,355	272,401	146,588	125,813	68.4	125,949	56,408	69,542	35.6
2006/07	405,681	208,224	197,483	248,782	133,238	115,544	61.3	156,899	74,986	81,939	38.7
2007/08	408,392	210,839	197,553	233,590	125,816	107,774	57.2	174,802	85,023	89,779	42.8
2008/09	400,601	207,792	192,807	221,358	119,193	102,165	55.3	179,243	88,599	90,642	44.7
2009/10	389,401	202,728	186,692	214,592	115,928	98,664	55.1	174,809	86,800	88,028	44.9
2010/11	358,801	187,200	171,594	237,808	129,136	108,672	66.3	120,993	58,064	62,922	33.7

Figure10. Extract from EMIS report showing adjusted flow rates (with my highlight)

4.3.3 Mismatch of age of children enrolled in school

The third issue was over-enrolment. The EMIS publication of 2012/13 showed that 65,916 eight-year-old children had enrolled into grade two, which was greater than the estimated total population of 65,042 eight-year old children in the country (figure 11).



Eritrea: Essential Education Indicators 2012/13

X. Age-specific enrolment, 2012/13

Table 46. Age-specific enrolment, 2012/13

Age	School age population		Pre-primary		Elementary	
	Total	Female	Total	Female	Total	Female
0	122,298	59,599				
1	128,494	62,860				
2	130,924	64,187				
3	114,320	55,865	194	90		
4	99,859	48,592	15,437	7,561		
5	87,849	42,535	23,432	11,403	294	130
4-5	**187,708**	**91,128**	**38,869**	**18,964**	**294**	**130**
6	78,412	37,761	4,541	2,238	35,125	16,691
7	71,049	34,031	2,531	1,225	60,431	28,386
8	65,042	30,985	338	168	65,916	30,394
9	62,419	29,641	15	6	61,013	28,192
10	64,227	30,539			54,277	24,522
6-10	**341,150**	**162,957**	**7,425**	**3,637**	**276,762**	**128,185**

Figure 11. Extract from EMIS report showing age 8 enrolment anomalies (my highlight)

There had not been any reported influx of refugees. Barring the possibility that invisible children (Carr-Hill, 2012; Randall, 2015) had been enrolled, the over-enrolment against the estimated total population was logically and biologically implausible (Broeck *et.al.* 2005).

My sense was that the three discrepancies were not necessarily cases of ineptitude among the processors of EMIS data. However, they presented me with a dilemma given the data were from secondary sources. Broeck *et.al.* (2005) suggest that screening, diagnosing and editing the data is an iterative process that can begin anywhere. Broeck *et.al.* (2005) advise that in case of problematic data observations, the researcher must decide whether to correct them, delete them or leave them unchanged. For

example, impossible values should be corrected if the correct value can be found, otherwise they should be deleted. However, since I did not personally collect the raw data, I decided to bring my observations to the attention of the MOE which was the original owner and custodian of EMIS, and the NSO to get clarification before I could run the data in the OOSCI excel spread sheet for the five dimensions of exclusion (5DE). Below I present the outcomes of those consultations.

4.4 Official response about anomalies and possible remedies

The three key issues were the population figures which formed the basis for the EMIS computations by MOE; the rationale for recalculating the historical out-of-school statistics from 1991 to 2010; and the possibility that more children enrolled into Grade Two than the entire population estimate for that age group.

4.4.1 Inconsistent population estimates

Analysed data from interviews with MOE and NSO officials indicated that they considered information on population statistics in the country to be a highly sensitive issue. An official from NSO cautioned,

> No other authority than the NSO whether in the country or elsewhere has the mandate to determine the population of Eritrea. … Partners working in Eritrea should be wary of regurgitating wrong figures purported to be from so-called reliable sources (interviewed 7 December 2015).

I recalled the animated discussion between MOE and UNESCO officials regarding UNPD figures. However, I also concluded that the different figures cited by various departments of the government emanated from the understanding that no changes could be made to the population estimates unless such changes were communicated by the NSO. If a department did

not need to publish routine data the way EMIS does with education data, then possibly they did not take the initiative to seek updates from the NSO. Further analysis of data from the interviews with the MOE EMIS officials revealed that the MOE used different mathematical models to calculate the population growth figures and this may have contributed to the higher population size.

The NSO acknowledged having asked the MOE to discontinue the practice of citing their population denominator in the EMIS publications. During the interview with an official of the NSO, I asked whether the changes in population estimates could have been arbitrary e.g. from 3.2 million to 2.9 million for 2010. The official explained, “Such changes are normal since data cleaning processes are continuous and no database can claim to be exact” (interviewed 7 December 2015). His explanation was consistent with literature (Broeck *et.al.*, 2005). He also explained that the NSO used the cohort component model which considered factors like fertility, mortality and migration. The NSO official concluded, “Based on the recalculations, we found that the MOE had erroneously exaggerated the out-of-school statistics and that was why in 2010 they had to adjust historical data for 1991-2009” (interviewed 7 December 2015). The explanation did not address the inconsistencies in population estimates by NSO and its line Ministry of National Development.

I shared the feedback from NSO at a UN forum in the capital, whereupon a colleague from a sister agency remarked that the discrepancies about population estimates underscored the need for a national population census. The colleague expressed pessimism about the likelihood of a census, noting that the last documented indication of government buy-in was in 1999 when the International Commission on Population and

Development coordinated the advocacy. In a nutshell, there was no reliable estimate of the national population of Eritrea at the time of this study.

My analysis also showed that the problem of different population figures was not unique to Eritrea government data sources only. United Nations agencies working in Eritrea had different figures much as they depended on the same UNPD for their respective population estimates.

4.4.2 Changes in OOSC trends

The second observation was about a reduction in the OOSC population across the years. The change had resulted in a 45 percent reduction in the OOSC rates. The MOE explained that the change was a result of adjusting the national intake age from seven years to six years. Given I was approaching this as a layperson, the explanation did not clear my confusion as to why the revision had to stretch to 1991 and why the change affected students who by 2010 would have completed their education. In the interview discussion with the NSO, the officer explained that because the MOE had consistently used inappropriate mathematical models to calculate population growth figures, they accumulated errors due to exaggerated population size. That was why the EMIS unit was advised to revise their historical population 'projections' and to recalculate the flow rates. He concluded, "That was why the NSO asked the Ministry to discontinue the practice of citing their population denominator in the EMIS publications" (Interviewed 7 December 2015)

The explanations did not address the observation that Eritrea's population might have remained static or reduced when the population of school children continued to grow over the years.

4.4.3 Higher enrolment than entire age-cohort

In the analysis of the quantitative data the report of 2012/2013 showed that 66,245 eight-year old children aged were enrolled whereas the total estimated population of eight-year old children that year was 65,042. In other words, the enrolment exceeded the entire population of eight-year olds. Analysed data from interviews with the MOE and NSO officials revealed that they considered such anomalies to be the result of *age-heaping* during national population surveys when people round off their ages to the nearest zero or five. The NSO official said, “Here it is common for an eleven-year-old to claim to be 10 years old while a fourteen-year-old may claim to be 15” (interview on 7 December 2015). Literature confirms that age-heaping is a typical practice during population surveys and EMIS data collection processes (A’Hearn, Delfino & Nuvolari, 2016; Lyons-Amos & Stone, 2017). Lyons-Amos and Stone (2017) report that in sub-Saharan Africa five per cent of respondents misreport their age. Indeed, the EPHS (2010:12) reported, “noticeable heaping at ages ending with 0 and 5 for both sexes” and concluded that “Ages ending with 1 and 9 are underreported.” Thus, the NSO reported that they used statistical techniques to *smoothe* the zigzags before prorating the population by age groups. The explanation sounded plausible although it left begging the possibility that the MOE had achieved perfect enrolment for 8-year olds in 2012/13 academic year while across other age groups there was evidence of increasing cases of dropout.

4.5 Summary of the chapter

The foregoing analyses left lingering questions about the official data. Had previous decisions by UNICEF been based on wrong data? Was it possible for a low-income fragile country to have perfect indicators like enrolling all

children of a certain age into school? Was it possible for the school populations to expand while national populations declined? Was there a risk that I would end up perpetuating wrong data through my research? Given that this was secondary data I did not have the option of adjusting them to suit the purpose of my study as advised by Boslaugh (2007) and Cheng and Philips (2014). In the circumstances, I decided not to proceed with the computations using the OOSCI spread sheet.

The key finding from the foregoing procedures was to highlight the dilemma of using existing EMIS data for reporting on dropout and drop-in. My analysis contributed to a diagnosis on EMIS reporting especially the likelihood of underreporting on OOSC.

The analysis of quantitative data was intended to determine the status of risk among middle schools in Eritrea using EMIS data. However, the analysis demonstrated that the existing EMIS data did not sustain satisfactory confidence levels for it to be analysed using the global OOSCI framework developed by UNESCO and UNICEF (2015). The EMIS tried to identify risk among middle school students using 12 predetermined indicators or causes. As the analysis demonstrated, the 12 causes were identified in 1993 and by 2016 they had not been updated. The way information about the 12 indicators was collected was quantitative, and gave no room for qualitative analyses of the risks as experienced or perceived by individual schools. The EMIS reports did not analyse the 12 factors, nor did EMIS provide scope for schools to capture and reflect on issues relating to risk and drop-in as experienced in the schools on a regular basis.

Chapter 5

Findings from the qualitative data

5.1 Introduction

The qualitative part of my thesis based on a case study of Amiche district. I conducted focus group discussions with 21 students and interviews with six teachers to address the second research question, “What do secondary school students in Amiche district of Eritrea consider to be the risks to their schooling?” In this chapter I describe the setting and participants and then I analyse the qualitative data.

5.2 The fieldwork setting

In this section I mainly base on analysed data from interactions with teachers and students in the two schools. More importantly I present my interpretation of this data to argue that there were visible indicators of fragility, risk and drop-in within the context.

5.2.1 The schools within a fragile context

Beles Middle school was a coeducational single stream school with a total enrolment of 116 students (33 females). Since its establishment in 2008, Beles had been hosted by D’Hando Elementary School in a complex comprising three blocks of semi-permanent classrooms, one grass-thatched structure, a tent and one permanent 6-classroom block. The school complex was shared by several autonomous institutions with a total enrolment of about 600 students ranging from pre-school, the host elementary school, Beles Middle School, an adult literacy group and a non-

formal complementary education unit. Beles was one of the two middle schools in Amiche.

The government task force on drought and post conflict (GOSE, 2015) reported that Beles School served 18 villages with a total population of 3,500 people living in 724 households. The task force reported that 150 of the households in Beles were headed by women and 35 headed by children. The school served a nomadic pastoralist community. The climate was unfavourable to sedentary lifestyles especially during the hot seasons when temperatures rose beyond 45 degrees Celsius and water sources dried up.

The principal of Beles school reported that over 30 percent of the students, mostly males, dropped out of school annually and “At least 25 per cent of my students repeat classes” (interviewed 10 December 2015). Given that dropout and repetition were key risk factors identified by annual EMIS reports, it was evident that many of the students enrolled at Beles dropped into school by chance.

Beles lacked most of the basic requirements of a middle school. There was neither a library nor a science laboratory. Sanitation facilities were inadequate for the total population of students and teachers. Moreover, social services in the area were equally inadequate. The nearest health facility to the school was 2 kilometres away and for some students the school and health centre were over 10 kilometres away from their homes. The source of water for the school was an unprotected hand-dug well on the bed of a seasonal river, three kilometres from the village. Water scarcity fuelled the high demand for water-hawking services.

Thus, Beles was not only located within a fragile region, it was also fragile in terms of its deprived community, inadequate facilities and human

resources, and overall diminished capacity to respond to the educational demands of its expansive catchment area. Nevertheless, Beles middle school was a highly-valued community asset.

Figure 12. Main block of D'Hando-Beles schools

Figure 13. Beles pre-primary and adult literacy classroom

Figure 14 Additional learning spaces constructed by the community at Beles School

N'Hafash Middle School

N'Hafash school was established soon after independence as part of the government pledge to expand secondary education. It was the only other post elementary institution in the entire district. The school was located about 50 kilometres from the regional capital. N'Hafash was a mixed day school. According to the Principal (interviewed on 11 December 2015), the school's total enrolment during the 2015/16 academic year was 181 students (62 girls) with eight teachers (two females). N'Hafash served a cosmopolitan community living in and around an urban trading centre. The centre had a solar powered borehole and a micro-dam which was about 2.5 kilometres away.

The school's catchment area had 5,705 residents living in 1,044 households of which 442 were female headed. While social services such as health and security were easily accessible, food insecurity was a common problem.

Many local people led the nomadic lifestyle although the community was ethnically heterogeneous.

Owing to its relative proximity to the regional capital, N'Hafash school received regular visitors. At the time of my fieldwork in late 2015 and early 2016, the school had recently been renovated by the regional government and reequipped with scholastic and laboratory materials, a library store and accommodation for teachers. N'Hafash had comparatively better infrastructure than Beles.

Figure 15. Main building of N'Hafash Middle School

5.2.2 The teachers

At the time of my fieldwork, Beles and N'Hafash Middle Schools had six and eight teachers respectively. Seven teachers had professional education qualifications, two teachers were attending in-service training. Five teachers did not have professional training but they were on national service secondment. The national service teachers had served more than three

years at the schools, which was longer than the 18 months stipulated in the National Service Proclamation No. 82/1995.

The teachers were sufficient for the population of students they served, with a ratio of one teacher to 20 students. However, the principals complained about high teacher turnover due to the difficult living conditions in the area. The principal of Beles noted, “Teachers who are posted from the highlands rarely complete a year here. As soon as they accumulate enough money to transport themselves and their belongings, they disappear. Some of them abandon their belongings and simply cross to [neighbouring country]” (interviewed 10 December 2015). From my observation and anecdotal evidence gathered through interactions, Amiche was indeed a hard-to-live context.

The schools had devised various ways to cope with the shortage of teachers. Beles had co-opted a female teacher from the host elementary school to fill the gap of female teachers. “We were stuck, with no support for our girls ... so I begged the Headteacher of D’Hando Elementary to permit the female teacher to provide voluntary counselling to the girls. It has really helped them” said the Principal (interviewed on 10 December 2015). Beles had also recruited young people from the community and enrolled them into the in-service programme at the National Teacher Training Institute. The Regional Education Office had facilitated their exemption from National Service. Similarly, N’Hafash school and the community provided accommodation and foodstuffs such as wheat flour, *tef* cereal for making *injera,* and dairy products to complement the teachers’ income.

5.2.3 The students and their parents

The students came from families that were relatively poor by national standards. The EPHS (2010 and 2002) placed Amiche district in the poorest wealth quintile. Family sizes varied from two to 12 members in a household. Ten students came from families of more than seven children. The average family size for the entire group of research participants was six children. As we see later, family size was identified by the students as one of the risk factors. The students' views on family size resonated with the exploration of risk and resilience by Fine (1986), Hammond *et.al.* (2007), Rumberger and Lim (2008). Regarding guardianship, five students lived with a single parent or guardian, two students headed households, the rest had both parents. However, not all students lived with their biological parents. Some lived in para-boarding with host families.

Many of the students came from homes which were headed by women, with absentee fathers. Parental education levels were varied but modest. The most educated parents were a trained male nurse and a social worker, both of whom were parents of students at N'Hafash Middle School. Eleven students said both their parents had attained some education; six students reported that neither parent had any formal education; two said only the mother was educated; and two reported that only the father was educated. Apart from the two parents in formal employment, some parents were business people or engaged in subsistence activities. Therefore, the students did not expect or receive academic support from their parents, which linked to the literature on levels of parental education and students' learning outcomes (Abuya *et.al.* 2013; and Abuya *et.al.* 2012).

Most of the students had engaged in some form of paid work. Only five students (2 girls and 3 boys) reported that they had not engaged in any form

of paid labour and apart from Ribka (aged 15, N'Hafash) the others were relatively young. The rest were actively engaged on a regular part-time basis, working in trades like carpentry, brick-making, key-cutting, shoe-shining, tailoring, house-helping, fetching water, looking after animals and cultivating for other people. Seven students among those who worked for pay were below the age of 15 years which was contrary to the stipulation of the ILO Convention 138 on minimum age (1973) that provides that children who are in the age-category of compulsory schooling (less than 15 years) should not engage in paid labour. The older ones also reported that they had started to work for pay before reaching 15 years. Some said they were attracted to work during their annual migrations because they needed money to socialise with their peers from the highlands. Data from students on these aspects is presented and analysed later in this chapter. It is worth noting that the students seemed inclined towards acquiring vocational skills and ideally this would have made an important component of the nomadic education curriculum for post primary education.

In summary, the geographical context of the two schools was fragile. The climate was not only hostile due to recurrent drought conditions, but it also contributed to food insecurity and regular cycles of nomadism. The schools served expansive geographical areas with high populations. With no higher institution of learning beyond the middle school level, the students had limited chances for further education and that lowered the potential to drop into school among at-risk students.

5.3 Perceived risks faced by students

The students' focus groups identified several risks which teachers confirmed during separate interviews. The risks identified by students and

teachers resonated with the risks identified by other researches notably the longitudinal analyses by Rumberger and Lim (2008), Hammond *et.al.* (2007) and Schoon (2006).

a) Climate related risks

Analysed focus group data showed that most students considered the lowland context as contributing to the risk of dropout. The students reported experiencing very high temperatures, particularly in the months of April to June when temperatures ranged between 40 to 50 degrees Celsius. Keshi (male, 18, N'Hafash) said, "It is routine for people in lowland areas to migrate to the highlands during the hot months. Remember hot season comes during the final term [of the academic year]" (FGD on 11 December 2015). Keshi explained that moving to escape drought conditions affected their education. Keshi's observations confirmed those by Amina (female, 14, Beles) that "Students are following animals [sic] instead of studying" (FGD on 10 December 2015). As noted by Carr-Hill, movement of people and livestock in Eritrea is "an economic necessity although it is a constraint to sending children to school" (Carr-Hill, 2005:44).

The students' perceptions were borne out by the provisions of the government to foster access to education. The MOE had developed tailored responses to mitigate the impact of nomadism. In the interview with Ato Ketema (MOE official, discussed on 17 December 2015), he confirmed, "The government has a programme for nomads. The Eritrea Nomadic Education Policy provides the framework for government response, which sets the foundation for quality education in disadvantaged areas." My analysis of the Nomadic Education Policy (2009) identified efforts to relate

education to the issues and challenges of nomadic communities. The preamble to the policy notes:

> "the [current formal] school curriculum … is primarily tailored to meet the needs of sedentary populations and [yet] the physical isolation of nomads in mostly inaccessible physical environments (harsh climatic conditions and rugged mountains) does not encourage participation in schooling. On the other hand, nomads' unique culture sometimes contributes to their non-participation in formal educational, social and developmental services" (MOE 2009:2).

The policy was conscious about the climate, topography, isolation and traditions and their impact on education. Further analysis of the nomadic curriculum for elementary education illustrated how it provided for knowledge on managing livestock, and information on peaceful coexistence among different communities during movements in search of pasture and water. Ato Ketema also emphasised, "Teachers who implement the curriculum are equipped with skills in multi-grade teaching and mobile learning approaches, which helps in situations of involuntary teacher shortages, for example when teacher attrition happens" (interviewed on 17 December 2015). The claim about multigrade teaching skills was not supported by the evidence provided by the principals and teachers of Beles and N'Hafash schools. It was noteworthy that the official considered teacher shortages to be involuntary whereas the GEM Report (UNESCO 2017) indicated that the number of trained teachers in Eritrea had been declining since 2000.

The second education system measure to mitigate the effects of nomadism on schooling was to allow lowland schools flexibility in implementing the curriculum. In the follow up discussion with Ato Ketema on 17 December 2015 he explained that the MOE had issued guidelines to schools on how to cover the syllabus without compromising quality. "The syllabus may be compressed and the academic year is adjustable to accommodate the

movements. Nomadic areas sit special national examinations. Also, the Ministry requires host schools in the highlands to support the mobile students." Ato Ketema added that in the nomadic communities the government did not enforce the age policy at enrolment, "Students who are older than the class they want to join can still be enrolled". From analysing the evidence provided by Ato Ketema, I concluded that the government tried to maintain basic education services in Amiche by addressing the factors associated with state-level fragility while responding to context specific fragility challenges. To some extent, the various government efforts contributed to drop-in.

Data from interviews with students regarding the special initiatives provided mixed perspectives. Students in Beles appreciated the government efforts, with (Zighe 15, female) pointing out, "The Ministry ensures that all children access education. They order schools to register us who are older" (FGD held on 10 December 2015). However, three students in N'Hafash (Ghinda, Molobar, Abdalla) feared that the education they received through the special arrangements was inferior to what their peers in the highlands received, although that perception was contentious as Bilal countered, "If our education is inferior, why do we still fail national examinations?" (during FGD on 11 December 2015) implying that if MOE wanted to manipulate results to prove that nomadic education was at par with the rest of the curriculum, the MOE could award free marks to make its point. Bilal's argument implied that providing objective results demonstrated that there was no ulterior motive about the nomadic education policy and curriculum.

Students of N'Hafash[20] were anxious that the limited exposure due to a compressed syllabus differentiated and marginalised them in terms of future life opportunities. Ribka (N'Hafash) lamented, "When we go up there [highland schools] we are just strangers. They call us "*Itiatom* or *Nisom* [meaning "those people!' pejoratively]." Ribka's remark reflected a mindset that could potentially block objectivity and engender psychological defeat. For me the question was how easily the lowland students transitioned from Nomadic Education to mainstream education and what that meant for the examination processes. Ribka's remark and my question recalled Fine's (1986) argument that education can be a mechanism for reproducing, perpetuating and aggravating social inequities. Nonetheless, seasonal migration had contributed to raising student consciousness about their own deprivation although it also reinforced their sense of alienation.

Despite the divergent views among the students, the government's initiative to provide an alternative curriculum and flexible implementation arrangements contributed towards mitigating the impact of climatic factors and facilitated drop-in among at-risk students in Amiche.

b) Poverty related risks

Students and their teachers in the two schools highlighted poverty as a major risk factor. In a mock poll, they ranked poverty second to climate-induced fragility, noting that high levels of poverty were a constant challenge to families and students. Evidence from the group discussions included statements like, "Families are unable to contribute towards education because they are poor" by Diila (N'Hafash teacher); or "Some parents feel

[20] The first FGD with students at Beles was on 10 December 2015 while with N'Hafash it was on 11 December 2015.

that paying for education is a waste of money which can feed the family for many days", by Sabila (12, N'Hafash). Petros (12, Beles) submitted, "Education is considered a luxury for the rich. It is not free since parents are supposed to pay some fees, which poor families cannot afford."

On the contrary, Simret (female teacher, Beles) argued that some parents were reluctant to contribute towards fees because they perceived education as the responsibility of the government. Simret reasoned that government officials routinely made public statements that government was responsible for providing all social services. "The leaders keep emphasising that Government will cater for education up to any level and they forget to mobilise communities to contribute." Simret's argument was that the official stance undermined family interest and negated the role of communities in providing education services. Simret's concerns were legitimate particularly in the circumstances where the government was constrained by the effects of UN sanctions and the no-war-no-peace stalemate with Ethiopia. This subject interested me because the UNICEF education programme in Eritrea had a community mobilisation component whose success depended on community participation.

Looking at the capacity of families, I noted that some of the children came from homes with a minimum of 10 animals including cattle, camels, goats and sheep. I expected that a mobilised community would consider selling some animals to pay students' fees. At the time of the fieldwork, the average costs of the various animals were as follows:

Table 5.1 Average prices of livestock in Amiche in 2016

Animal	Cost in Nakfa	Equivalent in US Dollars	
		Official exchange rate $1 = Nkf 15)	Black market rate ($1 = Nkf 50)
Camel	50,000	3,333	1000
Donkey	20,000	1,333	400
Cow	15,000	1,000	300
Sheep	4,000	267	80
Goat	3,000	200	60
Annual school fees per parent	300	20	6

Granted, there were extremely poor families. However, what the table above shows is that a poor family with some animals could afford to contribute towards the costs of education for their children, notwithstanding the size of the family. At the time of this study the contribution was 300 Nakfa per parent per year irrespective of the number of children in the school. From the discussions, it was apparent that much as rearing animals was the main economic activity in the community, the students and teachers did not consider it as a form of employment.

My initial conclusion was that the parents used poverty as an excuse to shift the burden of education to the students leading to child labour. However, recalling Berland's (2003) caution against hastily judging "tenebrous others" from a perspective that ignores or downplays the "characteristics of their society and culture, their rich knowledge traditions and its transference, their strategies of flexibility and resilience, their music and lore, their institutions and organisations" (Sharma 2011:2), and the caution by Krätli and Dyer (2009) not to antagonise or alienate the culture of nomads; and also given

that I did not interview the parents to get their perspective, I revisited literature to try and situate the parent's behaviour within their sociocultural context.

The literature concurred on the fact that children raised in nomadic communities are socialised into roles from childhood (Allegretti, 2017; Berland, 2003; Krätli & Dyer, 2009). They are part of an extended social setup that contributes to individual and communal resilience. Oxfam (2005) explains that when a nomadic family releases a child to attend school, the family surrenders the labour of that child, which is an opportunity cost that should be considered an in-kind contribution. Other studies noted that traditionally e.g. among the Maasai in Kenya, Somalis and Afars in Ethiopia or the Dinka in South Sudan, ownership of livestock transcends the family and involves many stakeholders (Kaye-Zwiebel & King, 2014). Because livestock represent stored wealth, disposal of an animal is a complex process that must be endorsed by elders as part of the customary legal system (Allegretti 2017; Archambault, 2016; ATPS 2013; Deng, 2010). Offering a cow for fees would ultimately be a community decision that cannot be left open-ended as the community may require immediate returns on the investment, which education does not typically offer in the short run. Therefore, inability to cost-share may be the result of complex decision-making processes involving various stakeholders. It is instructive that the at-risk students explored other options to drop into school.

5.3.1 Personal circumstances

The students identified various risk factors relating to personal circumstances although their emphasis was on the following:

a) Age and safety on way to school

Some students reach middle school when they are over-aged for their classes although others are underage. During the focus group discussions, some of the students argued that the main reason for delayed enrolment into elementary school was the lack of schools in or near their villages. During the FGD on 10 December 2015, Amina (Beles) noted, “A single school for eighteen villages means a small child has to walk those miles from MaiTebek to D’Hando. That is impossible for a child of five years. The parent can decide not to register the child until she grows older.” That ruled out pre-schooling for many infants from such villages.

The teachers concurred that the bad situation at elementary becomes worse at secondary education. The absence of secondary schools in or near communities made parents hesitant to let their daughters walk long distances unsupervised. “They avoid certain risks which can occur if they let their girls go far”, remarked Simret. Teachers Ayagal and Mariam identified rape and early sex as the main fears.

It is worth noting that age was not highlighted among the 12 risk factors identified by EMIS yet age was the yardstick for computing gross and net enrolment rates plus overall flow rates. Moreover, the fact that EMIS questionnaires were administered at schools meant they were unlikely to capture the factor of lack of schools as a cause of lack of access (Ananga, 2011; Lewin, 2014; Reddy & Sinha, 2010). Equally, the questionnaires could miss the detail on how delayed enrolment due to age and distance resulted in students maturing ahead of their grades and being exposed to the onset of adolescence-related risks (Palme, 1998; UNESCO 2012). Thus, from the perspective of the students and teachers of N’Hafash and

Beles schools, age contributed to the risk of dropout and any student who was older for their current grade was at risk of dropping out.

b) Age and intake

Data from the teachers highlighted the absence of early childhood education (ECE), which is also a system-related factor, for contributing to risk. The teachers at Beles argued that lack of ECE in Amiche was one of the causes of delayed intake into grade one, and they noted that this was a common trend in the lowland areas. The teachers argued that delayed intake staggered the progress of students yet the curriculum was tailored to a six-year-old child progressing normally through the various grades. Mariam (Beles teacher, interviewed 10 December 2015) pointed out, “Until recently, there was no kindergarten in any of the 18 villages. When parents went to the highlands and saw that little children went to school to play and learn some habits, they came and put up that classroom for pre-school” (figure 13).

The ‘discovery’ by the parents confirmed what literature and practice have demonstrated, that ECE is instrumental in preparing children for school and society (Lake and Chan, 2014). ECE is presented as a reliable predictor of children’s school readiness and enhanced prospects in schooling (Sayre *et.al.,* 2015) and that in the absence of ECE, children may fail to enrol into school at the right age.

In my discussion with the students, they estimated that the commonest age at intake into grade one was eight years whereas the national policy had set six years. The following table which shows the ages of the at-risk students who participated in this study corroborated the estimation of the

students regarding the age at intake. At least seven students had started school when aged above 8 years.

Table 5.2: Students' age and grade distribution

Student #	Age	Sex	Grade	Deviation from grade age
1	11	M	6	0
2	11	M	6	0
3	11	F	6	0
4	12	F	6	1
5	12	M	6	1
6	12	M	6	1
7	12	M	6	1
8	13	M	8	0
9	13	M	6	2
10	14	F	6	3
11	14	M	8	1
12	15	M	7	3
13	15	F	7	3
14	15	F	8	2
15	15	M	8	2
16	15	M	8	2
17	16	M	6	5
18	16	M	8	3
19	17	M	8	4
20	17	M	8	4
21	17	M	8	4

Only 4 students were in the right grade for their age and 5 students were within the margin of (+/-) one year. Four students were late by two years.

Another four were late by three years. The rest had delayed by four years and one by five years. In other words, among the students who participated in the focus group discussions, only nine were in or within range of the right grade for their age. Data from interviews with teachers revealed older students with a deviation of up to 10 years from the official age for their respective grades. However, this was also partly the result of grade repetition. Surprisingly, orphans who participated in the focus groups were in the right grade for their ages, which contradicted Nyambedha and Aagaard-Hansen's (2010) finding that orphanhood negatively impacted on student progression.

Students argued that the immediate effect of late enrolment was being denied access in the highland schools where principals declined to admit over-aged students from the lowlands, even when they knew it was temporarily to cover the hot season. The principals claimed they were enforcing government policy on timely enrolment, yet by adhering to that policy they contravened provisions of the Nomadic Education Policy (2009). It is possible that they were concerned about mixing children of different ages. However, the perception of the students from Amiche was that they were being discriminated against for being from the lowlands.

c) Age and image in the school

I analysed qualitative data regarding the consequences of late enrolment on individual students. I established that students were aware that they became self-conscious as they grew older and cared about the way the community perceived them. Usman (13 years, N'Hafash) commented, "When someone becomes old he becomes uncomfortable to be in the same class with younger students" (FGD, 11 December 2015). His peers

expressed similar sentiments, with Zighe saying, “Becoming an adult means you have to get married; that is how our people see it, so they think you are wasting time.” I inquired whether the demands relating to marriage were about girls only and the students chorused, “No! Even boys” (FGD 11 December 2015).

The students’ perception was that the community fuelled anxiety about marriage prospects as girls grew older. “An old girl does not attract the same value of bridal gifts, gold and prestige, like a young girl”, Ribka noted. The teachers also linked late intake and early exit from schooling to self-image. Teacher Haile commented that when classmates of the older students tease them that they are “*abahago*” (grandparents) or “*abi*” (adults), it affects the concerned students psychologically ... therefore it is not surprising when the so-called ‘grandparents’ improve their grooming” (interviewed on 11 December 2015).

d) Age and paid work

Students identified child labour as a dimension of the age factor and reasoned that apart from scholastic and para-boarding requirements they had personal needs like snacks for school, personal grooming items like petroleum jelly, feminine hygiene products for girls, and “social coffee”, which is a popular social activity based on the traditional coffee ceremony. According to the students, paid labour offered a solution for those needs. “We have to make some money to buy the things that [we] need at school,” claimed Amina (Beles). Nuhu (17, Beles) added, “It is important to look nice. That is how you can be popular among your friends”. Part of the students’ needs were due to peer pressure. From further discussions with the students, they did not consider work for pay as a negative experience, and

neither did they consider it child labour. This suggested tension between the way students were socialised to develop a work ethic and tap into it to solve their immediate problems, and the global frameworks which benchmarked certain skills and their application based on age-related parameters.

When I discussed with the students the types of paid work they did, they identified the following:

Table 5.3: Types of paid work done by students

Name of School	**Name of Student**	**Age**	**Sex**	**Grade**	Type of paid labour
Beles	Elsa	11	F	6	Not working for money
N'Hafash	Mehret	12	F	6	House-help
N'Hafash	Sabila	12	F	6	Farm work
Beles	Amina	14	F	6	Looks after animals
N'Hafash	Ribka	15	F	7	Not working for money
N'Hafash	Zighe	15	F	8	Looks after animals
N'Hafash	Ngussie	11	M	6	Looks after animals
N'Hafash	Alem	11	M	6	Tailoring
Beles	Petros	12	M	6	Looks after animals
Beles	Hakosay	12	M	6	Not working for money
N'Hafash	Ermias	13	M	8	Not working for money
N'Hafash	Usman	13	M	6	Not working for money
N'Hafash	Abdalla	14	M	6	Water-hawking
N'Hafash	Ghinda	15	M	6	Looks after animals
Beles	Mikele	15	M	8	Carpentry
N'Hafash	Bilal	15	M	8	Key-cutting

N'Hafash	Molobar	16	M	7	Looks after animals
Beles	Ghebre	16	M	8	Brick-making
Beles	Burhan	17	M	8	Shoe-shining
N'Hafash	Keshi	17	M	8	Looks after animals
Beles	Nuhu	17	M	8	Farm work

Out of the 21 students in the two schools, 16 had engaged in some form of paid labour. As the table above shows, the 'trades' were varied and more notably, children below teen age were already working. Two boys aged 11 and 12 years were herding other people's animals. An 11-year-old boy was working as a tailor; while 12-year old girls worked as house-help and farm labourer respectively. Not surprisingly, the commonest type of employment was looking after animals, which was also the main economic activity of the lowland communities and a skill they learned from infancy. Alem (11, N'Hafash) commented, "We work for money during our free time, but it reduces our time to play or revise" (FGD 11 December 2015). Alem worked part-time as a tailor. His comment illustrated the perceived disadvantage working students experienced. Working for money may have contributed to the overall poor performance of schools in Amiche district. Nevertheless, by engaging in the chores, they picked up vocational skills that would probably support their survival in future. Carpentry, brick-making, key-cutting, shoe-shining, being mechanics and tailoring were prized vocations in Eritrea (Nyende & Okumu, 2014). In this case the students had taken them up on their volition alongside attending formal school. Hence the paradox, that child labour which is often blamed for drop-out was facilitating drop-in (Githitho-Muriithi, 2010). It was noteworthy that most working students attended N'Hafash school which served an urbanised community.

Teachers at both schools had strong views on child labour. They singled out traditional mining as the main threat to schooling throughout Amiche. They reasoned that since gold was integral to the traditional rites of most Eritrean communities, for example marriage jewellery, there was high demand which tempted male students and teachers to engage in mining. “There is a ready market for the minerals; you do not even have to try hard to find a buyer once you have the gold, all you do is haggle over the price” said Mr. Haile (interviewed on 11 December 2015). When I crosschecked with his students at N’Hafash, they confirmed that mining was a strong temptation. However, the students explained that they did not engage in mining activities because of the strenuous work involved, much as they considered the earnings from mining to be tantalising. Keshi (N’Hafash) remarked, “By the way a day’s income from mining, is equivalent to several months of a government worker’s salary!” to which Ribka added, “And the minerals are easier to store, unlike animals which may die when the drought intensifies.” Nevertheless, the students said it would be impossible to combine education and mining if a student desired a good academic grade.

Analysis of EMIS data also showed that there was no way the teachers could report on mining as a risk factor because it was not among the predetermined factors and Q9 did not provide for qualitative explanations. In summary, the students who resisted the temptation to work in mining demonstrated a genuine desire to drop into school. Students who engaged in other paid work made a deliberate choice to avoid mining but still found paid work that would spare them time and energy to drop into school.

e) Repetition of classes

There were other risks that students and teachers identified, including grade repetition, which the EMIS reports also highlighted in detail (section 4.2.2). Teachers reported that some of the students repeated classes due to poor performance, which was consistent with literature (UNESCO, 2012). Students also reported that they were forced to repeat grades because they did not cover the syllabus due to having to move to the highlands during the final examinations semester. They reasoned that seasonal nomadism meant that they did not always progress at the pace of their peers in more sedentary lifestyles, in effect taking longer than the official duration in each level of education, which also resonated with literature (Carr-Hill, 2005; Krätli & Dyer 2009).

Analysis of EMIS data showed that because large numbers of students competed for limited places in post elementary grades, repetition was a key option to students who desired to stay in school. Burhan (17, Beles) argued, “When you fail the final examinations, either you leave schooling completely or you try again until you pass to join high school or vocational” (FGD 10 December 2015) It was evident that the Eritrea education system contributed to the phenomenon of pushout as articulated by Reddy and Sinha (2010).

Intriguingly, teachers and students also reported that some students deliberately repeated classes. Further probing of the students through individual interviews, and analysis of data, advanced two main reasons, namely voluntary repeating in the hope of better performance at subsequent examination attempts and deliberate poor performance to avoid national service. The first reason was more plausible given the rigid structure of education in Eritrea, which the national concept paper to transform

education described as a “tournament” system (MoE, 2002). Despite the official policy on automatic promotion, the available infrastructure could not satisfy growing demand for post elementary education, hence the repetition cases.

Regarding national service, it was difficult to verify the views of students and teachers that it was the cause of deliberate repetition. Teacher Diila explained, “All students are required to enrol in Sawa [military academy] for their final year of high school. Some of them are afraid of the tough routines and they decide to perform poorly so that they repeat” (interviewed on 11 December 2015). Data from student focus groups indicated that the students were not afraid of the rigorous training; instead, some were concerned about the open-ended conscription. Thus, I did not find evidence to prove that the students deliberately failed their examinations, especially given that the schools did not have a history of excellent performance in public examinations. I took this, as well as the claim that some female students deliberately became pregnant to avoid national service, as unverifiable data.

f) Peer pressure

The expression ‘bad company’ was used repeatedly by students and teachers to refer to potential risk of drop out due to associating with negative peer groups, especially among boys who had greater freedom to mix with many people outside their own homes. Respondents pointed to peer groups outside of school contexts as key distractions to students. Teacher Aster (N’Hafash, interviewed on 11 December 2015) reflected, “I worry when boys start hanging around entertainment places. Good children easily degenerate into truancy because of group behaviour where bad boys

reward unruly behaviour." In other words, groups hoisted machoism among boys as a badge of relevance, which led some of them to abandon school. There were no similar discussions relating to girls' groups, although this did not mean the absence of negative peer pressure (section 5.3.2b).

Although students conceded that peer groups were potentially risky, they also debated the merits of belonging to groups. In N'Hafash, the popular view among students was that teachers were biased about peer groups and failed to see the positive side of groups, even when groups supported fellow students to stay in school. Incidentally teachers acknowledged this point when they reported that they approached at-risk students through their peers to gain confidence (see section 6.3.3) yet they seemed to narrow the beneficial side of groups to in-school clubs only. Students argued that peer groups inspired students to share in the positive experiences including academic successes of group members. As Ngussy (11, N'Hafash) wondered, "If we do not admire things how will we aspire? If we admire good things it will make us aim higher to improve our lives" (FGD 11 December 2015)

In June 2015, Eritrean cyclists Daniel Teklehaimanot and Merhawi Kudus won the international cycling competition in France (Cummings, 2015). That achievement was widely celebrated in Eritrea and it spawned the proliferation of cycling clubs including in remote Amiche. Students at N'Hafash were gushing in praise of the champions, with Sabila commenting, "*Amlak ymesghen* [thank God] … those men are our heroes!" (FGD 11 December 2015).

However, the students at N'Hafash noted that their teachers considered their fascination with cycling a waste of precious time. I shared with the teachers the concerns of the students whereupon teacher Haile retorted

adamantly, “medals cannot replace education,” despite the examples of successful sportspeople from the region. Further analysis of data from the students and teachers pointed to the possibility that the teachers held onto the stereotype characterisation of peer groups as gangs, yet there were no reported instances from N’Hafash or Beles of gangster behaviour among students to justify the negative perception. In my experience, I also know that play is sometimes associated with time wasting; and parents and teachers punish children who play. It was instructive that in all the submissions of the teachers they did not associate the so-called gangs with the risk of drug abuse, alcoholism or criminal behaviour. One would say that by taking on cycling, the students were trying to expand their range of talents and skills that might stand them in good stead in future. Moreover, they were making a deliberate choice to join prosocial and rule abiding groups (Wright *et.al.* 2013). Equally, none of the interviews and focus group discussions provided any hint that girls were at risk of, or may have demonstrated errant behaviour, which might partly explain why dropout rates among girls were consistently lower than those of boys. Apparently, at-risk girls dropped into school more constantly.

g) Life changing circumstances

The students and their teachers were unanimous about the impact on schooling of life-changing circumstances like the loss of a parent, relative or close friend, family breakups, or accidents. Ermias (13, N’Hafash) commented, “These days when we hear that people have drowned we worry because it may be someone you know.” In my notes (11 December 2015), I recorded “tense silence” to describe the reaction in the group when Ermias uttered those words. There were furtive glances and awkwardness in the room, which prompted me to switch the discussion to a different topic.

Later I asked Ribka about the tense moment and she confided that in 2013 Ermias lost two elder brothers in the Lampedusa boat tragedy when over 350 migrants drowned (The Guardian, 2014). She recollected, “He was so disturbed, we thought he had run mad” (informal interview on 11 December 2015). I did not get the chance to explore with Ermias how he had coped with his loss. In this case the life-changing situations were death and migration. Yet as we see later, migration was also a positive life-changing factor (section 6.3.2). The students’ testimonies recalled the conclusions of Parker and Short (2009) that life-changing circumstances like orphanhood impact negatively on students’ schooling and learning outcomes.

Data from the students’ group discussions also showed that students were apprehensive of accidents especially due to unexploded mines which were remnants of the various wars. Their testimonies, which I later corroborated with officials of the MOE and UNICEF, indicated that during Eritrea’s independence war, Ethiopian forces planted landmines in areas close to territory occupied by Eritrean fighters. Ato Ketema confirmed, “Some of the mines remain to this day and when it rains heavily the water washes the mines downhill. Those unexploded devices are a real threat to the public, especially to children who pick them up as playthings” (interviewed on 17 December 2015).

However, he added that the government had a programme to demine all affected areas while simultaneously conducting mine risk education programmes with the support of UNICEF. “Nevertheless, the risk persists” he concluded. Indeed, mine risk education was a component of the UNICEF child protection programme for Eritrea. Unfortunately, if schools needed to report about mine risk in the EMIS questionnaire, it would be lost among the categories of “death” or “orphanhood” or “other” in the 12 risk factors of

EMIS. This would not help in case there were organisations with the skills to remove mines from infested areas.

Analysed data from the group discussions also indicated that disability was a risk factor, and indeed this was also highlighted in the EMIS Q9. The research participants indicated that several disabled students had dropped out because of insufficient disability-friendly provisions that would have made regular participation in schooling possible or comfortable. Some of the disabilities had resulted from landmine accidents.

From my experience with developing and/or implementing special needs education programmes, catering for the needs of students with disabilities is an expensive cost item even for governments. Constrained access to schooling facilities can force students out of school. For example, poorer schools which cannot disaggregate sanitary facilities for girls and boys and teachers may find it even harder to provide for students with disabilities. Disability and lack of decent disaggregated sanitation facilities can push students out of school. Equally, facilities like braille for blind students, hearing aids and psychosocial responses to trauma are expensive to provide and maintain.

Teachers also acknowledged that inadequate teacher skills affected their ability to provide inclusive education, which in turn compounded the risk of dropout. As noted earlier, Beles and N'Hafash schools were challenged by inadequate teacher capacity due to high teacher turnover linked to harsh living conditions in the lowlands. It was even harder to find and retain teachers with disability-friendly pedagogical skills. Curiously, while disability and albinism were mentioned in the Eritrean EMIS reports, 'disability' was not sufficiently unpacked to identify the different types of disability, or the opportunities and challenges related to disability and how the education

system catered for students and teachers with disabilities to encourage drop-in.

5.3.2 Family and community

Hammond *et.al.* (2007) identified family and community as domains of risk. I analysed the risks associated with family and community as a unit. Regarding literature from low-income contexts, Abuya *et.al.* (2013) highlighted parental education, family structure and source of livelihood as integral to the socioeconomic status of the student and a lightning-rod regarding the attainment of learning outcomes. Noting the convergence in literature from high and low-income contexts, I explored the students' perceptions of risk from the perspective of the institutional domain. Analysed findings identified early marriage, migration, family size and gender as main drivers of dropout.

a) Early marriages

Analysis of data from teachers and students revealed that early marriage was a common risk factor for boys and girls. There was consensus that early marriage was mostly championed as a social norm by parents. The respondents explained that some of the domestic conflicts derive from the way early marriage is handled. Amina (Beles) reported, "A mother to one of our fellow students insisted that the girl should get married instead of continuing with school because if she reached the age of 15 years she would not be marketable [sic]." In the interview with teacher Simret (10 December 2015) I crosschecked whether forced early marriage was a common phenomenon. She affirmed, "A girl aged 13-14 is considered marriageable." This was striking to me because in my part of Africa early adolescence is simply immature. On the same issue, the students at

N'Hafash gave an example of their schoolmate whose father opposed the mother's arrangements to marry off their daughter. The father insisted that the daughter should be left to continue with schooling. Keshi dramatically chuckled, "Thaaat [sic] caused commotion … until they divorced." The girl in question was still attending school though she was not listed among the at-risk students provided by the school. I asked the teachers why they did not consider that girl to be at risk. Teacher Diila responded, "That one is out of danger; we know!" (interviewed on 11 December 2015). The school's criterion for 'knowing' who was in or out of danger was not clear. However, it fitted within the rudimentary ways in which schools detected risk of dropout.

Students had reported that the girl was traumatised by the experience although the teachers and peers were counselling her and given the father's support, she was likely to recover and continue with her education. This example provided an insight into the school level mechanisms for dealing with risk to enhance opportunities for drop-in. It also questioned the conventional view that fathers prioritise boys' education and that therefore they are part of the early marriage problem. The incident was so remarkable that it was widely publicised, which illustrated the courage of the father who contradicted his wife despite the weight of tradition backing her stance in the argument. His action was not simply maverick, considering the personal and family cost it entailed.

Although respondents reported that there were other cases where fathers pushed for early marriage, they noted that the commonest experience was of mothers taking early marriage decisions involving girls. In my experience, this was atypical of the norm in the parts of Africa with which I was familiar. In the patriarchal community of Amiche, the stereotype roles were reversed.

The students and teachers concurred that usually when both parents agreed on early marriage for the children, it became "… just a matter of time for the student to drop out. The family decides and just informs her. That decision is not negotiable. Even if you mention the civil code, they threaten not to let other children continue with school", remarked teacher Aster (N'Hafash, 11 December 2015) who added that they had tried to raise the legal and policy implications during school-community outreaches but "culture is culture," she concluded resignedly.

The findings were consistent with literature regarding the power relations underlying the predominance of early marriage (Jensen and Thornton, 2003). The findings also showed that cultural norms among the communities in Amiche conflicted with government policy and that teachers were powerless to challenge the norms, hence Aster's remark that "culture is culture," which cast the one father who stood up to culture and defended his daughter's right to schooling into sharper relief.

b) Early marriage and stigma

As with children with disabilities, it was reported that there was community stigma towards students who resisted the so-called "timely marriage". Early marriage among girls was the most acknowledged challenge but boys also faced pressure to marry early. Teacher Ayagal narrated, "In some instances the boys are tricked into early marriage. For example, one of our students was persuaded by his uncle to marry early. They promised that he would continue with his education once the bride settled in … soon he realised marriage was not a joke so he abandoned school." The boys in Beles also confirmed that they faced pressure to marry and prove they were men. "Parents tell us to expand the family", said Burhan (10 December 2015).

Teachers linked early marriage to the desire for community continuity, the need for extra hands to look after livestock, and as a vestige of earlier traditions when clan numbers were part of the security bulwark against other communities in case of conflicts. Apart from parental influence regarding early marriage, respondents cited peer pressure. The three teenage girls who participated in focus group discussions reported that they had been "nagged" and "pestered" by their out-of-school peers to get married before they became too old. "Here when a girl is above 18, she is considered too old and her chances of being married are over," noted Amina (during FGD on 10 December 2015). This confirmed the explanation given earlier that mothers were anxious to marry off their daughters because it was a measure of maternal success and family pride.

c) Teenage pregnancy

The teachers stressed that the problem of teenage pregnancy was linked to the pressure on girls to marry early. "It is not necessarily a sign of immorality or promiscuity, after all, traditionally women married at an early age" argued Simret. When I sought the teachers' opinion on the EPHS (2010) report that teenage pregnancy rate was 11 percent the teachers considered it an underestimate since it focused on the age range of 15-19, "… which does not include those forced into marriage earlier than 15", argued Haile (in interview on 11 December). I concurred that this was a point the population and health surveys may have overlooked inadvertently. Haile added, "Underage pregnancy is stigmatised in Eritrea and the affected girls automatically drop out of school. Unfortunately, they may not settle down in marriage easily since the men who impregnate them usually abandon them". Evidently for girls, underage pregnancy was a multiple-headed dilemma which destroyed their educational hopes and undermined

their prospects for stable marriages, while leaving them to cater for their children whose fathers predictably denied paternity. Pregnancy and marriage were among the 12 factors in EMIS Q9.

d) Migration

Migration was cited as a community level risk. At the time of this study in 2015-16, Eritrea was in the limelight regarding outward migration of its youthful citizens. There were reports about many Eritreans dying as they attempted to migrate (BBC, 2015; BBC, 2016; Yan & Veselinovic, 2016). Sensitive as the topic was, it came up during focus group discussions with students and teachers. They acknowledged the risks associated with migration but argued that it was a worthwhile risk since those who made it supported their immediate and extended families with remittances. Ermias had lost siblings in the Lampedusa boat tragedy of 2014 (see section 5.3.1g). Over the years, some students and teachers from the two schools were reported to have migrated into the Diaspora. As Teacher Mariam put it cryptically (during interview on 10 December 2015), “Those who drop out are becoming causes for dropping out among those who have not yet dropped out.” Despite its risks, respondents saw the positive side of migration in sustaining families and enabling them to send children to school. Students said migration gave young people hope by offering the opportunity for them to be helpful to their families and communities and ‘to be useful citizens to Eritrea since those who migrate send money to their families’ if they made it. Migration kept students in school, not as an incentive to prepare them for work in other countries, but through the guarantees of remittances. Moreover, as Ong’ayo (2015) noted, even the government benefitted from migrants’ remittances. The discussion showed that even if they understood the risks of migration, the students were more

mindful of its positive impact in facilitating drop-in for at-risk students (Amoateng *et.al.* 2014).

e) Family size and gender-inspired choices

Lastly, I explored whether the students and teachers considered family size a risk factor. In both schools, the students and teachers did not consider family size to be a risk factor. The teachers in both schools separately noted that the free education policy gave students some influence about their schooling. However, Molobar (N'Hafash, in FGD on 11 December 2015) disagreed and argued, "If a choice is to be made between sending a boy or girl to school, some parents would like the boy to go to school and the girl to stay at home or look after herds." Molobar's argument based on the realisation that tuition fees were but a part of the cost of education and other costs were equally influential in determining who goes to and stays in school. Other students agreed that tough choices tend to have gender connotations against girls. This suggested that the father who stood by his daughter's education at the expense of his own marriage was an exceptional and principled man who mustered the courage to defy a social norm.

In a conversation with the teachers at Beles (held on 10 December 2015), they agreed with the dissenting student's view that family size influenced decisions on children's schooling prospects. However, they argued that it was not necessarily a function of allocation of scarce resources, but more about the stigma associated with keeping older girls in the home. Therefore, to fight the perception that someone's daughters are not eligible, parents and siblings exerted pressure on girls to be receptive to advances that could lead to marriage (Jensen & Thornton, 2003). That logic was unlike the logic

elsewhere that investing in a girl's education advantages the family into which she will be married (Edewor, 2006); or where girls are married off for the economic benefits to the family (Higgins & Rwanyange, 2005). In Amiche, dowry was not the typical issue of expecting wealth from the man's family.

5.3.3 The education system

Data from focus group discussions and interviews with the students and teachers strongly indicated that the education system generally contributed to the risk of dropout. The major reasons suggested by the participants at Beles and N'Hafash were grouped into three major categories: distance and inadequate pathways beyond basic education, quality of education; and policy.

a) Distance to and from school

Students and teachers repeatedly referred to distance to and from school as a constraint to schooling. As noted in section 5.2, observation of the context confirmed that the lowlands or Eritrea are sparsely populated and the communities lived a nomadic lifestyle over expansive territory. Literature on fragile contexts (section 2.6) also highlighted the challenges associated with nomadism. Rena (2004) argued that the dispersal of the population and mobile lifestyles constrained government's capacity to plan for and invest in education infrastructure. That partly explained why only two middle schools served a large geographical area, notwithstanding that the population was relatively small. As Teacher Mariam reported, "[Beles, 10 December 2015] school caters for 18 *kebabii* [villages] which means some of the students travel at least 15 kilometres per day, one-way." In N'Hafash School, teachers Aster and Diila reiterated the inequitable distribution of schools

and its impact, with Aster arguing, “If you consider that in the highlands a district has an average of 10 middle schools and several high schools you realise that the distribution of secondary schools is not fair”. Her comment was corroborated by the Basic Education Statistics reports of the MOE, which conceded that whereas provisions by MOE were largely in tandem with growth in enrolment at middle school level, the coverage was not equitable.

Data also suggested that the shortage of schools in hardship areas was aggravated by the policy which curtailed private partnerships in education. Teacher Diila suggested that private schools would have helped solve the problem of lack of schools. He argued, “In the past, missionaries established schools for marginalised hard-to-reach areas like Amiche. When the government nationalised private schools, it also stopped [religious institutions] from establishing new schools … I think that was a mistake” (interviewed on 11 December 2015).

It is possible that the teacher’s comments benefitted from hindsight given that the government decision to abolish private institutions was well-received at the time (Rena 2004). Partly this was due to the perception that schools founded by religious bodies were “… instrumental in instilling submissiveness, blind obedience, uncritical acceptance of orders and a strong belief in fate, which hindered social transformation” (Rena 2004:7). What this demonstrated was that students in Amiche who dropped into school did so against system constraints like inadequate schools and facilities. As seen in the literature, distance limits access and instigates dropout especially among girls in sub-Saharan contexts (Lewin & Sabates, 2011).

Respondents highlighted what they saw as the impacts of too few schools on their district. Teacher Aster argued, “Most girls stop schooling because of lack of schools for the next level. They cannot go to Agor or Fortino which is far, unless they have relatives to stay with.” Sabila summed it up this way, “I wish to continue my education if possible, but I think I will stop soon because my parents can’t let me go to Asmara alone” (during FGD on 11 December 2015). Dropping out of school was a predetermined outcome for her and similar students who had no options beyond middle school.

Krätli (2001) and Krätli and Dyer (2009) explored some of the potential solutions to the challenges of isolation. These included mobile schools and boarding facilities, although Dyer (2016) noted that the promise of boarding schools for nomadic children in arid lands had been undermined by the burden of fees imposed on parents by aid conditionalities and cost-sharing. Krätli (2001) and Dyer (2010) suggested that in fragile contexts such as nomadic areas, where access to education is challenged, boarding schools offer a viable solution to the bottleneck of distance. However, in Eritrea, whereas the government recognised the equity-enhancing potential of boarding schools, it had not established them to the desired extent, probably because of UN sanctions which may have restricted government capacity to invest in social services. There were only a handful of secondary boarding schools, some of which had been established prior to independence. In any case, as Dyer (2010) pointed out earlier, other systemic considerations apart from boarding schools, could influence access to quality education. Dyer cautioned, “It is difficult to recruit and retain teachers who have both suitable qualifications and the will to work in harsh, remote conditions, where both support and teaching resources are

lacking" (Dyer 2010:1). Dyer's comment could easily have been about Eritrea.

b) Quality of education

Focus group discussions with the students revealed their perceptions that education in the lowlands was inferior to the education enjoyed in the highlands. Elsa (Beles, in FGD on 10 December 2015) remarked, "It seems we have a different syllabus here compared to the highlands!" My understanding was that there was a unified curriculum for middle school level so I probed the students to establish the basis of their concerns. I found that they were comparing the nomadic education curriculum and the mainstream curriculum. That worry turned out to have been unjustified as Ato Ketema confirmed later that there was a single curriculum for post-elementary education. "Lower secondary and high school students follow the same curriculum countrywide," he said (in interview on 17 December 2015). He speculated that the students were referring to their experience with elementary education in the highlands; this sounded plausible given Elsa was the youngest participant and she had just joined grade six.

However, there were other concerns relating to quality, as it emerged from the analysis of data that although students loved their teachers, they were also aware that some of the teachers were not qualified to teach in middle schools. They also understood that teachers seconded by national service were not professionally trained. "Teachers Mariam and Ayagal have been on national service since I was in elementary school, how come they are not taken for teacher training?" wondered Ghebre (in FGD on 10 December 2015). Indeed, the qualifications and experience of the teachers varied (section 5.2.2). However, there was no way of determining that their national

service status was the reason for persistent poor performance by Beles school in national examinations.

On the other hand, the students acknowledged that the government endeavoured to provide for their educational needs and they understood their difficult socioeconomic and political circumstances. Zighe suggested, “Isn’t it easier for the government to shift all people from here to other areas where life is easier?” (FGD on 11 December 2015). Her question sounded simplistic but it had precedents. As noted in section 1.5, the government had relocated communities that were expelled from Ethiopia. Most of the families in Amiche were resettled from Ethiopia. They had to adjust from sedentary lifestyles to nomadism because the context dictated thus. Therefore, Zighe’s idea was not entirely spurious. It also tapped into the nostalgia of her fellow students and their families about life in Ethiopia, much as the students had no first-hand experience of Ethiopia, having been born after their parents relocated to Eritrea.

The analysis therefore indicated that the students perceived quality of education to be a risk factor. The reason cited by Elsa simply uncovered the need for a relevant curriculum for post-elementary education, to build on the strengths of the Nomadic Education Policy (2009).

c) Education policy

The final major risk as perceived by students related to education policy. Analysed data from students revealed their concerns about the way some school principals in the highlands enforced the policies on age-grade enrolment and automatic promotion. On intake-age, the students reported that whenever they migrated to the highlands during the hot season, some schools denied them access because they were older, “… even if it is just

by one year" lamented Zighe (during FGD on 11 December 2015). The students pointed out that this was done despite the MOE directive that lowland students could enrol at a later age. As I discussed in sub-section 5.3.1b such action contravened the Nomadic Education Policy (2009) guidelines. It was not surprising that the strict application of the main education policy ignored the unique circumstances recognised by the Nomadic Education Policy (2009). This brought into focus the contradictions among government policies. Data from the students showed that they avoided such schools and that means they risked avoiding school altogether. Amina (Beles, FGD on 10 December 2015)) reported, "Once we hear that a fellow student has been rejected by a certain school, we don't try it. That is wasting time." Her reaction was consistent with the issues that informed the Nomadic Education Policy (2009) theme of social cohesion in the elementary nomadic education curriculum. Another student, Mikele, suspected foul play, "Maybe that is a trick to deny us their facilities since they say we are disruptive." This was probable given the seasonal cycles of tension among nomadic and sedentary communities (Dyer, 2015). The students' sentiments and reported relationships with the highland schools recalled the view of Fine (1986) about education as a social stratifier.

The second perceived risk factor related to the automatic promotion policy. Students expressed their confusion about the policy, saying they did not understand why they were required to progress when they felt they had not grasped the knowledge of the previous grade. Hakosay (12, Beles during FGD on 10 December 2015) mused, "If someone has not passed the examinations, why do they force him to go to the next class? Isn't it better to send him home? After all that is where he will go finally." Earlier in sections 4.2.1 and 5.3.1, I discussed the extent, rationale and implications

of repeating, and the claim that some students repeated classes deliberately to avoid enrolling into the national service college. Thus, repetition exercised the minds of students, teachers and policy makers alike.

Overall, there were divided perceptions on education policies and their implications for at-risk students in Amiche. Various respondents had different interpretations of the reasons behind the policies and they responded to the policy provisions based on their interpretations (Bacchi, 2012).

From the foregoing analysis, the risks perceived by students were diverse and, consistent with Briguglio (2014), Fine (1986), Hammond *et.al.* (2007) and Morrow (2008), the risks manifested singly and in combinations. The interaction of some or all the risk factors reinforced the vulnerability of at-risk students, and showed that students who dropped in had extra grit.

5.4 Summary of the chapter

To conclude this chapter, I highlight the issues that have emerged, the gaps and surprises. I start by acknowledging that the frameworks provided by researchers from high-income countries provided a helpful guide to analysing risk among middle school students in Eritrea. The literature from low-income countries provided complementary lenses for understanding risk and helped me to enrich Q9 into a hybrid analytical tool. However, there were several surprising findings that deviated from the script of existing frameworks.

The first was the gender roles and defiance of stereotypes. In Amiche, traditionally it is the women who direct the marriage of their daughters, because they are judged by how soon one's daughter is married. That was

surprising. However, during the study I also learned about two unique cases where (a) a father challenged the wife's culturally legitimate decision to marry off their daughter and enabled the girl to continue with her education. And (b) widowed mothers looking after large families amidst adverse circumstances encouraged their daughters to continue with their education. This pointed to potential opportunities for changing family and community level value systems for the sake of schooling.

The second surprise related to the capacity of poor students to decline the opportunity to earn money, in the face of an uncertain educational future. The students in Amiche opted for less paying work which would give them time to drop into school. This illustrated a very personal choice that went beyond the expected outcomes of resilience and pointed to individual volition, particularly since all young people in Amiche were exposed to the very same difficult conditions.

From the testimonies of my research participants, I sensed that there were evolving changes in the social setups and related attitudes which had implications for education. Girls reported that they were aware of successful single women. Also, migration, widowhood and orphanhood had shown the possibility to raise a female or child-headed family as a challenge to the traditional male-headed household. My contention was that it did not threaten the social fabric but instead it offered the opportunity to view alternative family setups without stigmatising those living in such setups.

The following observations emerged from the analyses of data against the hybrid framework developed through integrating issues from literature into Q9. The first was that by assigning short codes to the issue, for example 'financial reasons' Q9 made them cryptic and that would not allow for a critical analysis. From the data analysis, it was evident that students faced

unique financial challenges and they endeavoured to mitigate the challenges through paid ‘child’ labour. Understanding the interaction among these aspects would provide nuance on any reported cases of child labour. Secondly, there were ongoing initiatives that fostered drop-in but could not be reflected in the EMIS reports because the structure did not facilitate reporting on such initiatives. Two prominent examples were (a) the national campaign by the Chief Justice against child marriage, and (b) the role of foster homes in promoting drop-in among secondary school students. Thirdly, some key factors which were specific to the Eritrea context and had emerged after independence were excluded because Q9 had not been revised since the early 1990s. Some of the factors were the outcomes of the fragile context and included the UN sanctions, no-war-no-peace and the institution of national service, and female/child-headed households.

From the analysis, I also inferred that whereas risk and fragility were initially presented as the two major categories of challenges, my finding was that fragility was the overarching challenge which provided fertile ground for the manifestation of various risks.

In the next chapter I analyse drop-in and how it was facilitated by students’ resilience and motivation.

Chapter 6

Why do at-risk students drop into school?

6.1 Introduction

Having explored with the at-risk students the range of risks they faced in their schooling, I steered the subsequent discussions to inquire into what motivated them to drop into school and whether there were factors, attributes or individual and collective assets that underpinned their tenacity in schooling despite the adversities they experienced within their fragile context. The guiding questions were along the lines of “So, why do you drop into school in the face of such risks and challenges?” “How are you able to make it?” “Are there other people or institutions that have contributed to your dropping into school?” There was a gap of six weeks between the first and second sessions with my respondents. Remarkably, all participants were still at their respective schools during my second visit in January 2016. In this chapter I present and analyse the qualitative data on why at-risk students in Amiche district drop into school.

6.2 What inspires at-risk students to drop into school?

My contention was that the students’ persistence against considerable adversities suggested the presence of unique attributes which could be summarised as resilience with the possibility that such resilience was facilitated by personal motivation and/or external support.

The literature review held that the abstract quality called resilience connotes the capacity to weather significant adversity and bounce back or adapt positively (OECD 2013; Prince-Embury, 2013; Schoon, 2006; Wright *et.al.,*

2013). Masten and Powell (2003) argued that talking about an individual's resilience is a judgement call that speaks to someone "doing okay" on developmental tasks and overcoming a significant adversity and they provided a shortlist of promotive and protective factors whose presence could foster individual resilience. Similarly, Schoon's (2006) concept of salutogenesis reaffirmed the attribute of individual competence which coincidentally is one of the three fundamental needs (plus autonomy and relatedness) of self-determination (Ryan 2009). Thus, there is a close link between resilience and self-determination, as noted by Geren (2011). It was evident that dropping into school represented a latent enthusiasm for education that derived from psychological processes including needs, values, attitudes, interest and abilities (Geren, 2011).

I approached inspiration to drop into school by examining students' motivations and any other external support. The literature that I reviewed offered various frameworks that had analysed student motivation and resilience. The framework by Rumberger and Lim (2008) distinguishes between the individual on one hand and schools, families, friends and communities clustered under 'institutions' on the other hand. Since I did not engage with family and community level stakeholders, Rumberger & Lim's (2008) framework enabled me to reinforce my focus on students and to analyse resilience along a dichotomy of non-independent and independent events of diversity (Masten and Powell, 2003).

In addition, the analytical lenses by Masten and Powell *et.al.* (2003), Schoon (2006) and Wright *et.al.* (2013) were pertinent to my study because they had dealt with adolescents, which was the age-group of the students in Amiche. Granted, my study did not approach the scale of the longitudinal studies on resilience among vulnerable individual students by Masten and

Powell's (2003), Schoon (2006) or Wright *et.al.* (2013), nevertheless, their analytical frames were still applicable to my case study. To analyse motivation, I drew on the self-determination theory (SDT) by Deci and Ryan (2009, 2007, 2000); Ryan (2009); and Guay *et.al.* (2008) based on the recognition that it is acknowledged as having focused on education unlike other theories that focused on workplace relations. SDT was also commended for being applicable in different contexts including low income countries like Eritrea. Below I present the findings from analysed qualitative data gathered during the fieldwork.

6.2.1 Personal volition

It was clear from the testimonies of the students and their teachers that all children in Amiche were affected by the circumstances of fragility and all were exposed to the risks. What marked out the at-risk students who dropped into school was their self-determination backed by their ability to go the extra mile to stay in school. The motivations of students were underpinned by the belief that education could help transform their lives together with those of their families and communities. Analysed data from group discussions with students indicated that some of the at-risk students invested time and personal resources which they worked for to keep in school. Individual students made personal sacrifices for their education and they were determined not to waste their efforts. Amina (Beles, FGD on 22 January 2016) reasoned, "I work part-time, doing [odd] jobs for people after school to cover my school expenses. I look after animals, fetch water and [tend] people's gardens during the rainy season. If I don't complete my education it means I will remain a [casual] labourer for the rest of my life." Similar sentiments were expressed by Petros (Beles, FGD on 22 January 2016) who argued, "I cover all my school expenses by looking after animals

for other people." Working for money to support their education was one of the personal strategies students employed to stay in school (section 5.3.1). Therefore, for those students who engaged in paid work to cater for their educational needs, dropping into school was not accidental; it was defiance of the odds, facilitated by resilience built through traditional apprenticeship which phases children into family and community chores from an early age (Carr-Hill, 2005; Maro *et.al.* 2012). It reflected a combination of attitude and behaviour among the students, which was consistent with the findings by Rumberger and Lim (2008) that students' attitudes and behaviours are precursors of their engagement with schooling.

The students' submissions also suggested that they regarded education as a bridge to a brighter future, which ordinarily should not be surprising. However, considering the fragile context and the reports of persistent poor performance by past students in the two schools (see 5.3.3b) the students' optimism suggested great faith in schooling, more so when the students themselves expressed their doubts about the quality of education they were receiving and the poor job prospects generally. Some of the students were already earning some income. Others had resisted the temptation of assured incomes from traditional mining.

The stance taken by the students was consistent with the child characteristics in the shortlist of promotive and protective attributes (Wright *et.al.*, 2013; Masten & Powell, 2003). Not only did the students reaffirm their faith in education, they also exhibited a positive outlook to life and this contributed to their resilience. Their volitional behaviour illustrated their effort to be competent and ability to exercise autonomous decision making (Deci & Ryan 2007).

Noteworthy was the fact that the students exercised autonomy to work and pay their school dues based on skills and knowledge they had acquired as part of their indigenous education, which was a potential asset and liability. The Masten and Powell (2003) shortlist does not highlight such capacity to support oneself through school by engaging in child labour because it was developed in a different sociocultural setting where such labour is depicted as negative. Kepler and Rugira (2013:16) argued that pastoral students struggle with “inner cultural tensions” that some may find insurmountable due to the perception that formal education is a threat to their traditional culture. A researcher from a high-income context would probably struggle with ‘inner cultural tensions’ having to reconcile ‘child labour’ with drop-in. Nevertheless, the knowledge and the skills the students learned as they grew up within their traditional settings were applied to enhance their prospects for schooling. The at-risk students were even able to choose the type of work that would allow them time to drop into school, which pointed to resilience enabled by indigenous education whose value system fostered morality, patience and good conduct (Dyer 2006).

6.2.2 Good academic performance

Analysis of data from students showed that there were students who felt encouraged by their promising academic performance. Teachers reported that good performance was one of the factors they considered when they went out to encourage at-risk students to persist in schooling. So even the students knew they were among the best in their respective schools, as exemplified by Alem’s remark (during FGD on 21 January 2016), “I perform well in school. Why should I waste my chances? You never know!” Fellow N’Hafash students conveyed their consensus through nods. Other students reasoned that good performance should not be wasted. I probed the claim

to good performance and established that the students were inspired by their results in school level tests not the national examinations. As discussed in 6.2.3 and 6.3.1 the students linked their good academic performance to future employment and livelihood prospects. The students who had engaged in paid labour had clearer views about what they wanted to be in future, as medical workers, teachers, engineers or businesspeople. Only two students out of the 21 participants reported that they had no specific vocation in mind.

I reported earlier (Section 5.2) that education in Amiche was not well-resourced in terms of physical infrastructure and teacher distribution. The euphoric sense among students regarding their academic performance contrasted with their concerns about the quality of their teachers and instead seemed to derive more from their high intrinsic motivation (Guay 2008) fed by the students' self-belief, than from their good cognitive abilities in the formal curriculum. I would therefore argue that 'good performance' was relative within the two schools. That notwithstanding, their self-perception accorded with the attribute of psychosocial competence in relation to the expected performance in academics, at their age and within their context (Masten & Powell, 2003; Wright *et.al.* 2013). My analysis of the trends of performance in pubic examinations at the two schools did not persuade me that the students would make it to their preferred vocations. That they remained so optimistic was a testament to their resilience and self-determination.

While reflecting on Masten and Powell's (2003:7) criteria for "doing okay" on developmental tasks as a judgement on individual psychosocial competence, it occurred to me that the students in Amiche had to demonstrate knowledge competence across three mutually exclusive

domains, namely the formal school curriculum, the informal/indigenous curriculum, and the intracommunity knowledges, given they were living in a rural area with multiple ethnic groups (Dib, 1988). The puzzle for me was to determine which of these would be an appropriate basis for evaluating students' competence, and whether choosing one precluded the others. The Masten and Powell (2003) shortlist assumed cultural coherence whereas the reality in sub-Saharan Africa is that even a country with a small population or geographical size is hardly ever homogeneous, including countries like Rwanda or Somalia with one common language and/or religion. In Amiche, much as the national policy allowed students to study in their mother tongue at elementary school level, the reality on the ground made the choice complicated for parents. Similarly, post elementary education was delivered in Tigrigna so students had to be competent in their first language (e.g. Saho or Kunama) then function in Tigrigna and English, each with its associated concepts, ideologies and discourses (Pennycock, 2002) and "value laden [and] context specific … social relations" (Sharma 2011:39). Such contextual realities called for sensitivity when applying external conceptual frameworks developed in high-income contexts. In my situation, it would not suffice to say a student is not competent on a given task without calling into focus that student's capacity on a related task in a different knowledge domain within the same context and time. It is possible that the students who opted out of my focus group discussions because of language barrier may have had more to offer if I had been competent in the two other languages they spoke confidently. On reflection, that suggested to me that disadvantaged adolescents in fragile situations were required to do more and negotiate complex circumstances to prove themselves on the psychosocial scale.

6.2.3 Education as an escape from adversity

There were students whose resilience was shaped by negative personal experiences. The five examples below illustrate how negative experiences motivated the affected students to drop into school.

1) Amina (FGD at Beles, 22 January 2016) shared the humiliation of working so hard for little or no pay. She narrated how one day a wealthy family she had worked for taunted her that a girl of her age did not need the amount of money she was demanding. “I had already worked so I had no way of withholding my [labour]. The man just shouted at me rudely. He even cursed that I should never get married; can you imagine! I simply cried and left. If I study and get a government job I will be safe from such humiliation”, she vowed. My critical assessment was that her experience was common among students who worked for pay. They negotiated from a position of weakness and some employers exploited them with impunity. Amina’s experience exemplified a non-independent adversity (Masten & Powell, 2003) since the mutually agreed transaction was not honoured by recipients of her services. Remarkably Amina did not react with self-pity or recrimination. Instead, her vow to study and avoid similar humiliation was an adaptive strategy to use education for her psychosocial competence.
2) At the same school, Petros reported how his small stature was the butt of negative jokes and occasional physical harassment in the village. He reasoned that living in the same village with bullies would make him their perpetual victim. Therefore, Petros went to school because the school rules protected all students. He also argued (in FGD on 22 January 2016) that with an education he could choose to

settle in communities “where people respect one another.” To Petros, education promised protection against bullies plus mobility, livelihoods and life choices (GPE, 2018; Smith *et.al.*, 2016). This example demonstrated the at-risk students’ ability to tap the protective capacity of the school to address the cumulative risks, converting the experience into an opportunity to enhance their resilience by benefiting from the school rules, support of the teachers and his peers. Petros’s positive attitude in the face of adversity enabled him to thrive and engage in developmental tasks (Wright *et.al.* 2013). His experience recalled the cognitive evaluation theory since Petros exercised his innate autonomous desire to influence his future wellbeing (Ryan & Deci 2000).

3) At N’Hafash, Zighe reported that coming to N’Hafash school was the only protection left against being forced into early marriage. She reported that when she was in grade six, her mother attempted to marry her off but it failed because of the intervention of the teachers who cautioned that the family was breaking the law, moreover also interrupting the education of a promising student. Zighe also acknowledged that the husband-to-be was not interested in the arrangement and ran away from home. At the time of the study Zighe was in grade 8. She insisted that her continued stay in school was due to the protection by the school. In this instance the protection by the school resonated with the attributes of an effective school as outlined in the promotive and protective factor shortlist by Masten and Powell (2003).

   We discussed with the students the cultural norms and their implications for girls’ education. Zighe argued that she was aware of

the negative attitudes towards unmarried teenage girls, but “Such attitudes do not concern me now. I have seen successful women who are single” she shrugged (FGD, 21 January 2016). Other girls in the group added that there were many single women heading households either because they had separate or their husbands had died, or migrated abroad. Ribka wondered, “So, what is the fuss?” (FGD at N’Hafash, 21 January 2016). I interpreted the stance of the students to imply that there was a gradual change in the way gender roles were being perceived. Pastoralist communities are reputed for their conservative adherence to traditional norms as part of cultural resilience (Akala 2008; Krätli & Dyer 2009). Roles are gendered and shared across sex and age lines as part of the survival and continuity strategy of communities. The discussion with the students suggested the possibility of reconfiguring family structures to make female headed households a norm. Thus, at-risk school girls benefitted from the protection of the school and managed to bounce back into developmental tasks expected of them at their age (Prince-Embury, 2013).

The views of Zighe and Ribka demonstrated subtle appreciation of the empowering role of education to recognise that some norms relating to gender roles in their society were changing and that the changes were compatible to schooling. The girls’ insights also echoed Amoateng *et.al.*’s (2014) argument that evolving cultural contexts had spawned the emergence of non-traditional family structures including those led by women or children. By so doing the students provided examples of how family setups could be adapted without jeopardising the family institution.

4) The death of a parent or relative who was the anchor of the student's immediate family is an independent event that impacts the resilience of students. Yet some students had adjusted sufficiently to drop into school. Four among the at-risk students (Elsa, Amina, Nuhu and Ghebre) were being raised by their mothers after their fathers died. Amina came from a family with nine siblings, while Elsa had four siblings. Amina worked as a part-time casual labourer. The girls' testimonies underscored their remarkable courage, but also signaled red flags. Given that typically it was the mothers who decided and coordinated the marriage of their daughters, the two girls who had lost their fathers were at greater risk since the mothers were raising large families. Caring for a large family singlehandedly would have provided the motive to push the girls into early marriage, yet the mothers did not succumb to that motive; instead they prioritized education despite they themselves not having had any formal education. This finding contradicted the contention by Vavrus (2002) that in low income countries, mothers without formal education were more likely to reinforce the culturally predetermined place of girls as wives. Instead, it confirmed Masden's (2006) view about the selflessness of such mothers and their optimism that educating children amidst hardships "… is also an investment in our future. When our children are educated, they will be able to support us when [we] grow too old to work" (Masden 2006:221).

   Furthermore, for Amina, age was an additional red flag given her awareness of the stigma of being an unmarried teenager; moreover, she was frequently exposed to male attention whenever she went out to seek and engage in paid labour. She could have been a victim

of any form of gender-based violence (Leach, 2006). As Alesina, Brioschi and Ferrara (2005) note, violence against women and girls is more acute in nomadic and pastoral communities and therefore any girl's exposure to males while working for money amounted to daring fate. Thus, the various challenges accounted for the cumulative risks as envisaged by Wright *et.al.* (2013) and overcoming those risks to drop into school testified to students' resilience and high level of self-determination.

5) The fifth example was about two grade eight boys aged 17 years old. Burhan lived with his mother in a family of nine while Keshi lived with an aunt after having lost both parents. At their age, both boys should have been in high school already. Also at their age, traditionally the two should have been married. Burhan and Keshi engaged in part-time casual labour alongside dropping into school. Keshi looked after other people's animals while Burhan was an itinerant shoe shiner who moved with a kit and offered to shine shoes for people in the trading centre. He had learnt the trade in the highlands. He practised his trade in trading centres but mostly whenever they migrated during the hot season. Keshi was among the students who claimed to repeat classes deliberately. The unique aspect was that the two boys could easily have opted to join the mining business because they were older and mining promised immediate financial returns. However, Burhan jokingly reasoned, "I need the money but education is my priority. Let me try this line [of education] first" (FGD at Beles, 22 January 2016). That they chose to stay in school demonstrated motivation built on resilience to drop into school. My view was that the two boys' dispositions of aligning their skills to the

available opportunities to meet their educational interests tended towards the causality orientation theory of SDT (Ryan & Deci 2000). However, they also exercised judgement by weighing the pros and cons of working in mining, and choosing lighter trades that would give them time to drop into school.

The five examples of non-independent and independent experiences motivated the individual students and enhanced their resilience to drop into school. The five students differently illustrated their determination to get education in the face of adversity. Like the student who lost siblings in the migration tragedy (in 5.2.1 and 5.3.2d) they overcame cumulative adversity which was a predictor of negative outcomes and nursed the hope that education would result in positive outcomes (Masten & Powell 2003; Wright *et.al.* 2013). Their aspiration to higher ideals of wellbeing through personal growth facilitated by schooling fell within the realm of the goal contents mini theory of SDT. The students benefited from the support of significant others, including those who defied tradition and stereotypes to act differently, like the father who supported the daughter's education and the widowed mothers who did not push their daughters into early marriage.

6.3 How students were supported to drop-in

The literature review showed that family, community and institutional assets can contribute to students' resilience and facilitate motivation to drop into school. For example, Ryan and Deci's (2000) continuum of internalisation emphasised the role of contextual support in the development of autonomy, competence and relatedness and argued that the individual's connection with those who convey positive values helps that individual to internalise the same values. Amoateng *et.al.* (2014) and Bredl (2011) cited the positive

and negative impacts of remittances on children's education in low income settings in Africa and Haiti respectively. While Hammond *et.al.* (2007) and Rumberger and Lim (2008) reported on programmes, policies and community-level initiatives that were effective in fostering retention among at-risk students in the USA; and Abuya *et.al.* (2012) showed how a mother's education was an asset to a child's learning achievement. In this section I report on the outcome of my analysis regarding support towards students' resilience and motivation to drop into school.

6.3.1 Role of family and community

Beyond themselves, the students valued the contributions of family, other people and institutions, including the government, towards their continued education, which I found surprising given the context and the common view that communities considered education to be the responsibility of the state. This might appear unsurprising but when viewed within the context, the contributions of others were very important. Indeed, a close analysis of transcribed data from focus group discussions revealed that the students used the term "sacrifice" severally, which conveyed the sense that they noticed the extra efforts of family members to keep them in school. They worried that dropping out would betray the family sacrifices. Apart from material support, families provided moral support which motivated at-risk students to drop into school, as exemplified by the following remarks. "My mother has raised us singlehandedly ever since our father died. She says education will solve our problems," remarked Amina (FGD, N'Hafash, 21 January); which Ermias echoed thus, "My father feels proud when I do well. He says education is the future" (FGD at Beles, 22 January 2016). As noted earlier, most of the parents in Amiche did not have formal education so their

encouragement may have represented endorsement of the potential of education to improve circumstances for their children.

Guardians, peers and other ordinary people also supported at-risk students and thus contributed to the family-level and community-level mechanisms for fostering individual resilience. For example, para-boarding accommodation was provided by non-family households who did not expect financial gain from looking after the students. Instead they integrated the students into their families and the students only contributed food items. Other students cited examples where community members offered students free donkey or camel transport to school. Those examples fitted within the characterisation of an extended family which is an integral part of the family system in low-income countries (Maro *et.al.* 2012). Consistent with Wright *et.al.* (2013) the extended families of the students provided support to the students and thus facilitated their drop-in. Where the nuclear and extended families lacked the sophistication of modern parenting styles or socioeconomic advantages, they compensated with genuine care and interest in the students' education. Therefore, what may seem as dysfunctional family units due to poverty, widowhood, or separation caused by migration, were relatively competent support frameworks.

Much as teachers reported that communities left education service delivery to the state, there were examples that challenged that generalised assumption. In Beles the community put up extra classrooms using local materials that were environmentally appropriate, but crucially the basic infrastructure signalled demand for education that could not be ignored. They also constructed a shed for early childhood education after learning the benefits of early learning from their hosts in the highlands. In N'Hafash, the community subsidised teachers' welfare with food rations. Those

examples showed that the communities were not essentially set against supporting education.

Overall, the support provided by community, family and friends was instrumental but it was neither universal nor did it fit within the systematic pattern of family support and community assets envisaged by Hammond *et.al.* (2007) or Rumberger and Lim (2018), Schoon (2006) and Masten *et.al.* (2014).

6.3.2 Perceived benefits of migration

At the time of my research, there were many negative stories about Eritrea regarding migration. Discussions with the students provided a humane perspective of migration relative to education and drop-in. Several students reported that students or peers whose family members had successfully migrated to other countries were receiving regular remittances which eased financial pressure and enabled students to stay in school. “My sister in Canada supports me by sending us money and other requirements,” said Usman (FGD at N’Hafash, 21 January 2016). He said the sister used to trade in bananas before she went to Canada and that the support she provided from the income from bananas did not compare with what she remitted from Canada. Ghinda (FGD at N’Hafash, 21 January 2016) concurred, “Even if you do not have a relative outside, when someone sends something to their family, you can benefit indirectly.” It was evident that remittances trickled to the extended family and neighbours. Analysis of the testimonies of students revealed that they regarded Eritreans in the diaspora with admiration. When I wondered if the families felt that they had been abandoned by the fathers who migrated, students said that was not common since the fathers catered for their families and made efforts to visit

periodically. Thus, while there was the likelihood of migration being a risk by attracting students to venture out of the country, it was also helping at-risk students to drop into school. Contrary to Bredl's (2011) submission, in Amiche migration did not appear to undermine educational outcomes and it was not reported to be an opportunity cost to education.

6.3.3 The school as a safe space

The students praised their schools for being instrumental to their motivation to drop in. Indeed, from the outset, the teachers showed that they had devised ways of determining risks and how to mitigate them. Their rudimentary approaches bore the features described by Masten and Powell (2003), namely the presence of severe adversity and seeking to help the student bounce back. The school spaces also gave students chance to "escape themselves" (Madsen 2006); schooling was an experience that allowed at-risk students to live out and engage with their hopes, dilemmas and even to question the existing beliefs and traditional norms.

The school space held a special position in the testimonies of the students, not necessarily for the comfortable learning environments or recreational space expected of school or the academic hopes it nurtured, but rather, the school community filled in a gap in the lives of the students and gave them a safe space to go to and be young people. Students reported that school buildings provided a forum for them to interact formally and informally to learn, learn from and support each other; solve problems "… and cause a few" chipped in Burhan (FGD at Beles, 22 January 2016). There were no fences around the schools and principals allowed students access to the school buildings during weekends and holidays. Teachers reported that students volunteered to keep the schools clean.

Schools explored and implemented solutions to make their environments more adaptive and supportive. In N'Hafash, the school provided food and accommodation for teachers to complement their low salaries. That contributed to mitigating the crisis of teacher attrition. In Beles school where they had no female teachers, the principal negotiated with the elementary school to lend them a female teacher to offer pastoral support to female students. Those are but two examples to show how schools made efforts to enhance their effectiveness.

The teachers were instrumental in creating the environment for promotive and protective nurturing of resilience. The students described their teachers as 'real parents' and 'counsellors'. Crucially, because the teachers went beyond their teaching role to conduct home visits, they earned the trust of students and their families, including para-boarding foster families. The discussion with students about their teachers recalled the saying that the quality of education is as good at its teachers. Teachers, whether qualified or not, played an important role in the lives of their students. In the context of this study, students perceived and described their teachers as exemplary and supportive.

The teachers were supported by students' peers, to counsel bereaved students, to interrupt those on the verge of dropping out and in that way, they facilitated the possibility of connections to caring adults and prosocial peers (Wright *et.al.* 2013:21). As teachers noted, some of the students at risk of dropping out were usually identified by their fellow students who would then call on teachers to intervene. "Our first line of information and contact with at-risk students are their peers" remarked Aster (N'Hafash FGD, 21 January 2016). She noted that students easily open up to fellow students and when teachers want to support, they do it through students

initially until they gain the trust of the affected student. That represented a basic referral system at school level.

Indeed, the students testified to the support and advice they got from their peers which contributed to their ability to drop-in. Molobar shared how his school friend cajoled him out of engaging in mining by pointing out that he was the youngest miner. “He teased me that I could join mining in 10 years’ time and still make the money I wanted but I could not join school in three years’ time unless I wanted to register for adult literacy” (N’Hafash FGD, 21 January 2016). That showed how a fellow student used stark examples competently to shock his friend into dropping into school. Such a pitch coming from a teacher might have been construed as judgemental or condescending. Equally, when Sabila shared that her peers in the para-boarding hostel were “real family” (FGD, 21 January 2016) she demonstrated the bonds among students which meant more than simply being schoolmates. It also suggested that friendships gave at-risk students something tangible to look forward to hence facilitating drop-in.

However, students criticised their teachers for being “stuck” to the perception that play and co-curricular activities, particularly those undertaken outside school bounds, were a waste of valuable study time. I concurred with the students that actively dissuading them from engaging in life skills activities would contribute to stunting of potential talent.

Much as the education system was part of the problem of dropout due to its inability to cater for the demand for education among Eritrean children, it was also part of the solution through providing scope for resilience building and motivation among at-risk students in disadvantaged areas like Amiche. The education sector had developed pragmatic policy guidelines for schooling in disadvantaged areas, made special arrangements for lowland

students to sit national examinations and required highland schools to admit lowland students during the hot months when the latter group migrated from the lowlands. Even if some of the solutions were for elementary school level, they provided precedents for replicating similar policies and strategies at other levels, which partner organisations like UNICEF could capitalise on.

However, while the policies were progressive they also bred other challenges. For example, the open system of enrolling students irrespective of age not only made the older students uncomfortable when referred to as grandparents *(abahago),* it posed administrative and pedagogical challenges to teachers handling mixed-age classes of 11 to 18 year olds following an age-linked curriculum. It was therefore not surprising that some schools baulked at the directive to enrol lowland students temporarily during the hot season migrations. For sure this put the social cohesion aspects of the nomadic curriculum to the test when the students had to fight for their right to education as guaranteed by the constitution. The same policy played into the community narrative that teenage girls and boys who are in school "are wasting time" as reported by a female student at N'Hafash (5.3.1c).

The government's insistence that provision of education was its responsibility negated potential partnerships with other providers such as religious institutions and community contributions. In a situation where the government was struggling under the weight of United Nations sanctions, it made sense to open the space for education service delivery to diverse stakeholders and for the Ministry to maintain oversight on curriculum content and assessment so that the government concerns cited by Rena (2004) are not materialised.

There were other systemic blind spots that I have discussed at length, including the failure by the EMIS to harness, interpret and utilize qualitative

data. The current instruments for collecting the data are outdated, superficial and top down.

Lastly, while acknowledging the efforts to integrate indigenous pastoral knowledge into the formal curriculum, I noted that the Eritrea education system was not sufficiently sensitive to the potential for indigenous knowledge to complement formal education. And as I discussed in 6.2.2, students functioned across different educational paradigms simultaneously. The education system could expand integration of local knowledge beyond elementary levels (Dyer, 2012; Krätli 2001) and enhance the assessment and grading system to take into consideration the practical skills developed among students by traditional learning systems. Moreover, there could be more systematic communication across the different curricula so that local knowledge is not treated with contempt yet it has sustained generations of people through adversities (Krätli, 2001). This would also address the latent misgivings that formal education is designed to socialise pastoral children away from their identity into sedentary cultures (Dyer, 2006).

Beyond the individual, friends and institutional support mechanisms, there were other initiatives that I came across in my capacity as insider/outsider, that had a positive bearing on drop-in for at-risk students. For example, at the time of my study, the Chief Justice of Eritrea was leading a high-level campaign to eradicate child marriage. Assisted by child marriage survivors, the Chief Justice confronted child marriage as a national problem and vowed stricter enforcement of laws to protect children. That campaign addressed the tensions between tradition and national legal provisions on child marriage. The campaign demonstrated how some of the efforts by various stakeholders could tap into the existing institutional provisions to foster drop-in and participation in schooling. The efforts may not make it into

the national EMIS but they can contribute to the qualitative narrative about what enables schooling in a fragile context. Moreover, if the father who stood up for his daughter's education were to know about such a high-profile campaign, he would feel more empowered and perhaps mobilise his peers to join the campaign to foster drop-in.

6.4 Summary of the chapter

To conclude the analysis and discussion of the research findings, I revisit the conceptual framework to plot the connections among the various elements analysed in relation to the three research questions. The figure below was the outcome of the analytical processes. In the diagram, I depict that dropout and drop-in were at the two ends of a continuum, linked by a broken line to illustrate that the process in either direction was neither smooth nor straightforward. Closer to dropout were the two major factors of risk and fragility. These factors facilitated adversity and often resulted in dropout. Closer to drop-in were resilience and motivation. The main explanation for drop-in was motivation or students' personal volition. However, resilience also contributed to drop-in. The broad categories were not mutually exclusive. Analysis of data from the students and teachers showed that some conditions of risk and fragility facilitated motivation and resilience among students, just as the conditions of motivation and resilience also contributed to risk and fragility, hence the thin dotted lines.

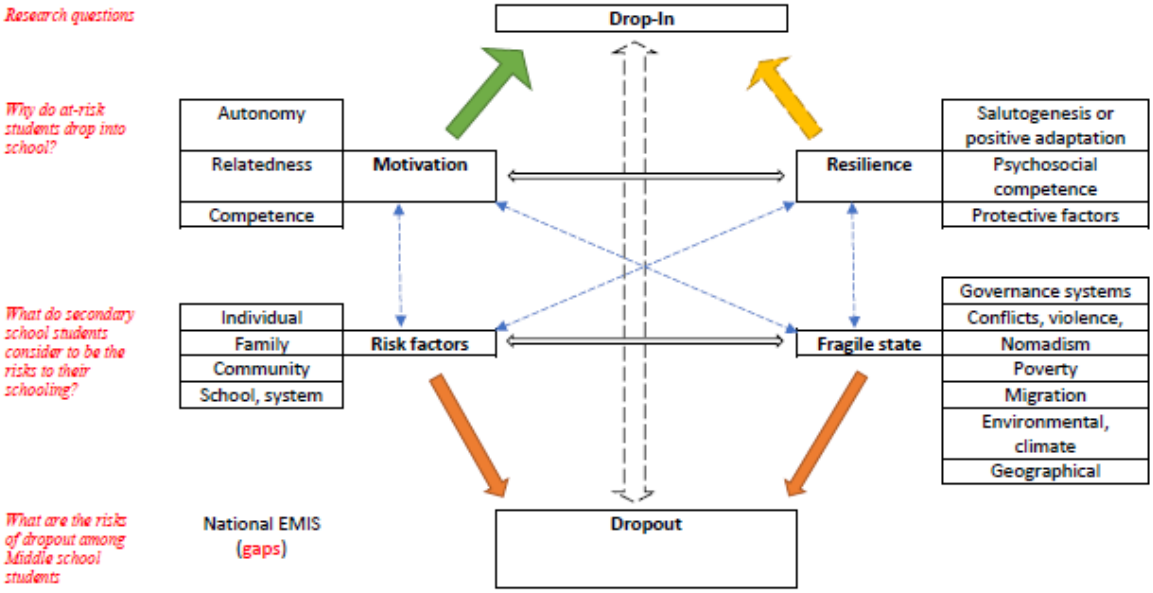


Figure 16. Updated conceptual framework

From the foregoing, the relationships among the various factors are complex and dynamic.

Chapter 7

Conclusion and recommendations

7.1 Conclusion

This study explored the phenomenon of drop-in among students who are at risk of dropping out of lower secondary school in Eritrea. It was guided by the following research questions:

1. What, according to the EMIS reports, is the status of risk of dropout among Middle school students in Eritrea?
    i. How does the Eritrean EMIS identify risk of dropout?
    ii. How does EMIS measure risk of dropout in Eritrea?
2. What do secondary school students in Amiche district of Eritrea consider to be the risks to their schooling?
3. Why do at-risk students in Amiche district drop into school?

I adopted the mixed methods research design to investigate the three research questions. The mixed methods approach was intended to facilitate systematic movement from the known to the unknown. However, because I could not collect the data I needed, I relied on secondary data from EMIS.

Thus, I started off with a critical examination of the EMIS reports spanning a 12-year period to establish what the MOE considered to be key factors for dropout. My descriptive analysis referenced the silences highlighted by Carr-Hill (2012), as well as Hammond *et.al*.'s (2007) domains and Rumberger and Lim's (2008) categories of risk. During that analysis, I found inconsistencies with the EMIS data which I had not set out to find.

Nevertheless, identifying and analysing those inconsistencies constituted a key contribution of my study. I then moved into the qualitative component of the research to explore drop-in among students in Beles and N'Hafash Middle schools of Amiche district. I used focus group discussions and interviews to collect data from the students and teachers. The two methodological processes, complemented by my observation of the context, analysis of fugitive literature (Dowling & Brown, 2010), and critical reflection as an insider/outsider, enabled me to arrive at the following conclusions.

7.1.1 Status of risk of dropout

My analysis of the available data revealed that it was difficult to determine the status of risk of dropout among middle school students in Eritrea basing on the EMIS reports. The analyses by the MOE were limited in their scope and did not provide disaggregated indicators of risk by region, sex or other parameters as was the practise with elementary level education indicators. I also established that EMIS reports were based on population estimates that were uncertain and therefore provided a weak basis for computing education indicators. My analysis found examples of errors and contradictions that were not the result of statistical mistakes. Secondly, I established that owing to the limitations in the analysis of data pertaining to post elementary level education, the EMIS did not facilitate the MOE to zoom in and identify areas of deprivation in terms of access to schooling nor to measure the risk of dropout. I also found that much as the EMIS process collected qualitative data from schools using Questionnaire 9, the data were neither processed nor reported on. Thus, the final EMIS reports were inadequate in their analysis of student aspects such as the range of

drivers of dropout and what measures had been applied by schools to foster drop-in.

Curiously, the MOE was aware of the shortcomings in EMIS and over a period of over 10 years, the EMIS reports of 2005/6 to 2015/16 consistently conceded as follows:

> The MoE believes that the data presented in this publication is by no means considered exhaustive. For further inclusion and refinement to be made, the Ministry of Education is working to improve the quality and coverage of the education statistics. Moreover, continuous efforts will be made to produce better and timely information" (page 1 of all reports).

Prior to that the MOE reports had claimed, "The data presented in this publication is comprehensive and detailed. It is expected to be useful for planning, decision making and for conducting research" although it added, "Nevertheless, the Ministry of Education is making further efforts to improve the quality, timeliness, and coverage of the education statistics" GOSE 2004:1).

For UNICEF, which the MOE acknowledged as having supported the publication of all the reports, all its interventions were based on unreliable data whose publication UNICEF funded. UNICEF and other international partners need to problematize the EMIS truths handed down by MOE in its EMIS reports and support the MOE's pledge to produce better and timely information (Bacchi, 2012).

My finding was that the Eritrean EMIS was not responsive to the present-day expectations and requirements of a national education information system. The EMIS did not facilitate critical analyses of data to provide information for timely accountability and decision making. My analysis demonstrated that despite the detailed amount of information collected by the MOE annually, the outputs were superficial and not relevant "…for

planning, decision making and for conducting research" as envisaged by the MOE (GOSE 2004:1).

My analysis of data from the fieldwork also revealed that EMIS procedures were unfamiliar to the schools. While they participated in collecting the data, the school teachers did not get feedback on the findings from the questionnaires, which contradicted the MOE pledge to "improve the quality and coverage of the education statistics" (GOSE 2005-2016:1).

Regarding the status of risk among middle school students, I found that the methods of assessing risk among secondary school students in Eritrea were inadequate and potentially misleading. The schools used teachers' hunches aided sometimes by students' peer reports. The official EMIS collected information on 12+ potential risk factors but the final reports focused only on dropout and repetition.

There have been calls for education systems to look beyond the boundaries of schools to better account for children of school age particularly children in especially difficult circumstances (CEDC, 2015). Carr-Hill (2012, 2013), Dyer (2012) and Randall (2015) argued that national survey systems tend to omit the disadvantaged people because they are invisible to the configuration of the systems. This study has confirmed the risks of dropout and shown the possibilities of working through schools to reach out to disadvantaged communities systematically to encourage children to drop into school. My analysis found that in Amiche, schools and families took steps to enable students to drop into school. It was evident that the MOE had not developed that sort of capacity, partly because of the policy and practice that education was the responsibility of the state. My contention was that if the MOE embraced the innovative solutions developed by the schools, it would be in poised to realise its goal of timely data.

7.1.2 Perceptions of risk among middle school students

My analysis of the data from students established that the perceptions of risk by students in Amiche aligned with the risks identified by Hammond *et.al.* (2007) and Rumberger and Lim (2008). There were risks linked to climate and poverty, the two major factors central to the fragility of Amiche. Beyond poverty and climate, students' testimonies fitted within the categorisations of personal factors such as age, peer pressure and life changing circumstances; family and community factors such as early marriage, teenage pregnancy, migration and family size. Then there were the education system related risks including distance to school, quality of education and policy. The students articulated the risks and their implications, and shared profound stories of exceptions to the conventional understanding of the drivers of risk and risk-mitigation measures. For example, where mothers were expected to force girls into marriage but some mothers did not; and where a father supported the daughter's staying in school by vetoing the culturally mandated decision of his wife to decide the future of their daughter.

I found that the existing frameworks for assessing risk and enhancing student resilience were relevant for countries in sub-Saharan Africa. Indeed, the UNICEF and UNESCO OOSC Initiative (2015) acknowledged that it was informed by Hammond *et.al.*'s (2007) framework. Thus, the frameworks had already contributed to the global body of knowledge on risk, resilience, access to schooling and drop-in. However, the frameworks need to be applied with sensitivity to the nuances of the context. From the analysis, the adversity experienced by the students of Amiche district was protracted, and exacerbated by complex challenges such as the repeated cycles of drought, the long-running political stalemate between Eritrea and

Ethiopia, the impact of United Nations Security Council sanctions against Eritrea, difficult topographic terrain and persistent inability of the schools to attract and retain qualified teachers. An outsider might argue that Amiche was the natural habitat of the students so they ought to have been acclimatised to the conditions. However, as explained in sections 1.5.1 and 1.5.2, many of the inhabitants of Amiche were involuntary immigrants who were 'repatriated' and relocated to Amiche after Ethiopia expelled Eritreans during the 1998-2000 war. I contended that Amiche was not a typical context where a scholar goes and applies a framework developed in a high-income context without attending to the unique circumstances imposed by the complex fragile context (see also sections 1.5 and 2.6). I averred that all students were at risk. The high national averages of repetition and dropout, which the EMIS revealed even if it had its shortcomings, masked the even higher proportion of dropout and risk experienced in Amiche. As such, if a student was identified by teachers and peers as being at risk, it meant their circumstances were indeed dire. Therefore, the fragile context made drop-in by at-risk students remarkable.

The research participants presented migration as both a risk factor to drop-in and an enabler of drop-in, which was consistent with literature by Bredl (2011), Ong'ayo (2015) and Amoateng *et.al.* (2014). Literature explored how the prolonged absence of a parent could impact the academic achievement of the offspring (Wright, 2010). In the case of Amiche, where migration involved males and females alike, the finding was that migration had contributed to the expansion of female-headed households, and contributed to the reconfiguration of family setups. Migration had also contributed to shifting adult responsibilities to children (Ong'ayo 2015). However, the students did not raise the possibility that their education was

being affected by the absence of migrant fathers. Neither did I find evidence that mothers contributed directly to the academic achievement of secondary school students in Beles or N'Hafash, perhaps because the mothers did not have formal education (Abuya *et.al.* 2012). What came across was the fact that single mothers provided moral and material support to facilitate drop-in. I found that remittances from migrants stabilised families and enabled the students and other relatives to continue schooling. Therefore, migration supported drop-in. Nevertheless, students' testimonies also highlighted the temptation to migrate, to which some students and teachers had reportedly succumbed. Therefore, migration was indeed a significant risk factor, and thus, for the students who resisted the temptation to migrate, it tested them but also underscored their resolve to continue with schooling.

7.1.3 Why at-risk students drop into school

The analysis found that students relied on their will power to drop into school and this was complemented by support from family, peers and other community members. My analysis of students' testimonies demonstrated that drop-in was not a flip side of drop out; it took volition and will power for them to go to school and make accidental attendance a regular occurrence. Students who dropped in exploited their individual resilience and self-determination. Some of the resilience was the result of transforming negative experiences into hope. Their fragile circumstances became positive drivers for dropping into school.

I found that the self-determination theory was applicable in understanding what drives at-risk students to drop into school. Though they were keenly aware of limited life opportunities available to them through education, the students still held onto the hope that education would contribute to

qualitative changes in their lives. That attitude debunked the belief that hardship is an immutable fact of life and pointed to a realization that in their difficult circumstances students understood that their education was primarily their business. I worried that they placed too much faith in the capacity of education to resolve all their problems. However, students were also motivated by community and family expectations and they benefitted from the local support as well as government initiatives. The students took advantage of communal assets, which were modest and not comparable to the infrastructure and other assets available to students-at-risk in the richer contexts.

The frameworks proposed by scholars like Masten and Powell (2003), Prince-Embury (2013), Rumberger and Lim (2008), Schoon (2006), and Wright *et.al*. (2013) offered insights for examining resilience among students in sub-Saharan Africa. However, I found that they needed to be contextually situated. For example, Masten and Powell (2003) and Wright *et.al.* (2013) propose that for a student to be deemed to have bounced back after an adversity, they should demonstrate psychosocial competence on normative developmental tasks. My problem was with determining which norm to apply, given that the student in a low-income context adheres to traditional norms but is also judged from the standpoint of formal [western] education, each with its functioning hidden curriculum. This recalled the scenario of inner cultural conflicts discussed by Kepler and Rugira (2013) who argued that education should not inadvertently threaten tradition. My view was that if a researcher elected to use the norms of the formal curriculum, that researcher privileged the western “universal system of norms” (Krätli 2001b:51). Similarly, the frameworks cited high quality neighbourhoods, effective schools, employment opportunities for teens and

good public health as some of the community characteristics of promotive and protective attributes for resilience. My position was that those were relative constructs which had to be contextualised, otherwise, if the frameworks became a checklist to be simply ticked, it would imply that the local equivalents such as the extended family support, traditional health remedies and collective responsibility for neighbourhood security were negated. The local equivalents in low-income contexts are modest but they constitute the asset base which serves the purpose intended by the framework.

The analysed findings indicated that at-risk students were aware of the challenges to their right to education but they were also keen to contribute towards accessing education. The students considered themselves lucky that they had continued to drop-in. The analysed findings from discussions with the students and their teachers recalled the theory and previous research by Sanders *et.al*. (2013) who argued that resilience is the ability to attain positive outcomes in the face of a complex mix of challenges and vulnerabilities, and Schoon's (2006) *salutogenesis* paradigm on understanding healthy development despite exposure to risk.

Similarly, the presentation by Masten *et.al.* (2014) on resilience as adaptation to micro and macro level systems was evident, more so the argument that adolescents have more advanced capabilities for adaptation. The drop-in students did not exhibit a "what-to-do" attitude; instead they took the initiative where necessary, including working for money to cater for scholastic needs. Consistent with Masten *et.al.* (2014), the students tapped the range of human protective factors like hope, self-esteem and self-efficacy, group support, mentors outside the family and intangible connectedness to others, to nurture their resilience (Guay *et.al.* 2008). In

that way, they demonstrated capacity for harnessing Schoon's (2006) attributes of strengths, assets and adaptive functioning.

Finally, I analysed drop-in in relation to the self-determination theory (SDT). I chose SDT for its attribute of transcending spatial and cultural bounds and in deference to Ryan's claim that SDT "assumes that people are active organisms with inherent and deeply evolved tendencies toward psychological growth and development" (Ryan 2009: 1). From my analysis of the context of Eritrea and my experience and position as an insider/outsider, I concluded that at that time Eritrea was mostly a collectivist society, where community was crucial in an individual's life (Suh *et.al.*, 1998). As posited by SDT, the students "[sought] experiences that fulfil the fundamental need for competence, autonomy and relatedness through interaction with the environment." That was because, despite the adversities deriving from fragility, the students' social conditions constituted the nutriments for psychological growth, integrity and wellness (Ryan, 2009). In the findings presented above, it was evident that at-risk students exhibited autonomous motivation more than controlled motivation, which was a departure from the expected behaviour of students at that level of education who typically expect to be controlled via rules, prefects and coded systems.

The five examples of negative impetus to drop into school in section 6.2.3 provided additional evidence of intrinsic autonomous motivation. My critical analysis established that the students dropped into school regularly after considering and internalizing the value of education and out of celebration for the bond they developed with their teachers and peers, which pointed to the manifestation of organismic integration theory. As Deci and Ryan (2000) noted, an individual is more likely to integrate a practice if given an

opportunity to exercise choice with respect to the practice, and connection with those who convey the practice or value; hence the continuum of internalization from external regulation, through introjection and identification to integration.

When all factors were considered, the updated conceptual framework at the end of chapter six would turn into a nested diagram whereby the overarching context is characterised by fragility. It is within that context that risks abound and all children who live in that context are exposed to the same risks. Similarly, all children have access to the same opportunities, communal resources and other protective factors that can foster their resilience. However, they differ in the way they tap those resources and how they exercise their volition to drop into school. Thus, the most likely students to drop in are those who combine resilience and self-determination to go to school. Nonetheless, even those who are well motivated can drop out of school, hence the red arrow leading all the way from self-determination to dropout. That might explain why there are very few children who make it beyond the elementary level into higher levels of schooling.

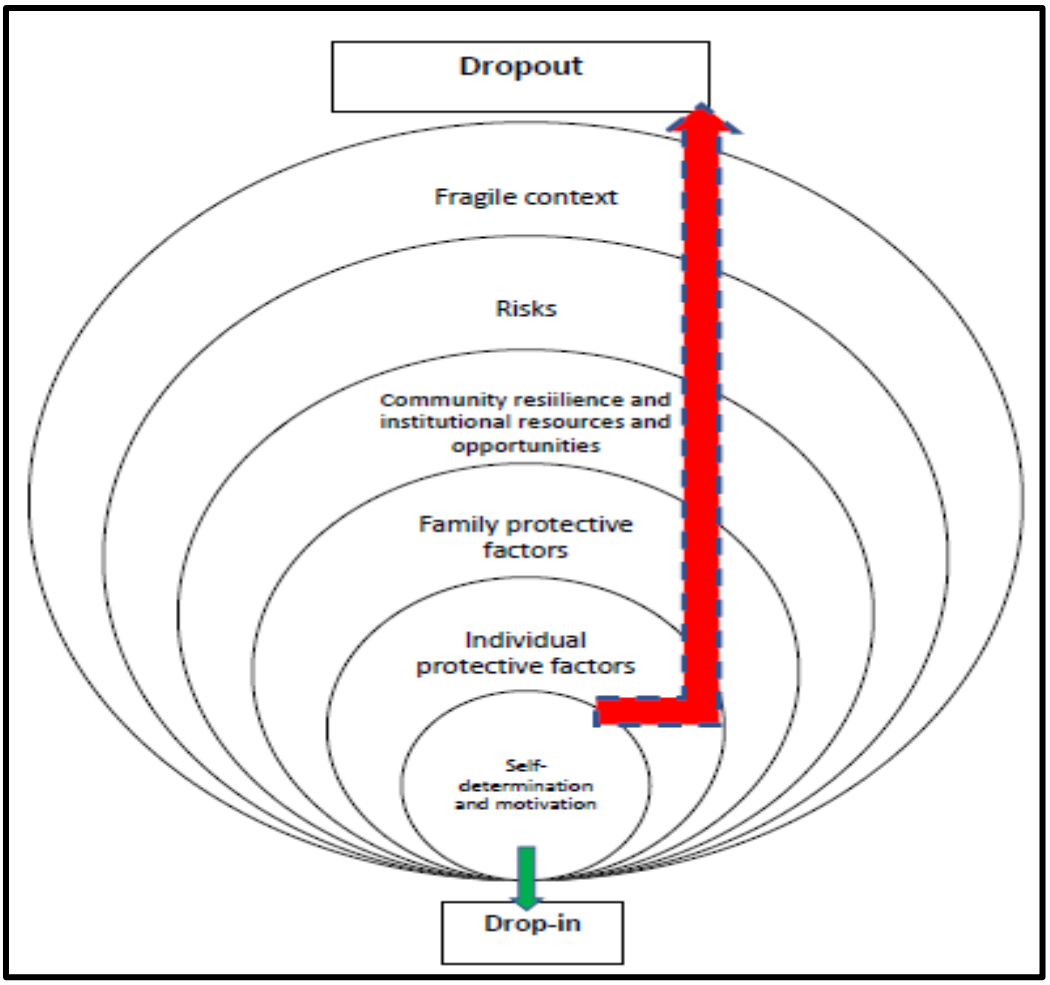


Figure 17. Interrelationships among the factors that foster drop-in

7.1.4 Reflections

Studying drop-in within a fragile context was a challenging undertaking, not least because virtually all students in Amiche were at risk of dropping out of school. My study was further complicated by constrained access to research sites and potential respondents like community elders, limited temporal and spatial scope of the research, diverse understandings of student risks and their mitigation strategies, and a lack of consensus on context-relevant tools for gauging risk of dropout. Moreover, whereas

education stakeholders in Eritrea agreed that drop-in was a new concept, there was scepticism as to whether it could be problematised.

The situation of scant literature on drop-in within the context of low-income countries was partially mitigated by the availability of extensive literature from high-income countries although this proved to be both advantageous and disadvantageous. It afforded me the opportunity to adopt their concepts and analytical frameworks to explore risk of dropout, student resilience, and motivation to drop-in. However, by adopting them I risked privileging the foreign perspectives on the various concepts and also risked not identifying equivalent/alternative concepts from the lived experiences of my research participants. I was also aware of my inner contradictions between my formal (western) education and professional experiences versus my informal education, instincts and lifelong experiences. I knew I could draw on the latter and bring them to bear on the study but that I had to do so within the confines of academic research. Overall, researching drop-in as an insider/outsider jolted my self-awareness, which I believe enhanced my professional growth. Nonetheless, I could only do what was feasible in this vast area, hence my recommendation to other researchers, to explore the perspectives of different stakeholders within diverse contexts.

7.2 Recommendations

Below are four key recommendations arising from this study:

7.2.1 Education Management Information Systems (EMIS)

Education Management Information Systems of low income countries need to be strengthened to provide reliable data on education to all stakeholders at the macro and grassroots levels. The reports can be enhanced with

provisions to integrate qualitative information that would give nuance regarding different contexts within the same country. To this end,

a) Governments and their development partners need to invest in longitudinal studies as well as meta-analyses of existing research and EMIS data on drop-in as part of the overall EMIS project. On-going out-of-school studies which are part of the global initiative hosted by UNICEF and UNESCO provide the technical and strategic basis upon which to build the initiative, which should be led by a government agency such as the MOE but with key memberships of National Statistics Organisations, tertiary institutions, civil society organisations and foundation bodies. The fact that similar studies have proved to be influential sources of knowledge to education systems in developed countries should inspire education systems in developing countries to do the same.
b) Education systems should nurture the complementarities of quantitative and qualitative data in sector management information systems. In the case of Eritrea, steps to capture and report on quantitative and qualitative dimensions of education have so far been tentative and are dominated by the quantitative dimension, which calls to mind the concept of performativity (Avis, 2005; Cunningham, 2008). Quantitative data presents a partial perspective about education. Without the qualitative component, room is created for speculation about the validity, reliability and motive of data.
c) Ministries of education should provide feedback on the outputs of EMIS processes to the schools and present the data in a form that is readily accessible to lay persons at community level so that they can engage with the issues being reported on.

7.2.2 Risk, resilience and motivation

The possibilities for drop-in need to be studied systematically to generate understanding on why children drop into school and how they can be facilitated to attend school despite the adversities they face. The study would generate a unified approach to dealing with risk in different contexts, much the same way that Masten and Powell (2003) developed a shortlist of promotive and protective attributes for fostering resilience.

a) At-risk students have diverse resources which facilitate their dropping into school. Their personal resolve, which Masten *et.al.* (2014) refer to as internal strength, associated with a sense of self-worth and emotional wellbeing, is an asset for drop-in. In a fragile situation, these concepts manifest at different levels because the students function in traditional and non-traditional systems at the same time, which means that at-risk students navigate more complex challenges to stay in school. They require timely and consistent support to access, participate and complete school. The various initiatives to foster drop-in should be documented through rigorous researches and shared widely among the low-income countries.
b) Schools have unique ways of detecting and dealing with risk and nurturing individual resilience. In their strategies for responding to risk, schools provide the building blocks for fostering resilience among students. However, the capacities of schools to detect and respond to risks vary. They can be collated and refined as options for strengthening teachers' and schools' capacities to support students who are at risk and their caregivers to encourage consistent drop-in.
c) Whereas the role of families and communities in facilitating education have been documented, community engagement is neither universal nor

always guaranteed. Education interventions that seek to harness community participation need to understand the way education service provision is configured and how roles and mandates (or burdens) are apportioned between the state, other providers such as religious institutions, families and communities. In Eritrea, provision of education is the responsibility of the state, yet as we saw in Amiche schools, the respective communities had voluntarily complemented government efforts.

7.2.3 Specific to UNICEF

UNICEF should refocus its support to education in low income contexts to strengthening data systems and improving access to quality, valid and reliable data; to enable EMIS data perform its core functions of providing trustworthy evidence for decision making.

a) UNICEF should promote innovative solutions that will enable EMIS to communicate with schools more systematically and foster mutual relevance and learning.
b) UNICEF should mobilise resources and be part of the longitudinal studies proposed in 7.2.2 above, given such studies will complement the ongoing global out-of-school studies. The studies would provide added knowledge that will inform the development of equity focused interventions for quality education for disadvantaged children in fragile low-income contexts.

7.2.4 Further research on drop-in.

A more comprehensive, possibly longitudinal study dedicated to this subject could build on the findings of my study and provide the theoretical platform for developing stakeholder capacities systematically.

My study has not addressed all the possible questions and may have signalled areas for further exploration. Any errors, gaps or shortcomings were unintended but could well be an area of interest. Other researchers are hereby invited to delve into those areas and expand knowledge on drop-in within challenging contexts.

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Appendix 1(a): Sample consent form

Institute of Education

Title of research:

An exploration of drop-in among students who are at risk of dropping out of lower secondary school in Eritrea

E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

Consent Form

If you are happy to participate in this study, please complete this consent form and return to **Emmanuel K. Kamuli** in person at UNICEF Eritrea Office, Asmara or at the address below.

	Yes	No
I have read and understood the information leaflet about the research.	☐	☐
I agree for my child and for me to be filmed during the reading sessions.	☐	☐
I understand that if any of my words are used in reports or presentations they will not be attributed to me.	☐	☐
I understand that I can withdraw from the project at any time, and that if I choose to do this, any data I have contributed will not be used.	☐	☐
I understand that I can contact **Emmanuel K. Kamuli** at any time and request for my data to be removed from the project database.	☐	☐
I understand that the results will be shared with the Economic and Social Research Council and in research publications and/or presentations.	☐	☐
I agree for the data I provide to be archived at the UK Data Service. I understand that other authenticated researchers will have access to this data only if they agree to preserve the confidentiality of the information as requested in this form.	☐	☐
I understand that other genuine researchers may use my words in publications, reports, web pages, and other research outputs, only if they agree to preserve the confidentiality of the information as requested in this form.	☐	☐

Name _____ Signed _____

Date _____

Emmanuel K. Kamuli
Centre for Doctoral Education
University College London Institute of Education
20 Bedford Way London WC1H 0AL
e.kamuli.14 @ucl.ac.uk

Appendix 1(b) Tigrigna version of consent form

Institute of Education

UCL

E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

ኣረእስቲ መጽናዕቲ

ዳህሳሳዊ መጽናዕቲ ብዛዕባ ካብ ቤት ትምህርቲ ዝወጹን ኣብ ናይ ምዉጻእ ሓደጋ ዘለዉ ተምሃሮ ማእከላይ ደረጃ ተምሃሮ

ናይ ስምምዕ ቅጥዒ

ኣብዚ መጽናዕቲ እዚ ክትሳተፉ ፍቓደኛታትን ሕጉሳቲን ምስ ትኾኑ ነዚ ናይ ፍቓድ ምሕትት መሊእካ ናብ ኣቶ ኣማኑኤል ካሚሉ ዩኒሴፍ ኤርትራ ኣስመራ ክትልእኽዎ ብትሕትና ንሓትት።ንዝግበረለይ ምትሕብባር የመስግን።

	እወ	ኣይፋል
ነዚ ብዛዕባ መጽናዕቲ ተገሊጹ ዘሎ ሓበሬታ ኣምቢብዮን ተረዲኤዮን ኣለኹ		
ንዐይን ንዉልደይን ዝምልከት ኣሳእል ንኽውስድ ተቓውም የብለይን።		
ኢቲ ኣነ ዚህቦ ሓበሬታ ንዝግበር ዘሎ መጽናዕቲ እንተ ተጠቕምሉ ተቓዉም የብለይን።		
ኣብዚ መጽናዕቲ እዚ ኣብ ዚሳተፈሉ ጊዜ ባህ ምስ ዘይብለኒ ከንሳሕብ ከም ዝኽእል ዝሃብክዎ ሓበሬታ ውን ከም ዘይጥቕምሉን ይፈልጥ ኢየ።		
ኣብ ዝኾነ ጊዜ ንኣቶ ኣማኑኤል ካሙሊ ረኺበ ዝሀብክዎ ሓበሬታ ንኽይጥቕመሉ ክሕብሮ ከም ዝኽእል ይፈልጥ ኢየ።		
ውጽኢት ናይዚ መጽናዕቲ ኣብ ኣኮኖሚክን ሶሻል ሪሰርች ክዝርጋሕ ምኻኑ ይፈልጥ እየ።		
ኣን ዝህቦ ሓበሬታ ኣብ ይከይ ማእከል ሓበሬታ ክስነድ ምኻኑን ብሚስጥር ክሳብ ዚሓዝዎ ውን ክጥቕምሉ ከም ዝኽእሉን ይፈልጥ ኢየ።		
ካልኦት ናይ መጽናዕቲ ኪእላታት ንዝሃብኪዎ ሓበሬታ ቢምስጥር ኽሕዝዎ ክሳብ ዝተስማምዑን ኣብ ዝተፈላለዩ ናይ መጽናዕታዊ ጽሑፋቲን፥ ዌብ ሳይታትን፥ ካልእን ክጥቕምሉ ምኻኖም ይፈልጥ ኢየ።		

ምሉእ ስም_____

ፈርማ_____

ዕለት_____

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Appendix 2: Prompts for FGDs and KIIs

Focus Group Discussions

This focus group schedule was to provide a frame and key turning points in an otherwise free-ranging discussion with the students.

- Ice breaker
- Family settings (as part of the signing up process)
- How do you support your education? (This is introductory to the discussion on the direct and indirect costs of their education.
- Are you able to meet all your educational needs?
- What are the main risks faced by students in this school, that threaten their education?
- Do you know of any students who left school due to any of the risks identified?
- Can we categorise the risks according to personal, family, community, school and 'other' factors? [Participatory activity]
- Take a look at the different categories and in different groups rank the risks according to severity [group activity to be presented to the 'plenary']
- How are students helped to cope or deal with the challenges identified?
- What support mechanisms/structures exist in the school and/or community to assist students?
- What pushes/pulls at risk students to come to school?

- Are there any opportunities that affected students can take advantage of to stay in school?
- Do you have any recommendations that you want to propose (to family/community/school/government/development partners) to mitigate risks and improve chances of completing schooling? [as responses are made, I will assign them to different categories]
- Closure.
    - Do you have any questions or comments for me?
    - Thank you very much for participating in this study. I will share the outcomes with you and your school.

Key informant Interviews

1. Ice breaker
2. How long have you served in this school/community?
3. Had you worked elsewhere before coming to this school?
4. EMIS process – probe their role in the collection and processing of data and whether they receive feedback from Ministry of Education once the data are analysed.
5. How does the school maintain its information on students?
6. Is the information analysed to inform teaching practices and counselling programmes (if in existence formally)?
7. What are the main challenges that put students at risk of dropping out?
8. How are the risks identified?
9. What steps does the school take to identify and/or mitigate risks among students?
10. Given the large numbers of at-risk students, how can teachers explain their persistence in education?
11. What opportunities exist (at school/ in the community/in policy/etc.) that can help students navigate their challenges to enjoy their right to education?

12. Any recommendations to various stakeholders (families/ students/ education authorities/ government/ development partners etc.
13. Do you have any questions or comments for me?
14. Thank them and promise to share the outcomes of the study with the school.

Appendix 3: EMIS questionnaires

State of Eritrea
Ministry of Education
Questionnaire 9
Academic year 2015/16

General Instruction

The confirmation of data completion box makes pertinent school, Nuszoba and Zoba education officers highly responsible for the reliability and validity of the data provided in the questionnaire. Therefore, the name, signature and date of the concerned data verifier must be correctly put in the correct space provided.

School Information

1. School ID ☐☐☐☐☐☐
2. Zoba ----------
3. Nus Zoba ----------
4. School Name ----------
5. Level ----------
6. Village/Town ----------
7. Local Administration ----------
8. Premise Ownership ----------
9. Number of class rooms ---------- Annual rent (If paying) ----------

Conformation of data completion

School director	Signature	Date
Nuszoba Supervisor	Signature	Date
Research, Training & Planning	Signature	Date

Questionnaire 9

10. Number of Newly constructed rooms and facilities in the current academic year _____

Rooms and Facilities	Elementary			Middle			Secondary		
	Gov't	Private	Total	Gov't	Private	Total	Gov't	Private	Total
Class Rooms									
Library									
Laboratory									
Hall									
Toilet									
Fence									
PRC									
Teachers' Residence									
Staff Room									
Store									
Office									
Other									

N.B Private schools includes community, Awkaf, Mission and Individual
Fence :- Yes or No

11. Number of Rehabilitated rooms and facilities in the current academic year _____

Rooms and Facilities	Elementary			Middle			Secondary		
	Gov't	Private	Total	Gov't	Private	Total	Gov't	Private	Total
Class Rooms									
Library									
Laboratory									
Hall									
Toilet									
Fence									
PRC									
Teachers' Residence									
Staff Room									
Store									
Office									
Other									

N.B Private schools includes community, Awkaf, Mission and Individual
Fence: - Yes or No

Questionnaire 9

12. Number and causes of students' dropout

	Causes	Elementary		Middle		Secondary		Total	
		M	F	M	F	M	F	M	F
1	Death								
2	Illness								
3	Orphaned								
4	Employed								
5	Marriage								
6	Distance of the school								
7	Financial reasons								
8	Disciplinary dismissal								
9	Disciplinary suspension								
10	Caring for the sick								
11	Pregnancy								
12	Nomadic								
13	others								
	Total								

13. Name of teachers who abandon teaching

No.	National ID	Teachers' Name	Level	Sex	Causes	Date of Abandon
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

14. Flow rates:

14.1 Elementary

Lang. of Instruction 1 _____

Grade	Dropouts			Repeaters			Promoted			Total number of students		
	M	F	T	M	F	T	M	F	T	M	F	T
Grade 1												
Grade 2												
Grade 3												
Grade 4												
Grade 5												
Total												

Lang. of Instruction 2

Grade	Dropouts			Repeaters			Promoted			Total number of students		
	M	F	T	M	F	T	M	F	T	M	F	T
Grade 1												
Grade 2												
Grade 3												
Grade 4												
Grade 5												
Total												

14.2 Middle

Grade	Dropouts			Repeaters			Promoted			Total number of students		
	M	F	T	M	F	T	M	F	T	M	F	T
Grade 6												
Grade 7												
Grade 8												
Total												

14.3 Secondary Flow Rates by grade, sex and stream

Grade	Dropouts			Repeaters			Promoted			All students		
	M	F	T	M	F	T	M	F	T	M	F	T
Grade 9												
Grade 10												
Grade 11 Science Stream												
Grade 11 Art Stream												
Total												

Questionnaire 9

15. Elementary Flow rates by age and sex

Level	Age	Dropouts			Repeaters			Promoted			All students		
		M	F	T	M	F	T	M	F	T	M	F	T
Elementary	Age 5												
	Age 6												
	Age 7												
	Age 8												
	Age 9												
	Age 10												
	Age 11												
	Age 12												
	Age 13&												
	Total												

16. Middle Flow rates by age and sex

Level	Age	Dropouts			Repeaters			Promoted			All students		
		M	F	T	M	F	T	M	F	T	M	F	T
Middle	Age 10												
	Age 11												
	Age 12												
	Age 13												
	Age 14												
	Age 15												
	Age 16												
	Age17 &												
	Total												

17. Secondary Flow rates:

17.1 Secondary Flow rates by age and sex for Grade 9

Grade	Age	Dropout			Repeaters			Promoted			All students		
		M	F	T	M	F	T	M	F	T	M	F	T
9	Age 12												
	Age 13												
	Age 14												
	Age 15												
	Age 16												
	Age 17												
	Age 18												
	Age 19 &												
	Total												

17.2 Secondary Flow rates by age and sex for Grade 10

Grade	Age	Dropout			Repeaters			Promoted			All students		
		M	F	T	M	F	T	M	F	T	M	F	T
10	Age 12												
	Age 13												
	Age 14												
	Age 15												
	Age 16												
	Age 17												
	Age 18												
	Age 19 &												
	Total												

17.3 Secondary Flow rates by age and sex for Science Stream Grade 11

Stream	Age	Dropout			Repeaters			Promoted			All students		
		M	F	T	M	F	T	M	F	T	M	F	T
Science	Age 12												
	Age 13												
	Age 14												
	Age 15												
	Age 16												
	Age 17												
	Age 18												
	Age 19 &												
	Total												

17.4 Secondary Flow rates by age and sex for Art Stream Grade 11

Stream	Age	Dropout			Repeaters			Promoted			All students		
		M	F	T	M	F	T	M	F	T	M	F	T
Art	Age 12												
	Age 13												
	Age 14												
	Age 15												
	Age 16												
	Age 17												
	Age 18												
	Age 19 &												
	Total												

18. 15 Key indicators for Effective monitoring of the school health and nutrition program (To be filled by the school)

18.1 School based health and nutrition services

		Male	Female	Total
1	Number of Students in school found to be stunted			
2	Number of Students referred for refractive error			
3	Number of Students receiving spectacles			
4.1	Number of Students referred for infection of the Ear			
4.2	Number of Students referred for infection of the Eye			
4.3	Number of Students referred for infection of the Skin			
5.1	Number of Students treated for infections of the Ear			
5.2	Number of Students treated for infections of the Eye			
5.3	Number of Students treated for infections of the Skin			
6	Number of Students referred for dental caries.			
7	Number of Students treated for dental caries.			
8	Number of Students receiving vitamin A (state also number of girls aged less than 12 years in school.)			
9	Number of students receiving weekly iron supplementation (NRS and SRS only)			
10	Number of students involved in co-curricular skills based health education initiatives (such as participants of BCC, RRI, school health/sanitation/ Sara clubs, peer health educator training etc.)			
11	Number of teachers trained in protecting themselves from health problems			

18.2 Clean water and sanitation for schools

12.	Number of latrines in school **in use** by students	
13.	Number of latrines in school **not in use** by students	
14.	Number of hand washing facilities **in use** by students	

18.3 School related health policies

15.	Has the school got a health policy that has been disseminated to students, parents and teachers this year?	

19. Annual Income and Expenditure of Schools

Level _____

19.1 Income

Source of Income		Yearly Income	
		Nakfa	Cents
Government			
Mission			
Awqaf			
Registration Fee			
Annual Tuition Fee			
Community contribution	-in cash		
	-in kind		
	-in labour		
Internal School income			
Others (specify)**			
Total			

19.2 Expenditure

Purpose of Expenditure		Yearly Expenditure	
		Nakfa	Cents
Salaries	Teaching staff		
	Non teach Staff		
Services			
Stationery			
Construction			
Facilities			
*Others			
Total			

N.B. The annual income and expenditure of the school should cover from July 1st of the previous year up to June 30 of the current year

* If the school has two or three levels (i.e. Elementary, Middle, Secondary) complete this format for each level. (i.e. one for elementary, one for Middle and one for secondary)

Guide for completing the table above (No.19)

A. Income

1. **Government** — This income includes:
   - Teachers and non-teaching staff gross salaries multiplied by 12 months. (From July 1st of the previous year up to June 30 of the current year)
   - Service expenses like telephone, water, electricity, and postal rent.
   - Maintenance of building or facilities, equipment and facilities.
   - Purchasing new equipment and facilities.
   - Textbooks, chalk, different kinds of papers & other supplies.
   - Medical supplies and others (if there is any).

   The sum of all mentioned above, actual or estimated in monetary term should be put in the space provided.

2. **Mission:** Missions are source of income for the schools that are run by them. Missions act to mission schools like the government does for government schools. Such schools like St. Mary Asmara, Swiss Nile Mission Adi Quala, Faith Mission Dekemhare, St. Josef Keren or other similar Mission schools.

3. **Awqaf:** This source of income also concerns to schools run by Islamic Institutions. The Awqaf (The Islamic Institution) administers or runs some schools.

4. **Annual tuition fee** Monthly school fee time 12.

5. **Registration Fee** This source of income is collected from students when they register at the beginning of the school year.

6. **Contribution:** Fund contributed by individuals or organizations either in the form of money, Materials or even physical work interpreted in monetary term. Note that all contribution must be estimated and filled in monetary term.

7. **School Income:** This source of income is the fund generated by any school. e.g. fund from tea room, agricultural products, or sales of some unnecessary school materials.

8. **Other Income:** Expenditure that are not mentioned above like bus travel expense, reception, or allowances that are made for services rendered by individuals etc.

B. Expenditure by Purpose:

1.	**Salaries**	
	• **Teaching staff salaries:**	This expenditure is the expenditure for salaries of all teachers of the school per month multiplied by 12. (From July 1st of the previous year up to June 30 the of current year)
	• **Non-teaching staff salaries**	This is the salaries of administration staff like clerical staff, guards, store keepers etc (all non teaching) per month multiplied by 12.
2.	**Service:**	Expenditure for service like telephone, water, electricity, postal rent and other similar services.
3.	**Stationery:**	Expenditure for stationery is that for materials that are consumable during learning- teaching process like printing, duplicating papers, pens, pencils, chalks etc.
4.	**Construction:**	Expenditure for construction like maintenance of walls, doors, leveling **playground**, construction of additional classrooms, etc.
5.	**Facilities:**	Materials that are considered as facilities are like computers, tables, desks, **tape** recorder etc.
6.	**Others:**	Expenditure that is not mentioned above like bus travel expense, reception, or allowances that is made for services rendered by individuals etc.

20. Staff information (only for Zoba and Subzoba staff not to be sent to schools) (To be filled by Zoba and NusZoba)

No.	1. ID. No.	2. Staff full name			3. Sex	4. -Zoba Head -Supervisor -Other.	5. Ethnicity	6. Nationality	7. -Permanent -Contract -Uni-Service	8. [1]National Service Status	9. Date of birth dd/mm/yyyy	10. Date of Employment dd/mm/yyyy
		Name	Father	Grandfather								
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

N.B [1] Fill: **NSC** (National service completed), **ONS** (On national service), **RA** (Reserve Army), **NR** (Not Relevant), **XCM** (Ex-combatant). **DFR** (Demobilized fighter), **BRD** (board), **UFT** (Unfit), **NSNP** (Not Participant)

Staff information Continued.

No.	ID. No.	11. Date of deployment to the school dd/mm/yyyy	12. Qualification	13. GPA	14. Specialization		15. Subject Teaching if relevant		16. If relevant Weekly load in			17. Level teaching or working	18. Salary (Nakfa)	19. Marital status	20. Current Job title (if not a teacher)
					Major	Minor	1	2	1-5	6-8	9-12				
1															
2															
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Name, date and signature of the Director_____

Name, date and signature of the NusZoba verifier_____

21. School community injury or accidental information in the academic year 2014/15

S.N	Full Name	Sex	Age	1. Status	2. Type of accident	3. Consequence	4. Type of injury	5. Activity during accident	6. Place of accident	7. Medical support given	Remark
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N.B. use the following instruction to fill the above table 21

1. **Status**: - 1=staff member, 2=student
2. **Type of accident**: - 1=landmine, 2=explosive remnants of war (ERW), 3=anti-tank/vehicle mine, 4=road traffic accident, 5=domestic burn, 6=falling, 7=drowning, 8=electrocution, 9=poisoning, 10=hit by a person or object, 11=gunshot, 12=sexual assault, 13=machine injury, 14=other _____
3. **Consequence**: - 1=killed, 2=injured, 3=psychological trauma, 4=other_____
4. **Type of injury**: - 1=right leg amputation, 2=left leg amputations, 3= both leg amputations, 4=right arm amputation, 5=left arm amputations, 6= both arm amputations, 7=blindness, 8=minor injury, 9=fracture, 10=strain/sprain or dislocation, 11=cut, bites or open wounds, 12=bruise or superficial injury, 13=burns, 14=head injury, 15=organ system, 16=unknown, 17=other_____
5. **Activity during accident**: - 1=collecting fire wood, 2=fetching water, 3=herding, 4=playing, 5=agricultural activities, 6=walking to school, 7=organized sports, 8=at school, 9=leisure or play, 10=traveling, 11=working including travel for work, 12=unknown, 13=other_____
6. **Place of accident**: - 1=home, 2=school, 3=street, 4=farm, 5=industrial/construction, 6=unknown, 7=other_____
7. **Medical support given**: - 1=received first aid at the spot, 2=reached nearest clinic/health facility, 3=reached main health facilities after several hours, 4=other_____