

EDUCATION SYSTEM RESILIENCE

GPE KIX Scoping Study Working Paper



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ACKNOWLEDGEMENT

This scoping study working paper was developed based on initial findings from the scoping study which was commissioned by the Global Partnership for Education Knowledge and Innovation Exchange and led by Education Development Trust. It was written by Leanne Cameron, Elizabeth Thomas, Donovan Amenity, Helen West, Jean-Pierre Mugiraneza, and Ella Page. Much thanks to colleagues from IDRC and GPE, particularly Serhiy Kovalchuk, Anna-Maria Tammi, and Ian Robert Georges MacPherson, for their feedback throughout the process.

Suggested citation:

Cameron, L., Thomas, E., Amenity, D., West, H., Mugiraneza, J-P., & Page, E. (2024). *Education System Resilience*. Global Partnership for Education Knowledge and Innovation Exchange: Washington DC, USA, and Ottawa, Canada.

ABBREVIATIONS

CRE	Climate-Resilient Education
CSP	Crisis-Sensitive Educational Planning
DRR	Disaster Risk Reduction
EdTech	Education technology
EiE	Education in Emergencies
EMIS	Education Management Information Systems
ESR	Education System Resilience
ESP	Education Sector Plan
GenAI	Generative Artificial Intelligence
GESI	Gender Equality and Social Inclusion
ICT	Information and Communication Technology
IDRC	International Development Research Centre
IIEP	UNESCO's International Institute for Education Planning
KII	Key Informant Interview
LGBTQI+	Umbrella term for lesbian, gay, bisexual, transgender and queer people
LMIC	Low- and middle-income countries
MENA	Middle East and Northern Africa
NFLS	Rwanda's National Foundational Learning Strategy
PPP	Public-Private Partnership
SFDRR	Sendai Framework for Disaster Risk Reduction
SOIF	School of International Futures
WASH	Water, Sanitation and Hygiene

1 INTRODUCTION

This scoping study working paper has been commissioned by the [Global Partnership for Education \(GPE\) Knowledge and Innovation Exchange \(KIX\)](#), a joint endeavour with Canada's International Development Research Centre (IDRC), to inform its new initiative on education system resilience in GPE partner countries. The paper presents the concept of education system resilience (ESR) as found in the literature and explores understandings and implementation of ESR within policies and plans for a selected group of GPE partner countries. The paper begins with an introduction to the topic, presentation of research questions, and a brief methodology. In the next section, the literature review summarises the broad range of conceptualisations of ESR as found in academic literature and in documentation primarily from international development stakeholders; that background provides a basis for a proposed emerging framework to capture the breadth and detail of what is understood as ESR. In the section that follows, we present data from ten GPE partner countries, including policy review and key informant interviews, which is mapped onto the emerging framework in order to explore how countries understand ESR and to examine the policies and practices in place for system strengthening, and as a way to anticipate, plan, and prevent and mitigate future crises. The paper concludes with a summary of key findings and potential areas for research based on the data collected.

2 BACKGROUND

The major disruption that the COVID-19 pandemic inflicted on societies globally revealed weaknesses in even the best-funded and most advanced education systems. Projections of future disruptions to education in the coming decades include climate change, armed conflict, and displacement. They also include new threats from technological advancements such as generative artificial intelligence (GenAI) and other potential unknown threats of the future.

As education systems recover from past or present shocks, it is clear that policymakers and stakeholders will need to look ahead to future challenges and build adaptability into various aspects of the education system to ensure continuity of learning and the well-being of learners. The term '**education system resilience**' is increasingly used to describe these intentional efforts to build strength into education systems to withstand and adapt to a widening range of disruptions.

2.1 Research questions

This scoping study aimed to identify how countries (a) understand education system resilience (ESR) and (b) ensure forms of ESR exist within their systems. It incorporates a literature review, policy document analysis, and key informant interviews (KIIs) across a sample of ten selected countries. The study was guided by the following four research questions:

- 1) How is education system resilience (ESR) understood in existing literature?
- 2) How is ESR understood and practiced across selected contexts?
- 3) What are the key gender equality and social inclusion (GESI) considerations within ESR?
- 4) What can and should be researched to better understand ESR and inform future planning activities?

2.2 Working definition of education system resilience

For this study, our broad definition for **education system resilience (ESR)** comes from a systematic review by Dülks et al. (2023) which focused on quantifying ESR, and which views it as ‘the capacity of an education system to absorb, resist, and adapt to disturbances while ensuring the continuity of its vital functions’ (p. 3). The term itself is broad, encompassing the many aspects of the education ecosystem, and it interacts with other forms of individual and community-level resilience. Rather than assuming that a system will return to the pre-crisis state of being, ESR involves ‘continuous adaptation and proactive anticipation of changing circumstances’ (ibid.). Importantly, it is not an ‘innate trait’ but rather a ‘process through which individuals and institutions overcome and transform significant risks to achieve positive outcomes that are scalable and sustainable’ (Kelcey et al., 2023, p. 1). However, as this paper goes on to demonstrate, understandings and uses of the term vary, and there is little global agreement around how to define the term, how to ensure resilience, what it looks like at different levels of a system, or how to effectively measure it.

3 METHODOLOGY

This scoping study comprised three methods: literature review, policy document analysis, and key informant interviews (KIIs). Data was collected from policy documents and KIIs in ten countries selected in collaboration with IDRC to represent a spectrum of potential challenges across the four GPE KIX regional hubs¹ (see Appendix 1 for more information on country selection criteria). Some informants were unavailable for interview, in which cases corresponding country policies were still included for analysis. In one case (Nicaragua), the informant returned information by written survey in lieu of an interview. The final sample is given in Table 1. A total of eight KIIs in seven countries were carried out, with two KIIs carried out in one country (Pakistan).

¹ See <https://www.gpekix.org/regional-hubs>

Table 1. Comparator countries and data collection

Country	Policy analysis	KIIs	Country	Policy analysis	KIIs
Cambodia	x	x	Nicaragua	x	Survey
El Salvador	x	x	Pakistan	x	x
Ethiopia	x	x	Rwanda	x	x
Grenada	x		Sierra Leone	x	x
Kyrgyz Republic	x	x	St. Vincent and the Grenadines	x	

The **literature review** included rapid identification and analysis of academic and grey literature published between 2019 and 2023, with some earlier seminal texts included as required. Given the breadth of the topic, we focused on understandings of policies and plans for an enabling environment for building resilience, with less emphasis on areas such as data and financing. Documents were identified from searches of academic databases as well as document repositories for grey literature from key international actors. An analytical framework was developed based on the findings of the literature review, and this was then applied to subsequent document analysis. **Policy documents** analysed were primarily English-language education sector policies, with some in Spanish. Supporting documents and related policies were reviewed, where beneficial.

Stakeholders within education planning departments from selected countries were identified via GPE focal points and contacted, with **key informant interviews** carried out via phone or online video call. We also conducted interviews with the GPE thematic leads for education in emergencies (EiE) and education technology (EdTech). Country informants were provided with a question list ahead of the interview and they responded to a brief online survey to highlight policies for Disaster Risk Reduction, Crisis-Sensitive Educational Planning, Climate Impacts, System Strengthening, Peacebuilding, and other areas of interest for each. Each interview lasted approximately 30 minutes and was carried out in English or Spanish, as required.

4 LITERATURE: UNDERSTANDING EDUCATION SYSTEM RESILIENCE

In this section, we examine how education system resilience (ESR) is understood in existing literature and the key gender equality and social inclusion (GESI) considerations within ESR, answering the first and third research questions that guided the study.

4.1 ESR – an emerging term and concept

The literature review showed that the term ‘education system resilience’ is not commonly used, nor is there clear agreement around a single concept, especially across international

development, education literature, and education policy and planning. Among the grey literature in the areas of international development, education, and education programming, neither the precise term nor its abbreviation is common. This is in contrast to the conceptually related term ‘crisis-sensitive educational planning’ (CSP), which is referenced broadly across international education and development materials, including in publications for GPE (e.g. MacEwen et al., 2022). The term ‘ESR’ was identified once among the academic literature (Dülks et al., 2023). Direct reference to the term and its abbreviation is also made by UNESCO’s International Institute for Education Planning (IIEP), which includes ‘education system resilience’ as an aspect of their mission.² The institute’s conceptualisation of ESR—as detailed on the website—includes crisis-sensitive educational planning, disaster risk reduction, and peacebuilding as strategies for increasing institutional resilience to conflict and disasters.

As a commonly agreed or used definition of ESR could not be identified, the review was broadened to examine **resilience** as well; however, we again found that this term also lacks consensus, as indicated by Kelcey et al. (2023). It has a wide range of definitions and uses across education: psychological research is concerned with individualised forms of resilience but there is increasing understanding of how individual aspects interact with broader social and system dynamics. As such, we examined the literature on three forms of resilience adjacent to ESR, namely individual resilience, resilience in education, and system resilience.

The concept of individual resilience predominates in education literature, particularly academic studies. This understanding draws primarily on the field of psychology and refers to one’s ability to cope with and recover from adversity (e.g. Fletcher & Sarkar, 2013). Here, resilience is framed as an individual characteristic, capability, or personality trait that can or should be fostered by educational practices. Some emphasise the importance of promoting the individual resilience of children and young people, with the evidence showing that children’s resilience and ability to adapt are impacted by various factors, including age, gender, and exposure to past crises (Kelcey et al., 2023). Similarly, children who experience crises, high risk, such as increased poverty, food insecurity, or forms of conflict and violence, need greater support mechanisms (e.g. Masten, 2021).

The understanding of individual resilience has also broadened to include factors beyond the individual, connecting individual resilience into a **system-level understanding** (Kelcey et al., 2023). These broader approaches to defining resilience implicate a wider array of system stakeholders including international actors, government officials, school leaders, and teachers. It places greater responsibility on these actors to ensure that children have access to the resources and support needed to develop their own resilience. Evidence suggests that effective resourcing for children’s resilience at the school level takes the form of support services for the most disadvantaged children, and safe school environments, where children can access material resources and enjoy positive relationships with teachers and other students (e.g.

² See <https://www.iiep.unesco.org/en/our-mission/education-system-resilience>

Ungar et al., 2019). Teacher resilience is addressed in relation to teacher well-being, burnout, and job satisfaction, where tools such as the Teacher Burnout Scale, the World Health Organization's Well-Being Index, and the Andrews and Withey Satisfaction Scale quantify aspects of resilience and have potential for guiding interventions (Kangas-Dick & O'Shaughnessy, 2020). This connected understanding is further supported by evidence from research on the impacts of the COVID-19 pandemic that suggests that support for children's mental health and well-being is a precondition for resilient education systems (Reimers, 2021).

4.2 System-level resilience in international development

Discussions of system resilience are particularly common in education for international development, where it is strongly related to education in emergencies, disaster relief and response, and climate change. Within international development, frameworks capture the 'spectrum' of system resilience and features of each, from those who can simply *adapt* to crisis, to systems which can fully *transform* to be crisis-resilient for future challenges. From our review, it is apparent that the existence of policies for Disaster Risk Reduction (DRR), Crisis-Sensitive Educational Planning (CSP), and Climate-Resilient Education (CRE) is often seen as evidence of ESR. Our analysis demonstrated both areas of coherence across understanding and frameworks for system-level resilience, and inconsistency in descriptions used across the sector.

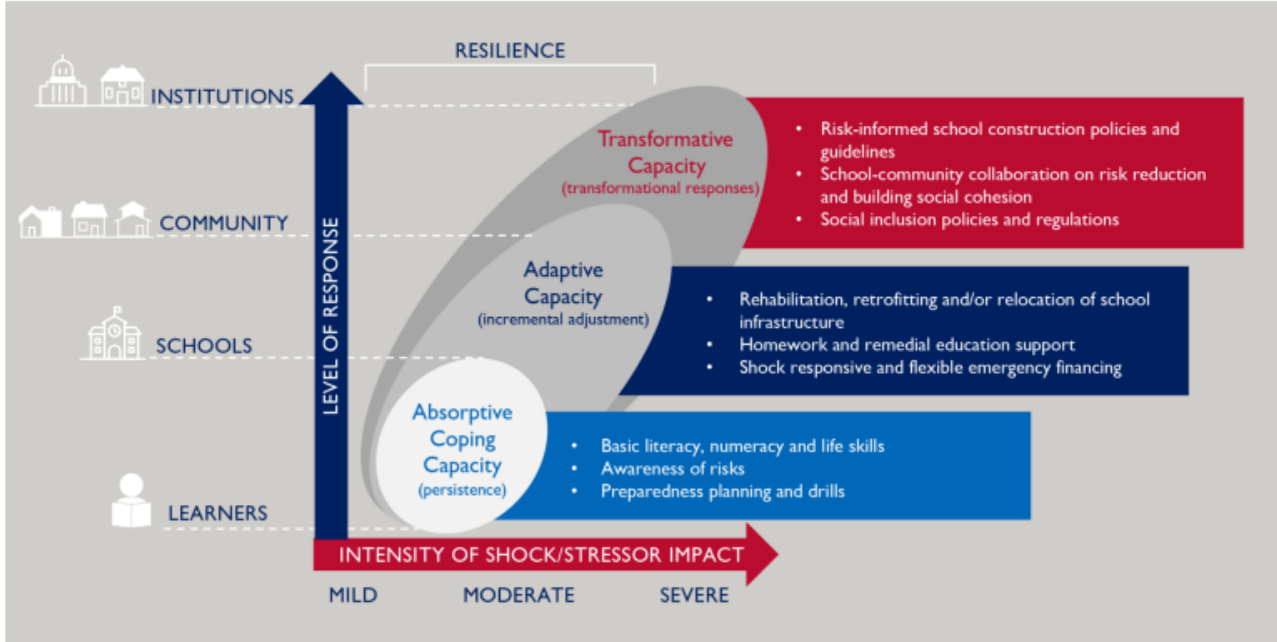
4.2.1 ESR in international development

There is a wealth of literature on concepts related to ESR within the sector dedicated to international development and education. Our review identified that discussions often centre around definitions for resilience, the inputs needed for resilience, the ongoing efforts of individual nations, and existing international frameworks and guidelines. Most of these discussions take place in the context of **education in emergencies (EiE)** and, to some extent, **climate change**. The literature on EiE highlights the role of **planning** in ensuring 'resilient systems' during and after crisis (e.g. Alieva & Nechitailo, 2023; Tarricone et al., 2021). For climate change and education, the literature designates system resilience as 'the dominant lens' for understanding the scale of the impacts of climate change on global education systems (Kelcey et al., 2023, p. 7). This framing also highlights the short-term risks (single or repeated events) and long-term (ongoing) risks it presents. This conceptual growth suggests that the international development agenda may be a key driver of the development of ESR as a term and concept.

From our review, we found that there is not yet sector agreement around the term ESR, but there is a particular model for understanding and categorising a country's 'resilience capacity' that has traction within the development and crisis management literature. USAID's (2020) resilience spectrum outlines three levels of resilience capacity that a country can demonstrate through their efforts in crisis preparation, social supports, and governance (see Figure 1). Most basically, systems with an **absorbative coping capacity** are risk-aware and have strategies to deal with

mild and moderate shocks or stressors and ensure that damage is minimised or prevented. To ensure medium- and longer-term development and recovery from crisis, more intensive **adaptive capacities** are needed as well, where focus is on addressing the needs of the most vulnerable while also ensuring learning continuity and rehabilitation during and after a crisis (Kelcey et al., 2023). Finally, **transformative capacities** encompass absorptive and adaptive approaches, but they go beyond to ensure systemic change and specifically address the systemic inequalities that increase the vulnerability of marginalised groups within crisis situations.³

Figure 1. Resilience Spectrum as presented by USAID (2020, p. 1)



Using this spectrum for comparative analysis, Shah (2019) examined literature from key stakeholders in the area of education and international development⁴ and identified some common recognition of these resilience-related capacities but also found inconsistencies. Stakeholder definitions of system resilience focus primarily on absorptive and adaptive capacities, with transformative capacities referenced rarely. Explicit references to *transformation* appear for just two agencies, perhaps demonstrating that most development

³ Importantly, this framework analyses different levels of response, with activities and practices specified for learners, schools, communities, and institutions. This mapping again indicates the wide breadth of resilience, how it may look different at each of these levels, and how it can involve both bottom-up and top-down processes. For our study, we have chosen to examine the top-down processes of policy and planning to narrow the scope, but we acknowledge the importance of bottom-up resilience activities, especially in fragile states which lack robust systems for planning.

⁴ INEE, UNESCO IIEP, Girls’ Education Challenge, UNICEF, World Bank, OCED, European Commission, DfID, and UN OCHA; see Shah (2019).

actors are more strongly focused on shorter term, moderate crisis response and recovery, rather than the more extensive social, economic, and national overhaul required for transformational resilience capacities.

4.2.2 Planning for – or planning as – resilience

For all countries across the resilience spectrum—those with absorbative, adaptive, or transformative capabilities—a defining feature to determine resilience is the presence of effective, crisis-aware planning. Indeed, the presence of certain policy types or content is an indicator used by the Global Partnership for Education (GPE) to assess a country’s potential education system resilience. Several forms of planning are captured in GPE’s internal Resilience Repository, namely risk analysis, strategies for DRR or EiE, strategies for climate change within the education sector policy, and the presence of separate policies for education and DRR and/or EiE, and education and climate change. When analysed by country income,⁵ it appears that low-income countries have a higher instance of risk analysis, DRR/EiE planning, and climate change strategies when compared with lower-middle income country contexts (see Table 2).

Table 2. GPE Resilience Repository: Examining country income level

Country	# of countries	Some form of risk analysis	Some form of DRR/EiE plans	Some form of climate change strategies
Low income	17	12 (71%)	12 (71%)	5 (29%)
Lower-middle income	20	8 (40%)	8 (40%)	3 (15%)
Upper-middle income	3	2	2	1
High income	1	0	1	0

Reference to these three policy areas—Disaster Risk Reduction, Crisis-Sensitive Educational Planning, and Climate-Resilient Education—appear across the literature as key areas for identifying the extent to which education planners are planning for resilience, or to which policies might support education system resilience.

- **Disaster Risk Reduction (DRR).** The 2015 Sendai Framework for Disaster Risk Reduction (SFDRR) provides a policy structure which guides DRR activities, policies, and strategies across the world. The SFDRR defines DRR as the concept and practice of reducing the risk of disasters through systematic efforts to anticipate, analyse, plan, and manage causal factors (UNISDR, 2016). Similarly, for UNESCO (2011), DRR requires systematic analysis of—

⁵ According to 2024 classifications from the World Bank; see <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>

and attempts to reduce—disaster or conflict—related risks, to enable the education system to provide quality education for all, before, during, and after emergencies, thus allowing learners to continue their studies and out-of-school children and youth to access education throughout such periods. In our review, we did not identify any standardised education-system-specific tools available to support risk identification or monitoring ahead of DRR strategizing.

- **Crisis-Sensitive Educational Planning (CSP).** UNESCO⁶ defines crisis-sensitive educational planning as that which entails ‘identifying and analysing the risks to education posed by conflict and natural hazards’. This involves examining how risks can impact an education system and what actions can be taken to reduce those impacts, with the overall purpose of ensuring ongoing education delivery and guaranteeing that planning and procedures are in place to address future shocks (ibid.). Crisis-sensitive educational planning covers conflict, disaster, and climate change prevention and mitigation, and supporting education for displaced populations. A key area which IIEP-UNESCO focuses on is costed frameworks, to ensure that countries have the budget and practical resources in place to implement their policies. CSP can encompass adaptation measures such as building climate-resilient schools and developing contingency plans, as well as mitigation measures like integrating climate change into school curricula and ensuring that teachers receive relevant training (MacEwen et al., 2022).
- **Climate-Resilient Education (CRE).** Climate-resilient education, or education for climate resilience, refers to planning focused on adaptation and mitigation strategies for a changing climate. This includes developing resilience at an individual or community level through teaching certain skills (e.g. environmental or agricultural, and forms of ‘education for sustainable development’) and in the ‘greening’ of schools, improving local food production, institutional processes for recycling and sustainable waste management, and access to clean water, sanitation, and hygiene (WASH), and sources of clean energy and biofuel (UNESCO, 2021). CRE can also refer to long-term changes to/development of education infrastructure or systems suitable for a changed climate. Climate-resilient schools are ‘planned, designed, built, and operated in a way that anticipates, prepares for, and adapts to changing climate conditions’ (OECD, 2018, p. 4), ensuring that school buildings can be insulated against high temperatures, that they include passive heating and cooling systems, and that they can withstand high winds and heavy storm activity without interruption to learning. Broader infrastructure, such as

⁶ See <https://www.iiep.unesco.org/en/our-expertise/crisis-sensitive-educational-planning>

roads and paths to and from the school, and pipes, electrical, and data cables, also needs to be protected.

4.3 Gender equality and social inclusion (GESI) within ESR

The literature demonstrates that during times of crisis, marginalised groups, including women, girls, people with disabilities, and other groups who are marginalised within certain contexts, such as LGBTQI+ people, suffer disproportionate harms. Thus, within the forms of planning mentioned in 4.2, attention to gender and social inclusion is crucial, but those groups are often under-represented in planning processes and within subsequent policies.

Any presentation of ESR must include discussion of issues related to gender equality and social inclusion (GESI): an education system which is not equitable and inclusive cannot be resilient when only the most privileged can access education and learn. Outside of crisis, many education systems remain unequal and exclusive, and this is an issue which requires ongoing engagement. However, as acknowledged in SFDRR 2015–2030, marginalised groups, including women, children, and people in vulnerable situations, are disproportionately affected by disasters (UNDRR, 2015). Despite this, women, those with disabilities, and other vulnerable populations are often invisible in DRR planning, or existing targets and indicators under-emphasise their needs (Zaidi & Fordham, 2021).

In particular, women and girls face increased harm and vulnerabilities in disaster situations. Women have more limited capacities in withstanding and recovering from disasters when compared with men, for multiple reasons, as highlighted by UN Women (2023): they often suffer larger losses, especially when dependent on agriculture for survival in disaster-prone areas, they often experience unequal access to social, economic, and political resources, and they face heightened incidences of sexual and gender-based violence.

The FCDO's (2022) recent position paper highlights the links between climate change and girls' education, similarly indicating the disproportionate effect that crises have on girls and other marginalised groups within low- and middle-income country (LMIC) contexts. The paper highlights a series of grim realities for GESI: girls are more likely to die due to extreme weather; climate shocks negatively affect the poorest, including children with disabilities when the household income is being spent on survival rather than education; and climate change exacerbates existing inequalities in access to education. Key benefits of education on climate change include reduced vulnerability to disasters, increased resilience and adaptive capacity, empowerment and leadership, and reduced inequalities (p. 12). However, as highlighted by UNESCO (2023), the most marginalised groups within education may not always be girls: in many contexts, boys are falling behind, and so contextualisation should be at the centre of ESR initiatives.

In terms of disability, UNESCO (2023) notes that disability 'remains a critical yet under-discussed component of effective policy design and resource allocation' (p. 35). One major challenge across all of education is around data collection to understand the needs of children with

disabilities: data collected is often unreliable, lacks disaggregation, and includes only a limited range of disabilities for reporting. The challenges of collecting data on children with disabilities interact with existing challenges on collecting data in emergency settings (Arnott et al., 2023; Rodriguez, 2023). Further, in disaster scenarios, special attention is needed to ensure that disaster relief planning attends to the needs of people with disabilities. The International Disability Alliance (IDA, 2022) indicates that they are ‘too often excluded from preparedness activities, and invisible when it comes to community and risk mapping or evacuation planning’ (p. 4). Those with impaired mobility may be unable to access support ‘as a consequence of environmental, institutional and attitudinal barriers they may face’ (ibid.). With the onset of the COVID-19 pandemic, resources quickly developed to support continued learning were often not accessible or tailored to children with disabilities (World Bank, 2020).

Finally, issues of rurality are also important in considering who is marginalised in crisis settings. As highlighted in recent research in Turkana, Kenya (Amenya & Fitzpatrick, 2022), rural communities, with limited social services and infrastructure, can suffer serious impacts due to climate change, natural disasters, and other crises. The distance to school can create a push factor for families who seek to protect their children from violence or harsh environments, and those areas can have limited access to technological devices and connectivity when existing education options close.

Despite increasing political will for improving GESI during crisis, a number of constraints remain that prevent commitment being translated into action (AMCDRR, 2018). Policymakers and programming staff lack understanding and awareness of the needs of marginalised populations, leading to gaps in policy and implementation. As noted above, data may lack disaggregation, which is necessary to properly report on marginalised groups; gaps in policies, a lack of financial support, and ‘ineffectiveness and coordination of institutional mechanisms’ (p. 7) all impact the experience of marginalised groups during crisis periods. It is also noted in the AMCDRR progress review on GESI that too much focus is placed upon supporting women during and after disasters rather than empowering them and strengthening their individual resilience, and that current interventions fail to address structural issues or the root causes of inequality (ibid). For suggestions from the literature in how to enable GESI considerations within ESR policy, see Appendix 2.

4.4 Emerging framework for defining ESR

The mapping of the many different aspects of resilience and system resilience within the literature review allowed for development of an emerging analytical framework. The framework presents five strategic components or actions for resilience: Strengthen, Anticipate, Plan, Respond and Recover, and Prevent and Mitigate. Some already familiar concepts are included (EIE, DRR, CSP, CSE) demonstrating an ongoing focus in ESR on crisis and fragility. The framework presented in this section is then used for analysis of policy documents and interview data presented in the next section and identifies specific examples of practice and planning within each component.

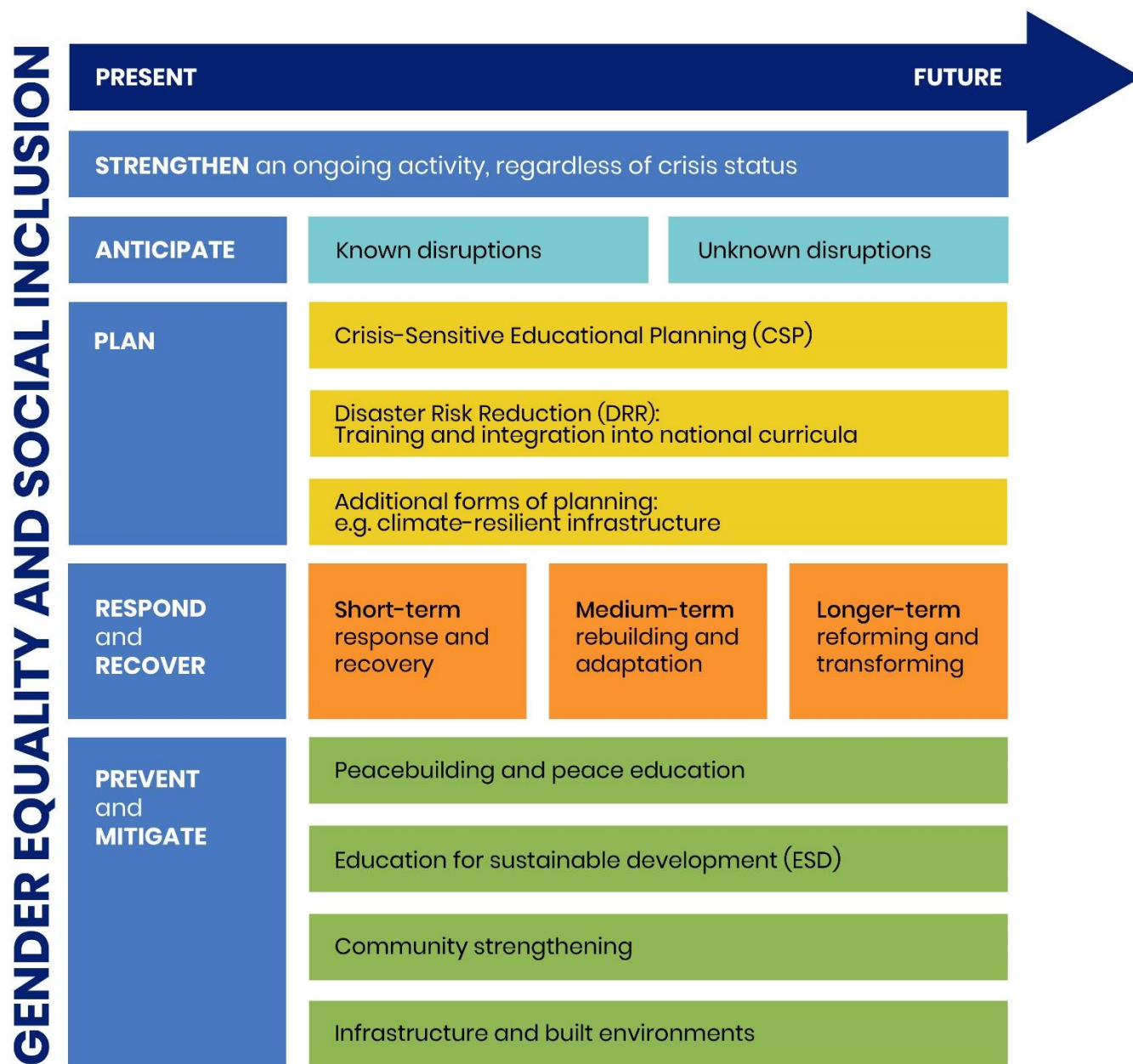
It is important to note that there are some limitations to the framework. For instance, there is a degree of overlap between components, which reflects the complexity of the underlying concepts and literature used to construct it and indicates that ESR is in the stages of early emergence.

The framework (Figure 2) incorporates and organises many of the concepts outlined above, including system resilience **capacities**, particularly influenced by the work of Tarricone et al. (2021) and USAID (2020), and **policy areas/indicators** for education system resilience, demonstrated in GPE's Resilience Repository. It is important to underscore that this framework focuses on **policies and plans** and it does not consider bottom-up resilience activities, such as those carried out amongst learners, schools, and other educational institutions, and within local communities as captured within the USAID (2020) framework. It also does not engage with enabling environments for resilience, or aspects of teaching and learning.

From policies and plans, our framework includes five strategic components or actions for resilience, which include multiple forms of planning, approaches, and activities, with overlaps in between. Attention to GESI issues crosscuts all aspects of the framework: marginalised groups need to be engaged in all activities related to the indicators, both in authorship of policies and in the attention and focus of those policies. We consider this to be an emerging framework, as it has been developed through the course of this research, and, due to the confines of the study itself, it is likely not comprehensive. It is important to note the overlaps and interdependencies between these components: planning activities, such as those for DRR, for example, often include medium-term response activities within Respond and Recover, and they may also impact built environments as a component of Prevent and Mitigate. Likewise, the presence of ethnic conflict connects to both Prevent efforts—in the creation of peacebuilding programming—and in medium- and longer-term Response and Recovery activities. As such, many aspects of resilience sit across multiple categories within this proposed framework. The purpose of the framework is not to identify each policy or practice as one of the components, but to demonstrate the different *actions* that each may involve in strengthening systems and anticipating, planning for, responding to, recovering from, preventing, and mitigating crises.

Further, these activities are not necessarily linear, in moving from the current day into the distant future, and many processes need to be cyclical; for example, the EiE Policy Monitoring Framework for Building Resilient Education Systems (Tarricone et al., 2021) features recovery, preparedness, and response activities within a feedback loop, so that the system facilitates continued learning, adaption, and improvement with each crisis.

Figure 2. Emerging framework to conceptualise ESR



First of all, **strengthening** involves addressing present-day vulnerabilities and ongoing efforts to build reliable, flexible systems for quality education, regardless of emergency status. This component reflects forms of system strengthening. Definitions of system strengthening like resilience vary and can include aspects as diverse as planning for EiE, collaboration and coordination, communication, information and communication technology (ICT) infrastructure, school buildings and protocols, and monitoring (Tarricone et al., 2021). GPE's stated approach to

system *transformation*⁷ includes school-level, middle-tier, and system-level activities, from student support and parent engagement to supervision and support of schools to financing, supervision and support to schools, quality teaching, curriculum and assessments, data, planning, monitoring, accountability, and governance and management. Other understandings of system strengthening look to what the system is capable of: for instance, setting clear goals and reform strategies, driving delivery, and creating an improvement culture (USAID, 2022, p. 11). Ostensibly, any effective approach to system strengthening could encompass other aspects listed within our framework: effective financing and planning would ensure that the system can pivot in times of crisis, for example.

Second, **anticipation** is strongly linked with planning. There is a temporal element to ESR: systems must have policies, procedures, and contingencies in place to address immediate and 'known' emergency situations and disruptions that are unfolding in the present day. But anticipating can include predicting what disruptions will occur in the near and further future from drawing on previous experience and strategic efforts to look ahead (e.g. 'foresight'; see Appendix 3) to anticipating future 'unknowns'—particularly those regarding shifts in technology and knowledge—to actively look ahead to changes and developments. A key location for anticipating risks is within the national education sector plans (ESPs), which broadly indicate how each system will be strengthened, improved, and sustained. GPE and UNESCO (2015) call for ESPs to be context-sensitive, evidence-based, and attentive to disparities, especially gender differences.

Third, **planning**, as an aspect of the framework, is often synonymous with 'policymaking': this area includes all efforts to document strategic objectives, to codify rights and responsibilities, and to propose a course of action. In ESPs, national governments can lay out plans for system strengthening, anticipate risk, and provide a structure for response when disasters occur (GPE & UNESCO, 2015). The addition of DRR, CSP, and CRE ensure that there is planning for times of emergency and crisis, and the most effective preparedness ensures that all actors, from national ministries to relevant development partners, have agreed-upon 'documented plans that detail what actions should be taken during and after education emergencies' with each actor producing 'similar guides' to ensure alignment for schools, local authorities, and others (Tarricone et al., 2021, p. 21). Plans can structure efforts to respond to and recover from crises, and they can encapsulate efforts to prevent and mitigate future crises through peace education, education for sustainable development, and other curricular and programming approaches.

When an emergency does occur, planning and processes move into action so a system can **respond and recover**. This component involves the short-, medium-, and long-term activities related to addressing current crises and immediate disruptions, with existing planning put into action, and so efforts will look different according to each context: depending on the severity of

⁷ See <https://www.globalpartnership.org/what-we-do/how-we-work>

the disruption, emphasis may be on ensuring that learners have some access to learning, as seen during the COVID-19 pandemic. In other situations, it may involve modifying curriculum or reducing certain subject hours to focus on foundational skills. Cycles of recovery may see the introduction of new policy to address future crises, built out of the learning from current challenges, or they may encourage the creation of peacebuilding or sustainable education initiatives as forms of prevention and mitigation. Procedures or priorities for system strengthening can also grow out of response and recovery activities, as vulnerabilities in the system are uncovered during crisis.

Finally, across the literature for ESR, the need for strategies to **prevent** future crises or **mitigate** the impacts of ongoing crises are well highlighted. These two approaches serve to reduce the likelihood of disruptions through ongoing efforts to improve community relationships, improve infrastructure, and ensure knowledge/readiness amongst learners. There are strong overlaps between strengthening, planning, and responding and recovering activities, ensuring teacher professional development, child protection policies, psychosocial support, school safety, training in risks and preparedness, and improving attitudes toward conflict and peace (USAID, 2020). For this paper, we reduced the focus for this area to curricular and programming, namely:

- **Peace education**, education for peacebuilding, and forms of conflict-sensitive education, can be valuable tools for social transformation in post-conflict societies when they are well-designed, attentive to context, and inclusive (Novelli & Smith, 2011).
- Education for **sustainable development and climate change**, where learners acquire understanding of 'sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development' (UN, 2015, p. 19) has been posited for educating children about and working to address climate change.
- The integration of **EiE and DRR topics into formal curricula** can ensure that learners know how to respond to emergencies, with topics focused on issues like ensuring safe WASH during natural disasters (Cameron et al., 2024).

4.5 Section conclusion

This section has presented the wide array of understandings of ESR evident in the literature and has proposed a framework for ESR which delineates and synthesises key concepts throughout the review. In the next section, we present the data from KIs and country-focused materials (policies, supporting documents). The emerging framework is applied as a tool for data analysis to categorise and compare the responses and data from GPE comparator countries.

5 ESR IN COMPARATOR COUNTRIES

This section builds on the findings of the literature review to present concrete examples of how GPE partner countries understand, conceptualise, and plan for ESR. It presents the country-level data on ESR gleaned from our desk-based research and KIs to address the second research question that guided the study. Our emerging framework presented in the previous section provided a structure for our analysis and allowed for a more consistent identification of evidence of ESR across different countries and languages, and across the research team itself. It should be noted that as the framework is still emerging, it did not allow for development of a rubric or more rigorous assessment tool, and instead it provides a general structure for categorising, analysing, and presenting data within this section. As highlighted in Section 3, each component of the framework corresponds to a wide range of activities occurring at multiple levels in the system, particularly those in the strengthen, respond, and recover continuum.

In the sub-sections that follow, we begin each with a brief summary of the findings presented, which is followed by more extensive presentation of the data. Starting in Section 5.1, we use the data to investigate how ESR is **understood** in comparator countries, and then, in Section 5.2, we elaborate on how ESR is practiced (5.2). There, ESR practice is highlighted via four components from our ESR framework: **strengthen, anticipate, plan, and prevent and mitigate**.

5.1 How do comparator countries understand resilience?

Within this sub-section, we demonstrate that how countries are currently defining and understanding education system resilience reflects the understanding in the literature. Language in education sector policy documents to some degree mirrors the literature base: many authors do not make direct reference to resilience, and some reference individual-level resilience of children and young people, while others reference resilience in separate DRR or other multi-sector plans. The COVID-19 pandemic was consistently identified as a turning point in building planners' awareness of ESR and understanding continues to evolve, sometimes through practice in a specific area (e.g. EiE). Interviews also confirmed that ESR is generally an unfamiliar concept, though informants identified a wide range of measures they considered key to building resilience into countries' education systems, whether currently in place or lacking and required. These most often related to crises and emergencies, particularly natural disasters and conflict.

Identification of gaps in planning and barriers to resilience also helped shape interviewees' understanding of ESR. The structure of donor funding was identified as a specific barrier for building ESR, and financing was generally an issue. Crises such as natural disasters represent a direct problem for the financing of resilience-building as they eat into education budgets. Other gaps include provision for recovery from recent crises such as conflict, or future crises such as

natural disasters, and failure to effectively and equitably harness the power of technology, even where it was employed during the COVID-19 pandemic.

5.1.1 An emerging understanding of resilience, with emphasis on crisis

Similar to in the literature review, there is evidence from our second-stage analysis that the concept of ‘resilience’ has emerged in recent years and impacts how crisis planning is undertaken, with the emergence of COVID-19 representing a key turning point in building interest and understanding around ESR. Many pre-COVID policies may reference resilience but do not reference a particular definition, or they make limited connections between education and resilience. For example, El Salvador’s 2019–2024 ESP (Gobierno de El Salvador, 2019) outlines risks from climate change and violence but does not mention resilience. Nicaragua’s wider multi-sector plan (Gobierno de Reconciliación y Unidad Nacional & Todos los derechos Reservados, 2021), which contains an ESP, references resilience in relation to communities and natural disasters or climate change, but not in relation to education. When prompted to consider resilience, the Ministry of Education indicated its comprehensive range of materials on Disaster Risk Reduction for schools (MINED, 2013). Similarly, Grenada’s national development plan makes extensive reference to ‘resilient communities’ and even ‘youth resilience’ but does not explicitly map the connections to education plans (National Plan Secretariat, 2019).

KIs confirmed that understandings of resilience are still **developing and evolving**. In Cambodia, an informant indicated that ‘resilience is a new word, and since COVID-19, there is more thinking about it.’ There, pre-COVID plans were available for education in emergencies. This is mirrored in Rwanda’s risk mapping, which focused on the risk exposure of education infrastructure, rather than on aspects of teaching and learning in schools (MIDMAR, 2015). In Pakistan, an informant commented on the shift in thinking around resilience and emergencies in recent years. Prior to 2010, the provision of emergency learning centres was ‘not thought of,’ with an understanding that ‘schools need to be closed off and it will continue after the crisis is over.’ During periods of flooding in the past decade, thinking has shifted to ensure provision of education continuity during emergency periods and, since the onset of the COVID-19 pandemic, emphasis shifted more narrowly onto learning to ensure continuity. Across contexts, the emphasis on **crisis situations** was clearly highlighted throughout.

5.1.2 Barriers to resilience

In defining resilience, several informants described the challenges related to consistent and comprehensive education financing, systemic access issues, and technological capabilities as key barriers to ESR within their contexts. Without prompting, the issue of financing was referenced in multiple contexts, especially in how **financing** structures can define and limit the resilience of the education system. In Sierra Leone, ‘60 to 70%’ of the budget comes from donor funding, and ‘this dependence determines how sustainable some of our interventions will be.’ Likewise, the informant from the Kyrgyz Republic labelled donor dependence as a ‘systemic resilience issue.’ In both contexts, donor priorities may not align with national strategic

objectives, or they may change over time, undercutting efforts for longer-term planning. As the informant from the Kyrgyz Republic highlighted, 'Donors come and go, or there's a mission drift or strategy drift within the donor community. And so, you know, sometimes money is available, sometimes it's not available.' There, while more money has become available, a 40% shortfall means there is not enough to achieve strategic objectives, and donors may 'subscribe' to initiatives such as multilingual education, for example, 'but they do not necessarily commit the funds.'

Another finance issue—the ongoing economic crisis—has decreased the money available for education in Pakistan, while emergencies and crises have significantly increased the funding required. Natural disasters present a similar and sudden drain on education budgets in the Eastern Caribbean region (OECS, 2012), and climate change a long-term risk (National Plan Secretariat, 2019). Ongoing emergencies also continue to strain education budgets in Sierra Leone, where the government has not been able to set aside funds to cover emergencies when they occur. In Ethiopia, ongoing community mobilisation is needed to supplement national education financing. Indeed, throughout our data, the issues of financing, donor dependence, and donor preferences impact not only how resilient a system is, but also what plans and programmes are implemented toward improvement of resilience.

Other systemic challenges were highlighted as barriers to resilience, shedding light on how countries understand the concept itself. In Ethiopia, recent and ongoing violent conflicts have seen the destruction of many schools, leaving thousands more children **out of school**. Educational quality persists as a challenge outside of conflict zones, with the informant noting that there are 'close to 85% schools below standard.' High dropout rates and large numbers of out-of-school children were also highlighted for Rwanda and Pakistan. In Punjab province, an estimated 5.4–7 million children are out of school, and an estimated 100,000 more teachers are needed. In Ethiopia and Rwanda, children who are enrolled are not necessarily learning, an issue highlighted by informants from each country.

Additionally, a key gap for several countries was around **technology and remote learning capabilities**, as revealed during the COVID-19 crisis. In the Kyrgyz Republic, the respondent noted that while the education ministry was effective in reaching out to donors, mobilising resources, and being flexible, the reaction was 'ad-hoc' and relied on donors to fund, capacitate, and produce content for remote learning schemes. Equity concerns in access to distance learning technology were highlighted for Ethiopia and Sierra Leone, especially in remote and/or conflict-affected regions. Investments are needed for devices, infrastructure connectivity, and teacher training and school capacity building to ensure proper use of new platforms.

5.2 How do comparator countries practice ESR?

In this section, we present data which demonstrates some of the many activities that comparator countries are undertaking to improve ESR within their context. These activities are

highlighted within four components of our emerging ESR framework: **strengthen** (5.2.1), **anticipate** (5.2.2), **plan** (5.2.3), and **prevent and mitigate** (5.2.4).

Table 3 below provides a summary of findings for each component, which is followed by an exploration of each area in more depth with country-specific examples.

Table 3. ESR framework components and summary of findings from the sub-sections

Component	Focus	Summary of findings
Strengthen: Ongoing efforts to improve systems overall	We highlight the intrinsic connection between resilience and the overall strength of an education system	All countries identified distinct strategies included in education plans to address existing systemic weaknesses. These fell into the following categories: (1) Improving overall outcomes; (2) Modernisation of the curriculum; (3) Professionalisation of the workforce, at teacher and middle-tier level; (4) Improved data collection and data-informed planning; and (5) Increasing provision for specific populations.
Anticipate: Predicting future challenges	We highlight the efforts that comparator countries are taking to anticipate future crises and challenges	Countries take various approaches to identifying the risks and potential crises they need to plan for. Some are still guided primarily by a Disaster Risk Reduction approach, which focuses on natural disasters. Planning for future crises tends to be guided by past experiences or current crises, principally natural disasters, displacement, and conflict. Examples of predicting newer crises are largely based on either slow-moving trends (such as growing urban populations, or changing market demand for skills), or recent developments (such as AI). Thinking and planning around recent technological changes is still at the early stage as understanding of the risks and benefits develops.
Plan: Policies to build ESR at the national level	We highlight the presence and content of education sector plans (ESPs) and policies	Countries emphasise DRR and CSP approaches as the dominant approach to ESR planning, with a focus on planning for natural disasters, climate change, and conflict, using improved infrastructure. From the examples within the sub-section, there is only limited attention to GESI considerations within planning.

<p>Prevent and Mitigate: Peace, Sustainable development, and resilience</p>	<p>We highlight data on comparator country approaches to prevention and mitigation as an ESR strategy</p>	<p>Countries demonstrate ongoing reliance on DRR approaches to ensure disaster prevention and mitigation, but there is evidence of increasing inclusion of climate and sustainability issues within curricula. In specific contexts, there are linkages between ESR and programmes for peacebuilding, social cohesion, anti-violence education, and future adaptation.</p>
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5.2.1 Strengthen: Ongoing efforts to improve systems overall

Overall, country policies and key informants made reference to ongoing efforts to improve the overall functioning of their education systems. One area—improved outcomes as a form of system strengthening—was linked with ESR for several comparator countries. Policies focused on the importance of improving **learning outcomes** in El Salvador (Gobierno de El Salvador, 2019), Sierra Leone (Government of Sierra Leone, 2022), and Rwanda (MINEDUC, 2017). Other countries are focused on improved social outcomes, as with references to improved social cohesion and peacebuilding in Rwanda. The 2017–2024 National Strategy for Transformation (Republic of Rwanda, 2017) focuses on improving national and individual resilience by eradicating malnutrition and ensuring access to quality health and education. The informant linked individual welfare with education conditions, noting the need not only for ‘access to quality teaching and learning, [but also] electricity, water, ICT, etc.’ Likewise, in Ethiopia, the recent ESP (Federal Ministry of Education, 2021) has strengthened the school feeding program in the regions that are frequently affected by drought and food insecurity.

Several countries identified **curricular modernisation** to meet evolving needs as a pro-resilience measure to ensure curricula are aligned with national and 21st-century needs. In Sierra Leone, the revision includes insertion of subjects relevant to the labour market needs such as critical thinking, coding, and reading comprehension, along with ‘competitive subjects’ such as robotics. An informant from Rwanda pointed to forthcoming policy for implementing an evidence-aligned foundational skills curriculum and provision of effective teaching and learning materials in sufficient volume to all teachers and learners. Further, in the Kyrgyz Republic, national prioritisation of multilingualism is a proposed mechanism to ensure social cohesion and resilience, as discussed later.

Improvements in the education system through **professionalisation of the workforce** were referenced as forms of system strengthening. Some measures were identified to improve capacity of middle-tier education officials (as in Cambodia), but many others focused on improving the working conditions and preparedness of teachers. In the Kyrgyz Republic, an informant pointed to recent salary increases for teachers, where those who worked ‘just for food’ a few years ago were now much better paid: ‘that contributes to the resilience and sustainability of the system as a whole.’ Especially in rural regions, teaching is a much more attractive profession. Likewise, policies in El Salvador (Gobierno de El Salvador, 2019) and

Rwanda⁸ suggest some commitment to overall system strengthening through improving teacher conditions, training, and management.

In El Salvador, Ethiopia, and Sierra Leone, **improved data reporting** provides another sign of system strengthening. El Salvador's ESP (Gobierno de El Salvador, 2019) calls for improved technology and data for system management, and in Sierra Leone, an Education Management Information System (EMIS) rebuild incorporates the real-time capture of data, especially on emerging crisis situations, such as disease outbreaks, climate change disasters, storms, and fire incidents, among others. Some informants described how better data collection supports stronger education planning, which identifies areas for focus, improvement, and resource-targeting. In Ethiopia, improved and more consistent education statistics are supporting education planning. In the Kyrgyz Republic, the development of **strategies and policies** with better alignment of purpose across the system ensures that stakeholders 'actually understand what needs to be done and what resources are lacking to achieve the objectives that have been set forth.' The importance of ESPs was highlighted for both Ethiopia and Rwanda. In Rwanda, the current Education Sector Strategic Plan 2018–2024 (MINEDUC, 2017) acts as a 'main compass directing the education sector,' as noted by the informant. It serves as an important tool for aligning donors and development partners with government strategy.

Finally, some informants pointed to ongoing efforts to **increase access to education for specific populations** as a key system-strengthening strategy. The population targeted varied by country. In Pakistan's Punjab province, a participant commented on efforts to increase non-formal schooling options, double shifting at existing schools, and the increased recruitment and training of teachers. He also commented on the increased use of public-private partnership (PPP) models, where private schools have partnered with the government to provide education, which will likely reach 10 million out-of-school children. In Rwanda, increased school feeding via school-based kitchens and gardens is among the social measures which have improved dropouts among impoverished and rural families. El Salvador's ESP (Gobierno de El Salvador, 2019) includes a strong emphasis on addressing weaknesses in the current early childhood offer, which has since been further reinforced by law.

5.2.2 *Anticipate: Predicting future challenges*

Analysis of ESPs identified the range of risks and hazards detailed or predicted explicitly in policies or other forms of risk analysis, and KIIIs allowed informants to expand on additional risks considered. Data on risks explicitly referenced in ESPs showed that—where risk analysis is present—it draws largely on past experiences. In Ethiopia, analysis of contextual risks and hazards contained in the Education Sector Development Programme VI 2020–2025 (Federal Ministry of Education, 2021) largely draws on **past experiences of population displacement** due

⁸ Referenced by the informant as appearing in the forthcoming National Foundational Learning Strategy (NFLS) 2022–2028; the policy was not yet available for review at the time of writing, March 2024.

to internal conflict or influx of refugees from neighbouring countries affected by conflicts, as well as due to climate-induced disasters such as flooding, prolonged droughts, and subsequent famine. Sierra Leone's ESP 2022–2026 (Government of Sierra Leone, 2022) links internal conflicts to displaced populations, health emergencies, school-based sexual and gender-based violence, and famine. These examples demonstrate some attention to GESI, but overall, within policy and KIIs, there was limited reference to anticipating how future challenges would particularly impact marginalised populations.

Topographical propensity for natural disasters in certain regions shapes several countries' planning, particularly through DRR. In Rwanda, a 2023 conference on Disaster Risk Reduction and Management highlighted the multiple hazards that the country faces due to its topography, geographical location in a seismic zone, and climate vulnerability. Recommendations from the conference called for, among other things, improved inter-ministerial and inter-sectoral sharing of best practices, specifically including the Ministry of Education (MINEMA, 2023). Countries of the Latin America and Caribbean region (including Nicaragua, El Salvador, Grenada, and St. Vincent and the Grenadines) share similar vulnerabilities (e.g. earthquakes, hurricanes, floods); risk analysis and prediction of related needs, for example, building more resilient infrastructure, is extensive but primarily addressed in non-education-sector-specific policies. The informant from El Salvador nevertheless described how the country's new 'Map of Education' was supporting analysis of risks specific to schools in certain areas of the country, for example in the 'dry corridor', and in areas prone to flooding or close to volcanoes (Gobierno de El Salvador, 2019; USAID & ECCN, 2016).

Several key informants connected **ongoing crises and conflicts** to those that would **emerge in the future**. An informant from Ethiopia reflected on the ongoing internal conflict which is likely to be prolonged, thus posing challenges to the future stability of the education system. Previous destruction of schools, for example, will continue to impact resource constraints. The policy documents from El Salvador described how the government is monitoring possible changes in the migration crisis—closely linked to changing rates of violence in the country—through data on the intentions of young people to migrate out of the country.

However, some informants commented on challenges that moved beyond focus on disasters or crises and instead reflected **predicted future trends** based on incipient or growing risks. An informant from Cambodia identified urbanisation as a growing trend, as economic conditions are leading more people to move out of the countryside and into urban centres where children can be exposed to greater harm, including underage labour and schooling interruptions. In response, the system needs to provide flexible education options which address mobility and support learners, rather than expecting them to conform to existing schooling opportunities. Forthcoming policies on digital learning in Cambodia and El Salvador also demonstrate anticipated digitisation needs and 21st-century skills gaps. In Sierra Leone, policymakers are anticipating that ongoing challenges with a current 'learning crisis' will be protracted and continue for the next five to ten years, given the disparities apparent in the present.

Informants responded to questions on the **as yet unknown risks** presented by advanced technologies, including GenAI, but they were not yet concerned with its impact on basic education. In Cambodia, the Kyrgyz Republic, and Pakistan, informants noted that AI currently does not have much relevance for planning considerations within the general education sector. An informant from Pakistan noted that the curriculum still needs to stay up to date with technological advancements: 'AI is developing day by day – the proper use of AI and how it can be used effectively need to be incorporated in curriculum,' he noted. In the Kyrgyz Republic, GenAI has been confined to 'academic discussions.' In the same countries, however, it was noted that there are more basic needs in education relating to technology such as widespread internet access (El Salvador). Policymakers in El Salvador are discussing various risks and benefits of technology but note that the rate of change quickly outpaces their ability to plan and implement plans. Currently the country is focusing on the 'building blocks' of teachers' digital skills and knowledge, planning curriculum updates, and working to increase internet access for schools.

5.2.3 Plan: Policies to build ESR at the national level

Diverse forms of planning were linked with ESR in country policy documents and in discussions with informants. Overall, many policies and plans identified by both the research team and informants focused on Disaster Risk Reduction, particularly among countries affected by natural disasters (e.g. Latin America, Eastern Caribbean, Pakistan). However, in many cases, countries do not reference disaster preparedness within education plans or disaster preparation for schools is siloed to a separate entity responsible for DRR. This can cause gaps in planning or budgeting. In Cambodia, the 2019–2023 Education Sector Plan (MoEYS, 2019) calls for schools to use school improvement funds to make 'provisions for natural disaster management' (p. 101) but as noted by the informant, there does not appear to be a centralised plan for schools to follow or adapt (December 2023). Otherwise, within the plan, there are no references to crisis management or emergency planning. Both El Salvador and Nicaragua have separate DRR policies for schools, dating from 2006 (El Salvador) and 2013 (Nicaragua; see MINED, 2013). Schools in El Salvador are expected to draw up 'School Protection Plans' that detail both the specific risks the school faces and protocols, including how learning will continue. According to the informant, the Ministry has recommitted to strengthening schools' ability to review and update these plans systematically to ensure effectiveness.

In some cases, plans are currently in production: in the Kyrgyz Republic there are ongoing efforts to ensure disaster preparedness across all government sectors, but for education, they are not yet in place. Jointly with UNICEF and the Ministry for Emergency Situations, the Ministry of Education is devising a comprehensive joint action plan to ensure the readiness of education institutions in emergency situations, and they plan to adopt the INEE Minimum Standards (INEE, 2010) for education preparedness, response, and recovery.

Some plans for DRR are driven by reaction to sudden events, or not comprehensively formalised, and seem unlikely to build resilience in the longer term. In Rwanda, a Risk Management Policy

and Procedures document (MINEDUC, 2021) was produced to guide risk management, in order to minimise risks related to a wide range of threats including fraud, natural disasters, and political risks. This policy is seen as reactive rather than pro-active, as it was produced in response to the impact of COVID-19 and ‘lacked implementation strategy’. Instead of focusing on building system resilience through the system’s actors, it puts more emphasis on **managing funds and controlling value for money** (MINEMA, 2023).

Repeated references to **climate-resilient infrastructure** demonstrate the increasing importance of this area of policy for ensuring ESR. An informant from Sindh, Pakistan indicated that policies are now in place to require all new school buildings to be climate resilient as weather patterns change and temperatures increase. Buildings will thus be able withstand the severe heat days which will increase in the north of the province and should not be impacted by coastal erosion in the south. He emphasised that the chosen planning approach focuses on the construction of ‘climate-resilient and disaster-resilient structures.’ Investments from the Green Climate Fund and GPE are funding climate-resilient school construction in Cambodia which includes retrofitting existing schools (Green Climate Fund, 2023). In Sierra Leone, the ESP (Government of Sierra Leone, 2022) ensures that the approval process for the construction of new schools will include an environmental impact assessment and guarantees that schools will not be constructed in disaster-prone areas, and that learners and teachers will be relocated out of known disaster zones.

Data collection—a feature of system strengthening for resilience (see Section 3.4)—is also supporting DRR planning in the education sector. Sierra Leone’s recent ESP (Government of Sierra Leone, 2022) includes a focus on **data collection in disaster-prone areas**, which the informant described as a major step towards planning for and responding to future crises and disasters. The country has also published guidelines on school construction, which the informant attributed to increased attention to climate-resilient school infrastructure.

Across the policy and KII data, it does not appear that GESI is strongly centred in all ESR planning exercises. Within the DRR plans for Sindh province, brief reference is made to the needs of **girls and women** as specifically vulnerable groups: the guidelines call for the sites where schools are to be constructed to take into account ‘protection (safety and security) aspects especially for girl students and female teachers’ (Government of Sindh, 2019c, p. 18), and safety for both groups within building design, with ‘washrooms [constructed] in such a way that girls and female teachers feel no privacy issues’ (p. 20). The proposed adoption of the INEE Standards in the Kyrgyz Republic would include a commitment to **inclusion** of ‘any member of the affected community ... regardless of their age, gender, ethnicity, religion, sexual orientation, disability, HIV status or other factor.’⁹ In contrast, Sierra Leone’s ESP centres the needs of marginalised populations in disaster preparation: ‘Girls and the most vulnerable within communities are disproportionately impacted upon, who may not be able to continue their education because

⁹ See <https://inee.org/minimum-standards/standard-1#guidance-nid445-1>

they cannot access radio programming, as they may become pregnant, are at greater risk of violence and abuse, and lose access to school meals' (p. 41). Otherwise, the lack of attention to GESI needs demonstrates a serious gap in DRR and CSP for ESR.

5.2.4 Prevent and Mitigate: Peace, sustainable development, and resilience

Participants were asked to comment on policies, plans, and activities which serve to prevent and mitigate the impacts of crises and challenges, and their responses demonstrate a wide variety of understandings of what is understood as prevention or forms of mitigation. We found only limited evidence on the inclusion of DRR training within schools: for example, in Sierra Leone, the ESP (Government of Sierra Leone, 2022) calls for at least one staff member to be trained in first aid. However, this could relate to our focus on policy—rather than implementation—as discussed in the final section of this paper.

A common preventive strategy was the addition of **climate-resilient education** into national curricula. Climate education has been integrated across the curriculum in Ethiopia to reduce and mitigate risks of climate-induced disasters (Federal Ministry of Education, 2021). In Cambodia, in addition to promoting climate-resilient infrastructure, attention to climate change has been integrated into teacher training, textbooks, and learning materials. Sierra Leone's ESP (Government of Sierra Leone, 2022) also calls for the integration of climate and environmental education into the school curriculum, and the informant commented on the introduction of tree planting clubs in schools to instil environmental awareness. In Sindh province, Pakistan, an informant noted that climate and education for sustainability need to be better integrated into the curriculum. Within the provincial ESP (Government of Sindh, 2019b), textbook revision is presented as a key objective, which calls for the introduction of disaster risk awareness and management alongside 'nutrition concepts and practices, inclusive education and life skills, gender equality, cultural diversity and citizenship, [and] sustainable environment' (p. 113). However, for El Salvador's ESP (Gobierno de El Salvador, 2019), we noted the lack of reference to climate change education, despite it being mentioned as key risk in the document's brief risk analysis section.

Nicaragua's plans for education include some measures relating to mitigation of the effects of climate change, though within policy documents this is limited to focusing higher education on research to address climate-change-related needs. However, the launch of one programme, 'Resilient Schools' (Bermúdez, 2023), suggests that planning and programming—perhaps at a regional or more **local level**—is incorporating and testing strategies for increasing students' resilience to climate change. The programme aims to increase understanding of climate change, mechanisms for adaptation, and direct ways to carry out environmental monitoring and protection, such as measuring rainfall. It combines understanding the causes, taking action to minimise human impact on the environment, and helping the local community—which relies on agriculture—to adapt to the changing conditions. The programme focuses particularly on involving women and girls as leaders. It is notable that this programme has been implemented in regions in the 'dry corridor' of Nicaragua, which is increasingly affected by low rainfall and at

particular risk of climate change impacts. This suggests that regional planning and programming might offer further examples of learning and good practice in relation to ESR, particularly where education planning may be more devolved and subnational regions anticipate specific crises.

In the Kyrgyz Republic, the informant identified two preventative strategies based on fostering **social cohesion for resilience**: multilingual education and peacebuilding education. He noted the importance of education which aims to ensure social cohesion, and identified that this is strongly linked with resilience, especially in light of the 2010 outbreak of political and ethnic violence and the increasing division of society along religious, ethnic, regional, and linguistic lines. **Multilingual education**, referenced earlier, is one approach to 'bridge the gaps that get transmitted in society.' Examples of **peacebuilding education** were also cited in response to the 2010 events, with reference to social cohesion programmes through the Soros Foundation which were conducted in nearly 60 schools and trained school administrators and local communities on how to deal with crisis and conflict situations, especially on how to address issues that would arise in the school or community due to ethnic tensions. The programme also included training on dealing with school-based violence and bullying. He also referenced the extra-curricular programme called 'Going to School Together,' overseen by UNICEF, which focused on inter-ethnic social cohesion. At the national level, revisions were made to the formal history curriculum to look for potential 'flashpoints' where tensions could be exacerbated, and the existing presentation of events could divide the community.

Ethiopia has also moved to integrate **peace education** into the curriculum as part of the long-term strategy for promoting coherence and national reconciliation. The informant acknowledged that this is only one aspect of the 'long-term strategy for peace' and the government is also carrying out community consultation and reconciliation. He also noted that 'moral education and citizenship education [are] part of the long-term strategy of promoting coherence in the country.' Given the current ethnic tension, it is not known the extent to which these efforts include all minority groups within the country. In Sierra Leone, as reported by an informant, civic education has been introduced in the curriculum, with an emphasis on 'peace, election, good governance, and [similar topics]. In the long term, peace education will help the children learn about national values and the essence of peace.' El Salvador's ESP (Gobierno de El Salvador, 2019) alludes to the risk and effects of violence in the country; the main approach detailed in the policy for prevention of further violence is long term and focused on early years provision, though psychosocial support for students was mentioned during the interview.

Additional policies were identified in Ethiopia, where support to **refugee learners** was highlighted as an approach to prevention or mitigation. There, refugee education has been integrated into the national system, and efforts have been made to improve the quality and relevance of refugee education, as reported in the recent ESP (Federal Ministry of Education, 2021).

Finally, a focus on **future skills** was referenced as a form of ESR. For Cambodia, the informant highlighted the need for schooling which equips learners with 21st-century skills and ensures alignment between education and the job market. There, graduates are not able to find jobs, and so there is a need to ensure they are trained to acquire new skills, adapt, and demonstrate flexibility. System leaders, he noted, must be able to predict the skills required for the next five years. Thus, the current government is invested in improving technology for education: improvements to digital learning, ICT, and distance learning are seen as key for future system resilience, especially for the new government, with a forthcoming digital strategy and integration into the ESP.

5.3 Section conclusion

This section has provided data on the understanding of ESR in various country contexts, and the plans and activities undertaken to improve it. The application of components from our emerging ESR framework demonstrates that across the comparator countries, there are some planning practices in place that demonstrate an awareness of the need for ESR and some areas where it is harder for planners to address or identify relevant planning. We also noted that there is a strong focus on shorter-term planning: perhaps, as noted by participants, it is harder for donor-dependent and low-income systems to plan and finance long-term goals, especially in dealing with the impacts of COVID-19. ESR practices are thus growing out of more familiar areas—such as DRR—where there are international policy incentives and support. Education systems in some contexts may thus need more assistance with the less familiar aspects of ESR, such as anticipating risks, and in building a coherent, expansive understanding of ESR. Finally, we identified that overall, marginalised groups lack rigorous attention within policy, and issues related to GESI were not strongly referenced within the KIIs. In the section that follows, we present some key findings and potential research areas linked to each.

6 SUMMARY OF FINDINGS AND POTENTIAL RESEARCH GAPS

In this section, we bring together findings and potential research gaps to address the final question about potential research areas to better understand ESR and inform future planning activities. As we indicate in this paper, ESR is an expansive area for research. We did not conduct extensive research mappings of each element of ESR, such as system strengthening, DRR, or climate change education. Due to this, and because stakeholders themselves found it challenging to provide clear examples of ESR, needs were generally not clearly identified. Thus, the suggestions below have emerged from the data that we examined and include gaps suggested by key informants, including GPE thematic leads.

6.1 Current understanding of educational system resilience

As demonstrated by the literature and the data collected from KIIs and policy documents, there is no broad consensus on the meaning of ESR. Within the literature, resilience is often associated

with crisis, and specifically linked with the onset of natural disasters, violent conflict, or other serious shocks which impact the operations of education systems. Interest in resilience, as the term used to capture a broad range of potential challenges and responses, emerged in the response to the COVID-19 pandemic.

Even when able to provide a definition for resilience, key informants still struggled to provide concrete examples for what resilience 'looks like' or what it requires. Informants (and other metrics, including the data from the GPE Resilience Repository) often rely on the *existence* of policies to point to aspects of resilience. It is harder for them to comment on how policies are being implemented. In part, this could be due to the informant population targeted for this work, as we spoke with members of planning departments. However, as seen with the GPE Resilience Repository, policies provide a tangible 'touchstone' for reporting on plans or programmes.

Potential areas for further research include the following:

1. There is great diversity in what countries have available for DRR and CSP; for example, there are examples of **strategies, plans, and policies**. At the country level, research could investigate which tools are most useful for ensuring that staff are knowledgeable and able to act during crisis situations at the different levels of education. What does effective national policy look like? How often are policies and localised plans updated? What do schools need in practice to ensure that national-level DRR and CSP policy can be implemented? Is it more effective for DRR and related policies to sit separately or to be integrated into ESP? Are education ministries equipped to support DRR, or do they require engagement with other government ministries? These are a few potential directions raised across the data.
2. A clear gap was evident around **systematic risk management and mapping** for contexts within this study. While countries may be prepared for conflict- and climate-related shocks, risk management needs to be extensive in mapping all potential risks—including determining their probability and potential impact—and mitigating strategies to reduce danger and damage. Research could thus focus on best practices for risk mapping and inter-governmental collaboration to ensure comprehensive strategies for mitigation and response.
3. Nearly half of the ESPs reviewed (Gobierno de El Salvador, 2019; MINEDUC, 2017; MoEYS, 2019) and the policies provided by the informant from Sindh province (Government of Sindh, 2019b, 2019a) pre-date the COVID-19 pandemic. As the processes to update ESPs are underway for release in 2024, comparative analysis can demonstrate the extent to which **understandings of resilience have changed or been codified** into national education policy.
4. As seen with the example of the Resilient Schools programme in Nicaragua, strong examples of **context-driven ESR** can exist at the regional level, where devolved authorities may have more incentives to ensure crisis planning attends to their specific

needs. More research could examine some of these ‘bright spot regions’ to draw out best practices to be applied at the national level or in other similarly impacted contexts; country-level best practices could also inform planning across the region.

5. Why/how are **certain regions within countries leading the way in ESR policies** and programmes? What is the funding stream behind them? Is learning applied elsewhere in the country? How does their development reflect intersections with other dimensions, for example, topographical vulnerability, indigenous populations, systemic underfunding previously, and/or exposure to conflict?
6. KIs pointed to policies on climate-resilient infrastructure and ‘green schools’ as forms of ESR in the face of a changing climate. Infrastructure is a key component in ensuring the continuity of education to cope with both slow and sudden onset challenges. As there are increasing investments in infrastructure, research could investigate the impact of **climate-resilient or ‘green’ schools on ensuring access** especially during climate-related emergencies, for example. How do these initiatives shift community understandings of climate change and disaster preparedness? Which initiatives are more effective for ensuring ongoing access during high temperatures, for example, or hurricanes?

6.2 GESI and political will

Within the literature, attention to the needs of marginalised groups is highlighted, particularly in the Sendai framework and in resilience mappings from Tarricone et al. (2021) and USAID (2020). Our review pointed out a number of enabling considerations for GESI within ESR for the system level, finance, data and policy, empowerment and meaningful engagement, and generation and sharing of evidence and practice. While the data demonstrated that governments and policymakers may be *aware* of the importance of GESI considerations in ESR, we did not find policies—nor responses from key informants—which exhibited all of those considerations. Thus, in general, we identified a **gap in the specific inclusion of marginalised or vulnerable groups within DRR and CSP**. While attention to the needs of girls, for example, figures into country ESPs, there were few references to ensuring that disaster and crisis planning attend to the needs of girls and other marginalised groups, which could exacerbate their exposure to harm.

We also noted the importance of political will in acknowledging crises or potential risks. Politicised issues—especially migration, refugees, ethnic tensions, sexual and gender-based violence, and other forms of violence—were not well referenced within the policies or in KIs. Migration, for example, was not mentioned in the Central American policies reviewed for this study, which alluded only to ‘school desertion’. This is particularly surprising given the number of children migrating across and through Central America (see IFRC, 2022)—and returning after traumatic experiences—and the connection to climate change, natural disasters, violence, and politics that can cause sudden fluctuations. In many of the materials, the ‘SI’ of GESI—‘social inclusion’—pointed to those with disabilities, rather than ethnic groups that are marginalised, or

indigenous or racial minorities who are more likely to live in areas at risk of crisis across many of the contexts surveyed. Vulnerable groups were missing from country ESPs for Central America, for example (Gobierno de El Salvador, 2019; Gobierno de Nicaragua, 2021).

Potential areas for further research include the following:

1. Sierra Leone, with the adoption of the Radical Inclusion policy (MBSSE, 2021) to ensure schools provide safe, inclusive, and accessible learning environments which meet the needs of all children, is a standout country in codifying GESI into policy. There, DRR objectives within the ESP demonstrate attention to GESI issues. Where ESR policies or programmes specifically target women and/or girls, what are the **assumptions, evidence, or logic underpinning this design**? Has research been conducted in those contexts to identify what the specific needs of marginalised groups are during times of crisis?
2. Our research team noted that across the contexts, most key informants—a majority of whom were employed in provincial or national education planning departments—were male. Two of the national key informants in our sample ($n=8$) were female. While our sample size is very small, the literature commented on the lack of women involved in DRR activities, for instance. As illustrated in Appendix 2, representation of women and other marginalised groups is a sign of meaningful GESI engagement in planning and resilience-building approaches. Are women less represented in these positions? Where women are under-represented in leadership, what impact is there on education planning, particularly for DRR and CSP?
3. Throughout, though, we noted **gaps between risk analysis and policy**. In El Salvador, for example, the risks of climate change and gang violence were mentioned within the risk analysis of the ESP (Gobierno de El Salvador, 2019) but only partly addressed (violence) or not addressed (climate change) in the policy content. This could indicate that risks are considered the purview of another sector (environment, justice), but potentially represents a missed opportunity to plan for the specific and pressing risks to education. Some issues, such as migration, a potentially destabilising geopolitical factor with significant fluxes of people in the region, are not referenced within either risk analysis or policy content. In Grenada, the National Sustainable Development Plan (National Plan Secretariat, 2019) provides comprehensive planning for inclusive risk and resilience assessments but does not reference the rich potential for the education sector. Such gaps may be a question of political will, discussed below, or simply an effect of siloing different policy matters. Research could centre on understanding the alignment or misalignment between substantive risks, risk analysis, and education policies. What are the reasons for (mis)alignment? What are the effects? How can policymaking be strengthened to reduce missed opportunities for ESR?

6.3 Donors and financing

The **role of donors** is an area that was surfaced in national policies and KIs, and merits further inquiry. Informants from the Kyrgyz Republic and Sierra Leone especially highlighted the extent to which their entire education system is reliant on external funding, which can impact what is funded and why. The GPE thematic lead for EdTech also referenced the problem of funding, noting that it is a significant and ongoing barrier for ESR, especially when crisis situations required funds to be re-allocated away from education.

Potential areas for further research include the following:

1. Is it ever possible for LMICs to be ‘resilient’ when **reliant on donor funding** to operate their education systems? Do countries have plans for what would be prioritised if those funds were removed?
2. What is the relationship between the creation and availability of plans—such as those for DRR, CSP, and even ESPs available in European languages—and donor activity? To what extent are plans emerging because of **donor pressure or stipulations**, rather than grassroots-driven needs within the country? For the former, is there any impact on how plans are then implemented in crisis scenarios?
3. What happens when **national priorities** come into conflict with those of donors – essentially, to what extent are donor ambitions prioritised and funded, perhaps over the priorities of national systems? Are funder-driven national policies obscuring opportunities for subnational or local solutions, or multinational collaborations where risks are shared?
4. As cryptocurrency and alternative forms of banking and finance become more widespread, is there any potential—or increased risk—for education systems to rely on **alternative forms of financing**?
5. Countries like Pakistan have looked to the private sector—via PPPs—to help increase education access. However, as seen during the economic crisis that accompanies the COVID-19 pandemic, the private school sector required government relief in order to keep their teachers on staff (Zafar, 2020). While the private sector can be an important partner, especially in low-resource contexts, what are the risks and complexities of those relationships? How can the private sector be utilised to increase ESR?
6. In resource-constrained environments, where should funding go? What are the most cost-effective interventions to improve ESR?

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APPENDIX 1: NOTE ON COUNTRY SELECTION

At the start of this research, a list of countries were selected by EDT and IDRC for inclusion and comparison within this paper. We first composed a **list** of past, present, and future crises and complex emergencies which could impact education systems, including:

- Legacies of conflict or ongoing violent conflict
- Climate vulnerability
- Vulnerability to environmental disasters
- Impacts from technology and/or GenAI
- Issues related to refugees and migration
- Impacts of epidemics and/or pandemics and other health hazard exposures and emergencies

Many countries experience – or have the potential to experience – multiple crises concurrently, which can also combine with chronic economic instability and demographic instability. With this list of potential challenges, we then examined the GPE partner countries within each of the four KIX regional hubs to ensure inclusion of a wide range of existing and future crises. We also confirmed with IDRC the following **regional division** of countries:

- Three countries to be selected from Africa 19 and Africa 21 combined to ensure coverage of the continent but avoid over-emphasis; given previous challenges with contacting respondents in Africa 21 countries, we suggested inclusion of two anglophone countries and one francophone country, given the short period of time available for data collection.
- Within the EMAP region, we suggested selection of one country from each of the three sub-regions (Eastern Europe, Caucasus, and Central Asia; Middle East and Northern Africa (MENA) and South Asia; and Southeast Asia and the Pacific).
- Within LAC, we suggested inclusion of one anglophone country and one hispanophone country.

In our first round of country selection, GPE provided suggestions for countries to include, and GPE country leads provided a list of potential interview participants for each. Our first round included the following countries:

- **Africa 19 and 21:** Chad, Ethiopia, and Sierra Leone, with Burkina Faso, Kenya, Rwanda, and Zimbabwe selected as alternates.
- **EMAP:** Cambodia, the Kyrgyz Republic, and Pakistan, with Bangladesh, Philippines, and Vietnam selected as alternates.
- **LAC:** El Salvador and Grenada, with Dominica and Guatemala selected as alternates.

The chosen contexts include several countries which are high (Chad, Ethiopia) or mid-ranked (Sierra Leone, Pakistan) on the Fragile States Index¹⁰ and are identified as most vulnerable by the University of Notre Dame's Global Adaptation Initiative (Chad, Ethiopia, Pakistan, Sierra Leone).¹¹

However, throughout the course of data collection for the study (December 2023–March 2024), we were unable to establish contact with representatives of the originally selected countries and had to adjust our country sample.

APPENDIX 2: ENABLING GESI CONSIDERATIONS WITHIN ESR

In terms of key gender equality and social inclusion (GESI) considerations within ESR, several recurring themes emerged from the literature.

1) System-level enabling factors

- Cross-sectoral coordination with regards to GESI considerations is crucial in order to align government bodies, the private sector, civil society organisations, and donors, as well as between government departments. An example of increased coordination for GESI considerations in ESR might involve strengthened coordination mechanisms between climate change education planning, disaster risk management, and data management, highlighted as a key feature for resilience by Tarricone et al. (2021).
- Mainstream GESI approaches by clearly defining and articulating roles and responsibilities and coordination and communication between organisations/departments, discussed within the SFDRR (UNDRR, 2015).
- Build awareness and capacities of government officials to equip them with the necessary knowledge and skills to incorporate GESI in their planning and implementation (AMCDRR, 2018). This could involve stakeholder organisations and donors moving away from project-based interventions and towards pooling and focusing resources on strengthening government institutions.
- Address structural inequalities and focus on quality education for all in order to enable equitable resilience.

2) Finance

- Include GESI considerations in education sector plans to enable predictable and equitable funding during crises (AMCDRR, 2018).
- Ensure that there is a strong focus on gender in contexts of crisis and focused displacement to avoid entrenching existing disparities (Klugman, 2022).

¹⁰ See <https://fragilestatesindex.org/global-data/>

¹¹ See <https://gain.nd.edu/our-work/country-index/rankings/>

- Allocate appropriate budgets for monitoring, evaluation, and accountability mechanisms.

3) Data and policy

- Collect and disaggregate data for all vulnerable groups in order to fully understand varying needs, capacities, and exposure to risk of vulnerable populations (UNESCO, 2023).
- Ensure that monitoring, evaluation, and accountability mechanisms have indicators for GESI, and cover all vulnerable populations.
- Enable data and data analysis to be shared widely across government institutions so that it can be easily used for ESR anticipation, planning, and response purposes.
- Ensure that GESI perspectives and strategies are incorporated into all ESR policies and planning, and into legal frameworks to protect the rights of marginalised populations (GPE & UNESCO, 2015).
- Direct support and resources to GESI-related activities to enable action plans to be implemented effectively. This may include addressing discriminatory norms and practices which harm women and other vulnerable populations.

4) Empowerment and meaningful engagement

- Remove barriers to meaningful participation and leadership of women, those with disabilities, and other vulnerable groups such as migrants and indigenous people. This might include sensitisation programmes and addressing social harmful social attitudes in order to enable engagement.
- Focus on empowering women and vulnerable groups in order to build their resilience and capacity to participate in society as decision-makers and plan for and respond to crises, including providing equitable access to opportunities and resources (UN Women, 2023).
- Meaningfully support, promote, and enable the participation of vulnerable groups in consultation, planning, decision-making, and leadership, and view the contributions from a diverse range of people as valuable inputs from equals rather than treating vulnerable populations solely as beneficiaries.
- Increase the representation of GESI-related organisations in decision-making and coordination bodies. The 2018 Sendai Progress Review also recommends a minimum of 30% representation by women in decision-making roles on coordinating bodies (AMCDRR, 2018).
- Strengthen understanding of an empowerment-based approach amongst government persons and stakeholders in order to increase awareness and support capacities.

5) Generation of evidence and sharing of good practice

Generate evidence and share good practice and lessons learned around GESI, focusing on empowerment and building capacities.

APPENDIX 3: FORESIGHT

Sustainable long-term foresight work can make a significant contribution to the development of national strategies and the ability to put strategy into action. The ongoing long-term thinking and planning that futures and foresight work facilitates is seen as the foundation for transformative change.

Mapping of organisations working around education futures and foresight has demonstrated long-term engagement from international organisations in projects around developing scenarios for the future of education and the potential threats and opportunities presented by a range of global trends. The [UNESCO Futures of Education Programme](#) aims to 'reimagine how knowledge and learning can shape the future of humanity and the planet.' The programme builds on their 2021 flagship report '[Reimagining our futures together: A New Social Contract for Education](#)' through thematic research on digital learning futures, rethinking knowledge and research, and renewing the social contract for education. Within UNICEF, the [Office for Global Insight & Policy](#) and [Office of Research and Foresight](#) both look at the world and futures through a child's eyes. The annual Prospects for Children report considers themes and scenarios of the future in order to better anticipate challenges and opportunities to secure a more equitable world for children. The work of the [OECD Centre for Educational Research and Innovation](#) and [OECD Future of Education and Skills 2030](#) project have also been influential in thought about what learning and knowledge will be required from education systems in the future.

These organisations have strong convening power and the development of flagship reports has often involved extensive engagement and involvement with Ministries of Education in Southern nations – officials from Ethiopia and Peru appear to be particularly involved. The centring of young people and importance of inclusion is increasingly prevalent as part of wider engagement with rethinking and revaluing knowledge and the production of knowledge as part of the transformation of education systems.

There are a number of academic and consultancy organisations with track records in supporting governments and organisations to integrate futures and foresight into their work. These organisations tend to have bespoke tools and data analysis methods and have a strong focus on supporting innovation. A prominent example is the UK-based [School of International Futures](#) (SOIF) who have worked with governments, international organisations, and the UN system to build capacity in foresight and futures thinking. SOIF (2021) work with an ecosystems approach to foresight which considers the system level, and department, team, and individual levels to build and sustain the foresight ecosystem.

There appear to be few Southern-based academic or consultancy organisations with specialist expertise in foresight and futures, particularly amongst organisations focused on education. Previous funding from the Rockefeller Foundation Millennium Project supported a network of organisations to develop foresight capacity with partners in Ghana, Nigeria, Tanzania/Kenya, Peru, Vietnam, and Thailand. These partners tend to be more focused on governance and economic policy. Consultancy firms including the [South African Institute of International Affairs](#) (SAIIA) and the [African Centre for Economic Transformation](#) (ACET) have skills in economic policy and skills and futures while the Wits School of Governance stands out for work on the public sector and governance.