FROM EVIDENCE TO PRACTICE: THE STATE OF THE EVIDENCE OF EDUCATION IN AN EMERGENCY CONTEXT – COX'S BAZAR

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ABSTRACT

Access to high-quality and continuous education is a fundamental right for all children, including those affected by conflict and protracted crises. Yet despite ongoing efforts, significant barriers to access, quality and continuity of education remain. In this paper, we apply a conceptual framework recently developed as part of the Education Research in Conflict and Protracted Crises (ERICC) project to carry out a systematic review of evidence about the state of education in Cox's Bazar, Bangladesh, where education delivery to conflict-affected Rohingya communities remains particularly challenging. Following an ERICC-informed analysis of 127 studies, we identify critical knowledge gaps in existing evidence: there is little to no evidence for what works; data on access, and on the quality and continuity of education are lacking; and few studies provide analysis at policy systems level. This is a significant concern since these gaps limit the ability of existing evidence to ensure that the new policy shift to the Myanmar curriculum delivers high-quality education in Cox's Bazar. The implications of these findings provide national stakeholders, development agencies, and their partners with a comprehensive understanding of the analytical work taking place on the ground.

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ABAL	Ability-Based Accelerated Learning
ASER	Annual State of Education Report
BRAC	Bangladesh Rehabilitation Assistance Committee
CEC	Citizen Engagement Center
CPSS	Child Protection sub-sector
ECD	Early childhood development
EGMA	Early Grade Mathematics Assessment
EGRA	Early Grade Reading Assessment
ENA	Education Needs Assessment
FCDO	Foreign, Commonwealth & Development Office (of the UK)
FDMN	Forcibly Displaced Myanmar National
IRC	International Rescue Committee
ISCG	Inter Sector Coordination Group
LCFA	Learning Competency Framework Approach
MCP	Myanmar Curriculum Pilot
RRRC	Office of the Refugee and Repatriation Commissioner
RCT	Randomized controlled trial
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund

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I. INTRODUCTION

Education in conflict and crisis contexts is a pressing issue that demands immediate attention. The impact of emergencies, conflict or violence on millions of children and youth disrupts their learning and development, thereby limiting their opportunities for growth and for contributing to peace, resilience and economic development in their societies. A recent study revealed that 268 million children and adolescents across 73 countries are affected by crises, with an estimated 224 million being of school age. Seventy-two million of these school-aged children are out of school (Valenza and Stoff, 2023). The study also noted that of the school-aged crisis affected children, 127 million (57%) are enrolled in schools but failed to achieve the minimum proficiency levels in reading or math as required by the Sustainable Development Goal 4. This represents a concerning 84% of all school-aged children who are currently in school.

Despite these existing challenges, research on education in conflict contexts remains underfunded and under-prioritized. To address the critical issue of ensuring universal access to high-quality education for children, it is imperative that we gain a comprehensive understanding of the existing evidence in this area. To ensure that learners can access education that is relevant, equitable, secure and robust, it is necessary to conduct further research, foster greater collaboration, and promote innovation, all while considering the context and analyzing current practices. By doing so, we can identify areas where our knowledge is deficient and work towards filling those gaps.

Several knowledge gaps need to be addressed when it comes to education in conflict and crisis contexts. For example, we need to better understand how conflict impacts education outcomes. This includes understanding the effects of long-term crises on learning. Additionally, we need to explore different approaches to education in these contexts, such as providing psychosocial support and teacher training, to determine what is most effective in promoting resilience, social cohesion and peacebuilding. We also need to consider the gender and age dimensions of education, ensuring that girls and women have access to quality education and that the curriculum is age-appropriate. Financing and coordination are also important factors to consider, as we need to find sustainable sources of funding and align humanitarian and development efforts. Moreover, we should explore the scope of innovations to deliver education in such contexts, as these could help overcome some of the challenges faced in such situations. Besides, there is a lack of systems-level information about the challenges of providing education provision in conflict and protracted crises, including access, quality, continuity and coherence. It is also equally important to investigate what a stakeholder-based approach can reveal in contexts with a lower level of data and information.

The Education Research in Conflict and Protracted Crisis (ERICC) program is a large-scale, multi-country investment by the UK's Foreign, Commonwealth & Development Office (FCDO) that aims to transform education policy and practice in contexts of conflict and crisis around the world. The ERICC conceptual framework provides a comprehensive way to analyze the drivers and outcomes of education at both the policy-systems and the local-systems levels (Kim et al., 2022). By examining the governance, financing and coordination of education actors and policies, we can improve access, quality, continuity and coherence of education provision in these contexts. At the local-systems level, the framework helps us understand how different stakeholders interact to shape the learning and development outcomes of children and youth. With this knowledge, we can implement effective interventions, such as cost-effective and feasible learning and training programs, psychosocial support and life skills education, to enhance the resilience and well-being of learners and to foster social cohesion and peacebuilding. The ERICC conceptual framework is depicted in Figure 1.

The ERICC partnership is currently engaged in crucial research studies focused on seven countries or contexts (Syria, Jordan, Lebanon, Nigeria, South Sudan, and cross-border research in Cox's Bazar in both Bangladesh and Myanmar), aimed at determining effective approaches for improving education in conflict

and crisis contexts. Through a collaborative process involving the co-construction of research and partnerships with relevant stakeholders, ERICC seeks to bridge the gaps between research, practice and policy. The ultimate goal is to generate evidence that is both contextually relevant and actionable, thereby improving access, quality and continuity, as well as the coherence of education provision in these complex and challenging contexts.

In the present study, we conducted a systematic review of the education landscape in Cox's Bazar using the ERICC framework to identify existing gaps and challenges. When it comes to improving education outcomes for children and young adolescents, it is important to use a systematic approach to identify evidence gaps in the education system, particularly in conflict and crisis contexts. By conducting a systematic review of the existing literature across dimensions such as research types, methods, populations and outcomes, ERICC can identify the most pressing and relevant evidence gaps concerning education in conflict and crisis settings. This information can then be used to prioritize key areas of research, identify 'what works', and design and implement effective interventions that improve education outcomes for those in need. The analysis carried out for the present study focused on available evidence and current practices in the education system in the district of Cox's Bazar, a context of conflict and crisis, examining the drivers of learning and the education outcomes identified by the ERICC framework at both micro and macro levels. The findings of this research have underscored the urgent need to address the concerns regarding the education of the Rohingya refugee and host community children in Cox's Bazar, particularly with regard to access to education, education quality, continuity of education, and coherence in education.

Furthermore, the study evaluated the enablers and constraints of education at the policy level, as well as the risk and protective factors at the local level. This allowed us to better understand the evidence gaps in current improvement efforts, programs and interventions, government roles, actions and coordination of humanitarian and development actors, accountability and transparency by education actors, and resource allocation. Our ultimate goal is to ensure that every child and adolescent, regardless of their circumstances, has access to quality education through appropriate research and interventions. This study underlines the significance of evidence-based interventions for the education of the vulnerable people of Cox's Bazar and adds to the pool of knowledge on education in conflict and protracted crisis contexts.

Through our systematic review of education in Cox's Bazar, we found that there was a significant lack of reliable and accessible data and evidence on education in this context and that the quality of evidence on education was not satisfactory. The existing research mainly identifies needs and discussions of education-related issues, and there is a significant lack of evidence on interventions that work to improve access, quality and continuity of education, with little evidence on their effectiveness and cost. Nevertheless, we have found a few interventions that are consistently promising, and their contributions to the field are significant. However, this lack of information makes it difficult to plan, monitor and evaluate educational interventions aimed at raising educational standards in the region. While we did find a few interventions that were consistent and promising, there is still much work to be done to improve the access, quality, and continuity of education in Cox's Bazar.

Our study contributes to the existing literature on education in emergency and protracted crisis contexts and highlights the need for evidence-based interventions to support vulnerable populations of Cox's Bazar in both host and camp communities. Our review provides a comprehensive mapping and analysis of existing data and evidence sources, gaps and needs related to education in Cox's Bazar. We also emphasize the importance of stakeholder-centered research, which can enhance the relevance, quality and impact of research by ensuring that it addresses the needs, preferences and perspectives of the stakeholders. Our study contributes to the evidence generation and policy dialogue on education for Rohingya refugees and host communities. We offer context-specific insights into how to improve education provision and outcomes in this complex and dynamic situation, considering the low-information and politically challenging environment in Cox's Bazar.

II. RESEARCH CONTEXT

A. Education Research in Conflict and Crisis (ERICC)

Education is one of the most challenging forms of humanitarian support to deliver in an emergency context. The provision of education in conflict contexts is difficult for a variety of reasons, including limited access in conflict zones, inadequate funding, a lack of trust, ensuring quality, and the need to be politically neutral. On the one hand, we cannot offer long-term educational solutions because of political and logistical challenges., while, on the other hand, it is difficult to design evidence-based, impactful short-term programs. Given these challenges for both short-term and long-term programs, there is a dearth of evidence on the impact of education programs in emergency settings. The ERICC program provides an opportunity to address this gap, as it aims to carry out rigorous and policy-relevant research on the most cost-effective approaches to education delivery in conflict and protracted crises in seven countries and settings, including Syria, Jordan, Lebanon, Nigeria, South Sudan, and cross-border research in Cox's Bazar - Bangladesh and Myanmar.

The ERICC program provides an opportunity to minimize this gap. The ERICC conceptual framework aims to identify, examine and support four drivers of learning and development in the context of conflict and protracted crisis: access, quality, continuity and coherence within the education system. When these are working well, they help to improve children's academic, social and emotional, and physical skills. Access to different forms and sources of education, as well as the quality and continuity of those possibilities, drive children's overall learning within the context of their households, schools and communities (i.e., local systems). Coherence across stakeholders and systems within national and subnational education structures drives the learning and positive development of children. Thus, the four primary factors that influence learning and development are identified as access, quality, continuity and coherence (Kim et al., 2022). Figure 1 depicts the ERICC conceptual framework.

Figure 1. ERICC conceptual framework
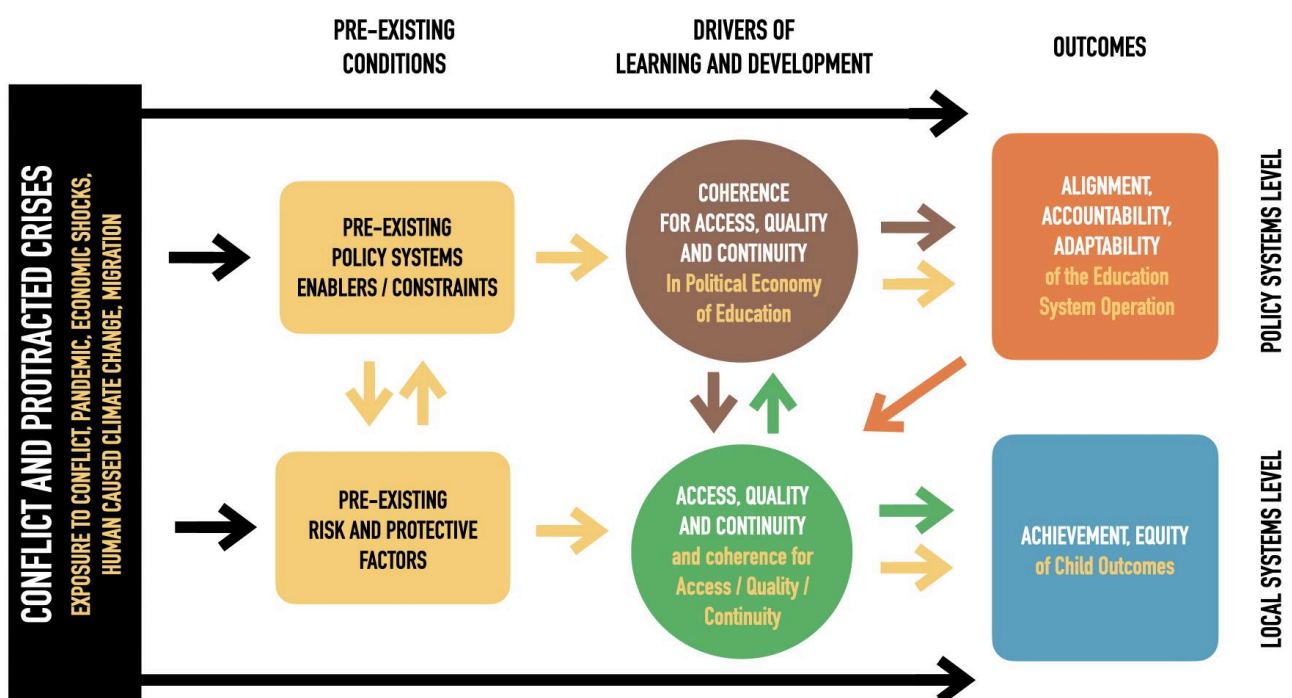
Source: Kim et al. (2022)

B. Context and timeline of Rohingya refugees in Bangladesh

Following the military intervention in Rakhine State, Myanmar, that took place in 2017, Bangladesh experienced the greatest influx of Rohingya refugees in its history. The United Nations High Commissioner for Refugees (UNHCR) estimates that 773,972 Rohingya people entered the country as refugees. This brings the total number of Rohingya individuals residing in the country to 943,539, including both old and new entrants. The Rohingya people who fled Myanmar and entered Bangladesh in 2017 and thereafter are referred to as Forcibly Displaced Myanmar Nationals (FDMNs) (Sarwar and Aurin, 2022).

Figure 2. **The Rohingya influx timeline**
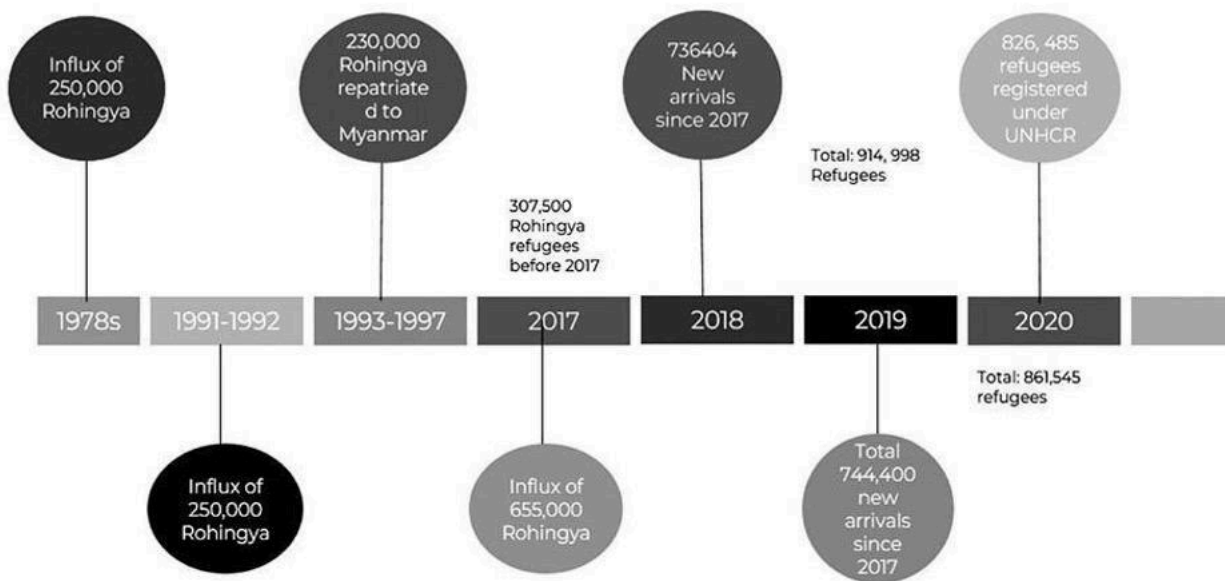
Source: Sarwar and Aurin (2022)

In Rakhine State, Myanmar, the Rohingya people have been subjected to decades of systemic discrimination, statelessness and brutality. Many Rohingya women, girls, boys and men have fled to Bangladesh to escape this oppression since 1978, with surges occurring after brutal attacks in 1991–92, and again in 2016. By far the most significant migration of refugees into Bangladesh occurred in August of 2017. Among the one million Rohingyas who fled Myanmar to seek refuge in the upazilas of Ukhia and Teknaf in Cox's Bazar district, approximately 481,000 are children and adolescents of school-going age (Education Sector, 2022).

C. Government position and expectations of aid agencies regarding the crisis duration

In an effort to alleviate the pressure brought on by the Rohingya crisis, Bangladesh is working to send the Rohingya people who have been living in Bangladesh for several decades back to Myanmar. The government maintains that it will assure the voluntary, secure, dignified and sustainable return of the Rohingyas. Following the 2017 crisis, Bangladesh negotiated an agreement with the Myanmar government in November of that year, and in order to begin the repatriation process, Bangladesh participated in discussions with Myanmar government representatives, China and other international mediators. However, the Myanmar government's opposition prevented the Rohingyas from being repatriated, despite the

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Memorandum of Understanding between the governments of Bangladesh and Myanmar that was signed in November 2017.

Clearly this is a protracted process, but knowledge and experience from other parts of the world indicate that the typical length of time needed to repatriate a refugee is ten years.

D. Education response and its effect on host communities

In the refugee camps of Bangladesh, there are about 481,000 school-aged Rohingya children. Fewer than 60 percent of them had attended school in Myanmar before leaving the country, and of those who had, only 10 percent had completed primary school (Cox's Bazar Education Sector, 2021a). Formal education remains restricted for displaced Rohingyas in Bangladesh. Bangladesh has accepted stateless Rohingyas into the country for decades, while also enacting rules that deny them access to public services, including the national education system. In this context, the National Task Force for dealing with Forcibly Displaced Myanmar Nationals produced guidelines for providing FDMN children and adolescents with informal learning opportunities in either Burmese or English. For the first five years of the response, these policy constraints restricted Rohingya children's access to education to informal learning centers provided by the United Nations Children's Fund (UNICEF) and its NGO partners. These organizations used an Ability-Based Accelerated Learning (ABAL) approach, which grouped children in centers according to their age.

In 2018, UNICEF and NGO partners started implementing a major education program that shifted this approach, where the majority of the children started learning through the non-formal Learning Competency Framework Approach (LCFA), which grouped roughly 300,000 of the children attending learning centers according to their competencies. The LCFA comprises four levels and caters largely for children aged 4–14 (Shohel et al., 2023). Then, in January 2020, after nearly two years of delay, the Bangladeshi government finally approved the Myanmar curriculum for use with refugee learners. This provides children the opportunity to learn from the curriculum of their native country, although they do not receive accreditation. A pilot of the new curriculum, which must be delivered in Burmese, started in 2021, involving 10,000 students in Grades 6 to 9.

aBGVFBLN The massive influx of Rohingya refugees has placed a heavy burden on the already stressed social, economic and environmental systems of their host communities. When it comes to educational opportunities, student retention and academic achievement, the Cox's Bazar District has lagged behind the rest of the country. While there has been a recent improvement in the primary enrollment rate in Cox's Bazar (70 percent for primary and 64 percent for secondary in 2019), NGO-run schools for non-formal education in the host community are experiencing an attendance rate of fewer than 10 percent of children, which is very low (Cox's Bazar Education Sector, 2021a). As a result of price increases that have been compounded by the recent influx of people, many families have had to put their children's education on hold in order to meet more pressing financial responsibilities. The local community is affected by the situation and the magnitude of the aid delivered to the camps has contributed to a feeling of deprivation.

Education challenges are even more serious for completion. Despite the increase in combined primary and secondary net enrollment rates in the district in 2018 (94.6 percent compared to the national average of 98 percent), only 60 percent of children and youth aged 12 to 24 in Teknaf reported having completed primary school and only 75 percent in Ukhiya (Global Partnership for Education, 2020). The primary school completion rate reported by the government for Cox's Bazar is 54 percent, which also falls well short of the national rate of nearly 80 percent.

This large influx of refugees over a short span of time has also affected learning and attendance rates in the host community. An analysis of Annual Primary School Census reports between 2016 and 2021 shows that after a gradual decline in drop-out rate until 2018, it increased to 22 percent in 2020 and 23.5 percent in 2021,

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with the rate for girls increasing further to 20 percent in 2019 (APSC, 2021). Thirty-seven percent of school-age children in the host community are not attending school. Cox's Bazar ranked second to bottom in reading and math skills in the most recent National Student Assessment (IRC, 2020). While we do not have evidence to support the notion that the Rohingya influx has contributed to the educational plight of the host community, education experts, providers and administrators unanimously blame the influx for deteriorating educational outcomes.

The provision of proper education for refugee children and adolescents has been a major challenge for the humanitarian community, and more so in the context of the slim prospect of safe repatriation in the foreseeable future. In Cox's Bazar, access to learning has been limited to non-formal education opportunities provided by the humanitarian sector, or religious education provided in Madrassas. The government of Bangladesh does not allow Rohingya children to attend schools in the host community and has prohibited the use of the Bangla curriculum in the camp. However, it recently allowed the use of the Myanmar curriculum in camp learning facilities, which creates the potential for access to age-appropriate learning, even if for now it still does not provide the Rohingya with any certification.

E. The present study

We have designed this study to address the gaps in the education system in Cox's Bazar, touching upon (i) macro-level factors at the policy-systems level affecting the overall coherence of the education systems, which determine policy decisions and operations, and (ii) meso- and micro-level factors at the local-systems level affecting access, quality and continuity of education. In order to contextualize and provide a holistic overview of this topic, we will investigate the factors affecting the drivers of learning and development, as identified by the ERICC framework, including access, quality, continuity and coherence, in so far as they affect the forcibly displaced Rohingya children and host community children of Cox's Bazar. We have explored specific topics in order to address the overarching study objectives, as outlined below:

1. Pre-existing conditions
   a. What enables or constrains policy decisions?
   b. What are the community, school household, and personal risk and protective factors that affect access, quality and continuity of education?
2. Drivers of learning and development
   a. What are the conditions for access, quality and continuity of education?
   b. What is the state of coherence - among government and authorities, donors and multilateral organizations, international and local NGOs, and formal and informal schooling systems?
3. Outcomes
   a. What is the state of policies, budgets and data systems in the education sector in Cox's Bazar when it comes to responding to crises, in alignment, accountability and adaptability?
   b. What is the state of children's academic learning, and social-emotional, physical and mental health in Cox's Bazar? How do these affect their education outcomes? How do they vary by group and how equitable is the situation?
4. What interventions improve access, quality and continuity of education and overall system coherence?
   a. What do we know about their impact, cost and cost-effectiveness?

Answers to these questions will contribute to an understanding of the current state of education in Cox's Bazar for both Rohingya and host community children by identifying and investigating the available policies, guidelines, budgets and data systems; the factors that influence access, quality and continuity of education in this context; and integration of the policies into operational practice and procedures. This will helps to uncover the gaps that exist between the practices that are now being employed and the evidence that is

currently being gathered, which will further contribute to determining the priority areas of study for the education sector in Cox's Bazar.

III. METHOD

A. Data

Two routes of the literature search:

1) Academic literature search: Using Google Scholar, ERIC, reliefweb, INEE and ask.com, a systematic search was conducted to gather papers on the education of both the Rohingya and the host community in Cox's Bazar. To narrow our search to the population of interest, we used the keywords 'Rohingya', 'refugee', 'forcibly displaced', 'displaced people', 'host community', 'school-aged children', 'out-of-school children', 'youth' and 'adolescents'. We used the terms Education/ Education Policy/ Education Response/ Education in emergency/ Education Budget/ Education Financing/ Informal Education/ Education program/ Learning Facility/ School Programming/ and Early Childhood Program to limit our search to relevant interventions. A set of test searches employing a string of search phrases were conducted. We used the same search inputs in each search engine. Figure 3 shows an outline of the process. For each outcome, we started with the simple search string and made it increasingly complex.

2) Gray literature search: When conducting a systematic review, it is crucial to take into account all sources of evidence, including gray literature, which refers to evidence that is not published in commercial publications, such as research reports, government reports, conference papers and ongoing research. Gray literature can help reduce publication bias and can foster a more balanced picture of the available evidence. We identified relevant gray literature through manual searches of the websites of the most relevant organizations sponsoring or offering education in host or refugee contexts, as well as those of research institutes, with a focus on education in emergency contexts. These searches were conducted on many websites, including those of UNICEF, Save the Children Research Center, ALNAP HELP Library, FCDO, World Bank, 3ie, ODI/HPG and UNHCR. We included 130 pieces of gray literature for the title and abstract review.

Using our search strategy, we identified 1,592 studies for the title and abstract review. In addition to this, we included 130 pieces of gray literature for the title and abstract review. After the preliminary screening, we included approximately 569 studies fulfilling the inclusion criteria before we moved to title/abstract based screening. Out of this list of 569 studies, 136 were selected for the full-text review. An additional 37 studies were selected for the full review that came from Cox's Bazar Education Sector folder or gray literature. In total, we screened approximately 740 studies, including the gray literature, under the title- and abstract-level and the full-text-level review. After the full-text review, 127 studies were selected for coding, of which 90 were directly or indirectly related to education in Cox's Bazar. This report is based on the evidence reported and reviewed in those 127 studies.

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Figure 3. Schematic systematic review flow chart

Identification

Studies identified through database searching (N= 1592)

Additional studies identified through Cox's Bazar Education Sector folder (N= 53)

Screening

Total titles and abstracts reviewed (N= 569)

Additional titles and abstracts reviewed from Cox's Bazar Education Sector folder (N= 37)

Eligibility

Full-text articles assessed for eligibility (N=136)

Full-text articles assessed from Cox's Bazar Education Sector folder (N= 31)

Inclusion

Total studies included in synthesis (N= 127)

Duplicates excluded (N= 40)

Table 1. Inclusion criteria for the first two levels of screening

Title- and abstract-level screening
Inclusion criteria
1. Studies concerned with refugee or host communities in and around Cox's Bazar (or Rohingyas in Myanmar)   2. Studies evaluating an education, early childhood development (ECD), life skills, vocational skills or adolescent soft skills policy, program, research or intervention

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3A. Studies being a systematic review

3B. Studies being an impact evaluation or observational study, where the relevant methods are clearly identified

3C. Studies having one of the other acceptable quantitative or qualitative approaches, studying how, why, under what circumstances and for whom the program has an impact

3D. A combination of 3B and 3C

4. Studies having a sample size of at least 50 observations for randomized controlled trials (RCTs) and at least 100 observations for other methods at baseline (control and treatment combined; the latter being only applicable to impact evaluation studies)

5. Studies having been completed

Full-text-level screening

Inclusion criteria

1. Studies having research purposes or evaluating the impact or effectiveness of a program/ intervention closely aligned with the interventions of interest of the International Rescue Committee (IRC)

2. Study outcomes being closely aligned with IRC's outcomes and sub-outcomes of interest

B. Instruments

We followed a protocol created by the ERICC team and adapted inclusion and exclusion criteria for the purposes of data search on Cox's Bazar to search for and screen studies. We also used an Excel spreadsheet developed by a cross-regional team of ERICC researchers to code existing articles according to the ERICC methods (Diazgranados et al., 2022) and conceptual framework (Kim et al., 2022). The indicators used in the spreadsheet included information regarding the type of study, year of publication, funder, study purpose and methods, sampling, macro-level enablers, constraints and outcomes, micro-level risk and protective factors and outcomes, details on the target population and program intervention.

C. Procedure

The systematic approach involved searching electronic databases for scientific research papers. We created an Excel spreadsheet with identified documents, and removed duplicates. After each search, we only included unique results found from that search in the Excel coding spreadsheet. This means that we excluded all the results that had already been included from a previous search result. We also put in a timebar. Publications from the last seven years (2015–22) were reviewed. Document reviews and mappings included education-related peer-reviewed journals, academic thesis or project papers, reports, policy papers and guidelines relevant to either the refugee camps or the host community of Cox's Bazar, or both.

Three levels of screening were followed in the review process: (i) primary-level screening based on the search strategy, (ii) title- and abstract-level screening, and (iii) full-text-level screening. We followed a hierarchical protocol (inclusion criteria) to decide if a study would be included or excluded. The first inclusion

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criterion was if the study was related to education of the refugee and the host community of Cox's Bazar. If the study fitted this criterion, then we checked to see whether it evaluated an education policy or program or issue. If the study fitted this criterion, then we checked to see whether it was descriptive or exploratory, or a systematic review, or an impact evaluation, or an observational study. This screening process went up to nine rules of screening before it was included for final text analysis and coding.

D. Analytical strategy

After screening the studies that met our criteria, we selected the ones that were eligible for our review, resulting in 127 studies. We then categorized each study according to the ERICC framework indicators and tallied the number of studies that addressed each indicator. Following that, we conducted a thorough content analysis of the studies to extract pertinent information for each indicator and recorded it on a spreadsheet. Finally, we compared and contrasted the findings across various indicators to analyze the data. This approach enabled us to compile all the existing knowledge and identify the gaps in relation to the ERICC framework. Our goal was to provide a comprehensive review of the studies that met the criteria and to help readers better understand the significance of the analysis.

IV. RESULTS

A. Pre-existing conditions

At the policy-systems level: What are the enablers/ or constraints that affect system coherence for and therefore influence access, quality and continuity in the political economy of education?

Effective policy decision-making and implementation depend heavily on pre-existing conditions, which can either enable or constrain the process. The ERICC framework identifies several key factors as the enablers or constraints, such as the availability of resources and infrastructure, the landscape of the political economy, and accountability and data systems. It is crucial to consider the ways in which conflict and crisis situations can significantly impact these conditions, potentially rendering previously effective strategies obsolete (Kim et al., 2022).

The situation of education for Rohingya communities in Bangladesh remains difficult. Government policies restrict their access to formal education, and have offered only limited non-formal learning opportunities until very recently when it introduced the Myanmar curriculum. These new policies are part of a larger strategy to discourage integration and encourage repatriation to Myanmar. The quality of education for the Rohingya is severely limited, and reforms seem almost impossible to implement. The government places firm restrictions on the size and quality of learning centers, as well as the curricula that can be taught. Even community-led and private education are now more heavily restricted than before. The potential of a coherent education response is greatly complicated in practice by the various incentives stakeholders within the education system have and the various capacities they have for achieving these.

Resource constraints and the lack of quality standards make it difficult to ensure a consistent and effective education response. Frequent curriculum revisions, an absence of multi-year funding, a lack of instructional materials, inadequate school facilities, and a shortage of skilled educators fluent in the Burmese language and the Arakani and Chittagonian dialects are some of the constraints. Moreover, the Rohingya are subject to restrictions on their movement, their ability to work, and their access to the internet and mobile technology, in addition to not having meaningful access to education. Uncertainty about the future, a lack of prospects for stable employment, and repeated traumatic events all contribute to a lack of well-being among children in the camps in Cox's Bazar (ISCG, 2022; Karim, 2020; Olney et al., 2019).

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One of the most significant changes to education policy in Cox's Bazar since 2019 has been the government's approval for the adoption of the Myanmar curriculum in camps. However, there is little hope that the Rohingya's economic situation will improve. The implementation of a formal curriculum is still in its early stages and a variety of constraints are impeding progress. One of the primary hindrances to progress is the absence of a transition from ad-hoc emergency to multi-year development funding. The COVID-19 pandemic resulted in widespread school closures, further exacerbating the situation. Additionally, a scarcity of Burmese language proficiency among both teachers and students is posing a significant challenge to the effective implementation of the curriculum. Lastly, the strict regulation of the Rohingya population is also contributing to the slow pace of progress (Shohel et al., 2023; Cox's Bazar Education Sector, 2021b; USAID, 2021; Strategic Executive Group and partners, 2018).

During the ongoing crisis, the Bangladeshi government has maintained its position on the repatriation of Rohingya refugees to Myanmar. At the same time, they have been making efforts to move the refugees to a remote island called Bhasan Char. Moreover, this focus on repatriation has affected the response efforts, with priority given to short-term humanitarian aid instead of long-term development plans Human Rights Watch, 22 March 2022; Karim, 2020).

It is crucial to note that regional politics can have a large impact on the government's stance on integration and education. It is not just domestic politics that shape this issue, but also a range of other policies. Unfortunately, international actors have tended to focus too narrowly on financial pressures, without taking into account environmental, regional and local political factors. This has resulted in policies that prevent social integration and exclude Rohingya communities, with little regard for the well-being of the people in the camps or the quality of their children's education. The constraints on education in this context are many, including strict limitations on the quality of structures that are used as temporary learning centers, extensive delays in government approval of non-UN NGOs who want to operate in the education sector in Cox's Bazar, and a lack of permission to work in this context. Additionally, there are restrictions on humanitarian 'cash for work' programs and limitations on the use of technology, while internet and cellular networks are sometimes blocked. Unfortunately, refugees in this situation have had to deal with the confiscation of phones and SIM cards as well. It's clear that NGOs have an important role to play here, but they face many challenges in gaining access to this context and operating there (Rahman et al., 2022; Raza et al., 2021; Borja et al., 2019; USAID, 2018).

At the local-systems level: What are the community, school, household and personal risk and protective factors that affect access to, and the quality and continuity of, education for the host community in Cox's Bazar?

Lack of age-appropriate educational resources, lack of standard learning assessments, absence of social-emotional health and mental health outcomes, and child marriage, child labor, unskilled teachers and increasing poverty among a section of the local population are cited as the factors that put the provision of high-quality and continuing education among the host community at risk in the district (Cox's Bazar Education Sector, 2021a; Guglielmi et al., 2019). Girls, especially the older female adolescents, are at higher risk of dropout due to prevailing social norms on girls' education. Child labor, child marriage, the increased cost of education, and challenges in the teaching–learning environment are major drivers of drop-out in the host communities (Raza et al., 2021). Host community members who were day laborers, farmers or fishermen experienced income and livelihood losses after the Rohingya influx, and the education of their children may be at risk (Save the Children et al., 2017). Collaboration between the schools, parents and school management committees could help to protect the quality of education available to the host community, as well as encouraging student retention (USAID, 2018).

Oftentimes, the same services and programs are provided to the host community and refugees without taking their respective needs into consideration. Programs in the host community require a long-term

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developmental focus rather than a short-term humanitarian approach (Save the Children et al., 2017; ISCG, 2019a; Guglielmi et al., 2019). Engaging communities in designing and managing education programs could be an effective way of achieving alignment between the goals and expectations, and accountability.

B. Drivers of learning and development

When analyzing research studies on the basis of the drivers of learning from the ERICC framework (access, quality, continuity and coherence), we find that 100 studies focus on access, while only 50 studies emphasize the significance of the quality of education, and only 14 focus on issues of continuity. Furthermore, a very limited number of studies (14) delved into the systems-level factors related to coherence. These findings underscore the pressing need to ensure that research evidence in conflict-affected settings can help shed light not only on issues of access, but also on those of quality, continuity and coherence, as all four are essential to the task of optimizing learning outcomes.

Figure 4. **Studies by ERICC framework driver of learning**
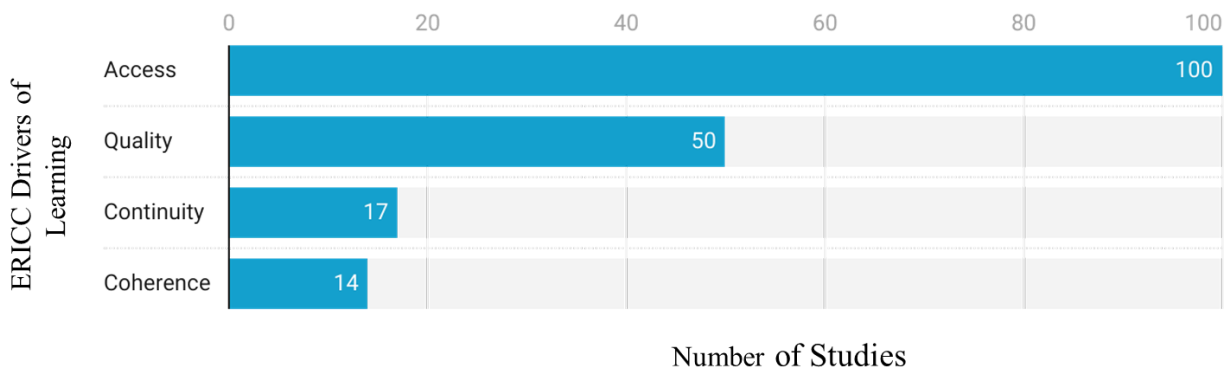
At the local-systems level: What are the conditions for access, quality and continuity of education?

B1. Access

Access to education in the camps has improved over time, with 57 percent of children aged between 4 and 14 enrolled in 2018 and 75 percent in 2022 (Education Sector, 2022). However, the enrollment rate of adolescents aged between 15 and 18 is less than 12 percent and has been a perennial problem, owing to the lack of age-appropriate learning resources and the informal nature of the education (APSC, 2021). The introduction of the Myanmar curriculum up to Grade 8 may resolve this long-standing access issue for the older adolescents. Enrollment among the host community for the same age group has also dropped, from approximately 80 percent to approximately 65 percent (ISCG, 2022). We did not find estimates on access to education by disability status, owing to lack of data.

Over 18,000 Rohingya adolescents aged 15 to 18 received training in literacy, numeracy, life skills and vocational skills through UNICEF's education and learning opportunities for older age groups. Nevertheless, there are still considerable gaps. Expanding programs that focus on adolescents is necessary in order to reach all 74,000 Rohingya adolescents between the ages of 15 and 18 years old. According to the 2020 Joint Response Plan for the Rohingya crisis, 'an alarming 83 percent of the Rohingya adolescents and youth aged 15–24 years old do not have access to any educational or skills development activities' (ISCG, 2020a). In the host communities of Ukhia and Teknaf, enrollment rates in secondary and higher secondary schools for students aged 12–18 are lower than the averages for the country as a whole. The most significant barrier to enrolling in secondary school and completing it is a lack of sufficient financial resources. The vast majority of Rohingya adolescents older than 14 years old will continue to have limited access to educational

opportunities until the new curriculum is completely implemented. For young individuals, some adolescent clubs are helping to bridge this gap.

B2. Quality

Sporadically reported learning assessments conducted with the children in both the camps and the host communities demonstrate poor learning achievement, calling into question the quality of the education provided under humanitarian conditions overall (IRC, 2020). Introducing the Myanmar curriculum and its quality delivery will be particularly challenging within this context. Lack of skilled teachers, inadequate training of teachers, inadequate funding, insufficient high-quality teaching–learning materials, and overcrowded classrooms are often cited as major barriers to the delivery of high-quality education (Bolisetty et al., 2022; Rahman et al., 2022).

Among the studies found on quality, most described the challenges of providing quality education and thus focused on some common factors; for instance, capacity building, material and content improvement, teacher training and continuous teacher development. Statistics on the students and teachers in the camps and the host community (Ukhiya and Teknaf upazilas) are available from Cox's Bazar Education Sector data, and they demonstrate a considerable gap between the student–teacher ratios for the host community and the Rohingyas – one teacher per 104 students in host community schools and one teacher per 205 students in camps (Humanitarian Response, 2022) .

Although we found some evidence from a few studies regarding the type of education facilities attended by children in the host communities and those in the refugee camps, we did not find any comparative analysis of the different types of facility. In an effort to fill the gap in formal education in the camps, several networks of community teachers led by refugees had emerged to provide private tuition for pay. A mapping exercise to identify these networks and their services was conducted in March and April 2019 (Olney et al., 2019a) and collected data on a wide range of areas, such as the number of students and teachers (disaggregated by gender), the subjects being taught, the language(s) of instruction, access to funding and resources, attendance rates, the level of training and experience of the teachers, and relationships with organizations outside the camps or with humanitarian organizations or local authorities.

Out of a total sample of 373 teachers from 27 networks, the majority (or all) of the teachers from 21 of the networks had completed their high school education. In addition, at least some of the teachers in five of the networks held a university degree. The networks studied were found to be using a total of 143 teaching spaces, including 93 family shelters, 27 madrassas/maktabs and 23 freestanding classrooms. Another interesting finding was that several of the networks providing general education had reached arrangements with madrassas to use them as classrooms for teaching academic courses outside of religious school hours. The subjects pursued by the learners was another important finding, with English being the most frequently taught subject (92 percent), followed by Burmese (78 percent), mathematics (74 percent), Bangla (30 percent), history (19 percent), geography (15 percent) and physics (11 percent), and additionally, religious courses and languages such as Arabic and Urdu were taught through madrassa networks.

The study indicated significant findings on language of instruction: the teachers in all 27 networks used Rohingya to lecture students and explain theories, while those in 21 of them also taught in English, those in 21 of them in Burmese, and those in 4 of them also used Bangla. Furthermore, in some networks teachers who used to work for the government in Myanmar were used to teaching in the Rakhine language. In respect of teaching experience, 12 networks had former government school teachers, 19 had private tutors or volunteer community instructors, and 5 had academic subject teachers from madrasas and maktabs in Myanmar. The quality of the private tutoring attracted students even though they had to pay. We did not find any studies that compared the quality of this paid-for tuition with that of the LCFA-based education.

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We were unable to locate any research that documented the existence of variations in the levels of instructional practices employed by teachers. There is no information available as to the level of language skills that teachers had, particularly for those who taught primarily in Burmese. In addition, no intervention or initiative was found to assess the levels of proficiency and competency, nor to systematically identify such issues in order to provide more structured solutions to quality teaching and, thus, quality education.

B3. Continuity

The secondary school drop-out rate in Cox's Bazar is the highest in the country, at 34.2 percent (37.6 percent for boys and 32.8 percent for girls), the national average being 19.2 percent (22.3 percent for boys and 16.1 percent for girls) (Directorate of Primary Education, 2018). Statistics show that education indicators in Cox's Bazar were well below the national averages, even before the pandemic and the latest influx of refugees. Studies identified that the issues with drop-out have been caused by a number of different factors. The percentage of students who have dropped out of school has increased as poverty levels have risen. Families with lower incomes are more likely to pull their daughters out of school, which is true for both the refugee community and the host community. When it comes to the refugees, children from lower-income households often drop out of school to help support their families by reselling humanitarian commodities to local merchants. According to estimates, 28.5 percent of primary-school-age children and 36.1 percent of secondary-school-age children do not attend school, and 9.4 percent of children in Cox's Bazar between the ages of 10 and 14 work as child laborers. Moreover, the host communities in Cox's Bazar district, notably in Teknaf and Ukhia, the upazilas with the highest number of refugees, are under tremendous pressure from the influx of Rohingya refugees as these upazilas already have fragile social, economic and environmental frameworks (World Bank, 2018; ECW, 2020).

The Cox's Bazar Panel Survey conducted in 2019 provided information on the enrollment rate and drop-out rate for host community and Rohingya children by gender. It is evident from Table 2 that continuity is a dominant issue among the secondary-school-aged children and most prominently among the Rohingya children. (World Bank, 2018)

Table 2. Enrolment rate and drop-out rate among host community and Rohingya children by gender (%)

Type of schooling	Enrollment and drop-out rates	Host community (%)		Rohingya (%)	
		Male	Female	Male	Female
Primary	Enrollment rate	91	97	84	79
	Drop-out rate	5	2	6	9
Secondary	Enrollment rate	54	63	31	6
	Drop-out rate	38	33	45	46
Children who have never attended school (ages 7–18)			6	3	15

Note: Since there are no formal schools within the camps, when the term "school" is used to describe camp residents, it refers to educational facilities offered by NGOs active in these areas.

Source: World Bank, 2018

Over 90 percent of children are learning at LCFA Levels 1 and 2, which correspond to pre-primary level to Grade 2 in a conventional school system. Due to the poor quality of their education in Rakhine State in Myanmar, few Rohingya children are prepared to study at the higher levels (LCFA Levels 3 and 4), which are comparable to Grades 3 to 8. Over 18,000 Rohingya adolescents aged 15 to 18 receive education in literacy, numeracy, life skills and vocational skills through UNICEF's education and learning opportunities for older age groups. The Rohingya adolescents do not have access to any higher-level study opportunities that would allow them to continue receiving an education suited to their age and aspirations. Restrictive social norms and lack of safety are two notable reasons for the low participation of the Rohingya female adolescents.

One study finds an alarming level of drop-out in certain upazilas in the district, showing that the drop-out rates for Cox's Bazar Sadar, Maheshkhali, Pekua, Ramu, Teknaf, and Ukhiya are 36 percent, 50 percent, 47 percent, 43 percent, 45 percent and 37 percent respectively (USAID, 2018). Early marriage was identified as a major factor contributing to girls leaving school early, according to the same study. For Rohingya refugee children, the key informant interviews (KII) findings of a study show that at Level 3, between the ages of 10 and 12, there was a significant drop-out rate (USAID, 2018). The same study shows that approximately 50 percent of refugee children and adolescents aged 11 to 18 and a somewhat greater number of adolescents aged 15 to 18 had never undergone formal education, while those aged 11 to 15 who once received formal education dropped out of school entirely. Additionally, 39 percent of girls aged 11 to 14 were not attending educational facilities in camps, according to their caregivers.

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The 2019 Education Needs Assessment (ENA) and 2020 Child Protection Sub Sector (CPSS) assessment found that of those who had not attended a learning center in the 30 days before data collection, 85 percent of female adolescents stated that it was because their parents or husband would not allow them, which may be a result of cultural norms that prevent girls over the age of 11 from interacting with boys (Education Sector, 2021). The absence of a standard learning assessment that results in an acknowledged certification of education hampers expected improvement in this regard. Furthermore, it has been argued in the literature that continuity cannot be achieved if the learning material is not appropriate to the setting or culture.

In a study on out-of-school female students, it was highlighted that the BRAC model, which aims to reach out-of-school children, provides allowances for students to attend school that had only one teacher and one classroom. To decrease child marriage and adolescent pregnancy, and boost girls' education, another study conducted clustered randomized controlled trial (RCT) where girls in treatment villages either got (a) a place on a six-month empowerment program, (b) a monetary incentive to put off marriage, or (c) a combination of the two. Following program completion, data from 15,464 girls after 4 to 5 years of program implementation reveals the following: for every US$1,000 invested by the implementer, the conditional incentive results in 6.3 years of delayed marriage, and 4.3 years of schooling, with 1.4 child marriages avoided (UNFPA and UNWOMEN, 2020).

Our evidence review found 17 studies that partially addressed continuity. However, the majority of these were concerned with the continuation of education after COVID-19 closures and explored continuity programs supporting home-based, caregiver-led education for refugee children and providing virtual education platforms for host community children. Other research simply identified the obstacles to continuing with education. Even though we found a few studies that used caregiver and key informant interviews to identify the issues connected to continuity, we were unable to locate any program or intervention that followed an actual analytical approach or offered a cost-effective solution to this problem.

C. Outcomes

C1. At the policy-systems level: What is the state of alignment, accountability and adaptability of policies, budgets and data systems in the education sector in Cox´s Bazar? What enables or constrains policy decisions?

The evidence review yielded limited information regarding policies, budgets and data systems in the Cox's Bazar education sector. Specifically, we identified 26 studies that focused on policies, 7 studies on budgets, and 5 studies on data systems. While most studies explored policy implications and the designated responsibilities of the corresponding authorities, few addressed budget forecasting or planning of short-term funding strategies. Notably, the review revealed data systems for the Cox's Bazar education sector lack transparency in access and data coverage. These findings underscore the need for further investigation and development in these critical areas. We have come across other systems-level studies that explore sustainability measures, learning resources and capacities, multi-level stakeholder mapping, sector accomplishments and operational bottlenecks.

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Figure 5. Distribution of studies by policy-systems-level outcomes
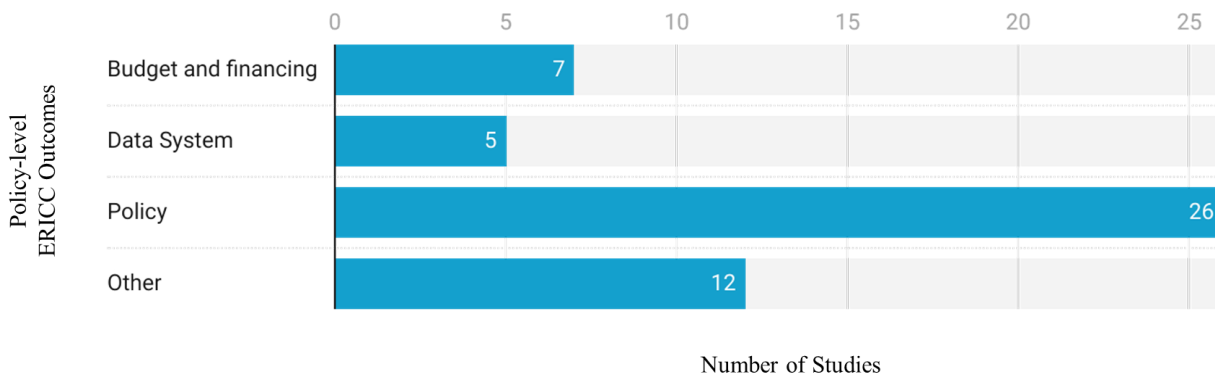
C.1.a. Policies

We found some major policies and guidelines on child education for Forcibly Displaced Myanmar Nationals (FDMN) in Bangladesh. The most significant policies and guidelines for education in Cox's Bazar are listed below:

- Government of Bangladesh – Guideline for Informal Education Program (GEIP) for children of Forcibly Displaced Myanmar Nationals (FDMN) in Bangladesh
- Government of Bangladesh – United Nations Framework on Skills Development for Rohingya Refugees/ FDMNs and Host Communities
- Government of Bangladesh – Guidance on the Engagement of Volunteers for the Rohingya Refugee/ FDMN Camps
- INEE Minimum Standards for Education in Emergencies in Bangladesh
- Cox's Bazar Education Sector Guidelines for Caregiver-Led EducationCox's Bazar Education Sector: Back to Learning – Adapted Local Guidance for COVID-19 Education Facility Reopening
- Gender Action Plan (GAP) on COVID-19 Response, Cox's Bazar
- Quality Assurance Guideline for MCP, Cox's Bazar

To prevent the Rohingya from assimilating and staying in the country permanently, Bangladesh currently prohibits teaching Rohingya children the Bangla language or the Bangladesh national curriculum. The formal Myanmar curriculum has been taught in refugee-run educational institutions since 2021. Before this, the humanitarian community offered informal education based on the Learning Competency Framework Approach (LCFA). This temporary emergency informal learning program, which only went up to Grade 8 was delivered primarily to children aged 4–14, and included instruction in English, math, Burmese and life skills. More than 90 percent of children learnt at a level below Grade 3. Additionally, Bangladeshi policies have restricted refugees' access to employment opportunities. Cost-effective early childhood interventions could be an effective tool to make children better prepared for school by improving their language, cognition and social-emotional skills (Ereky, 2022). Effective implementation of the Myanmar curriculum will depend on the familiarity and comfort of the students in the Burmese language, and ECD programs can assist with this.

Apart from learning-center-based education, private tuition by educated Rohingya people, who were formerly teachers or educators back in Myanmar, was another common form of education in the camps. They offer private tuition for payment. The government of Bangladesh prohibited this in 2021 and private schools in the camps that offered education for money were shut down. The deployment of the Myanmar curriculum was delayed by nearly two years after the Bangladeshi government gave its approval in January 2020. Madrasa education remains as a crucial alternative, covering 30 percent of the school-aged children. Currently, there are no common sector policies to govern madrasas in the camps.

Finalized in late 2021, a pilot of the new Myanmar curriculum engaged 10,000 students in Grades 6 to 9 and will continue by introducing it to children in kindergarten and Grades 1 and 2 in 2023. Although previously there were no policies on secondary education for older adolescents in the camps, it is envisaged that the emerging Myanmar curriculum will include Rohingya children aged over 14. Special policies and guidelines are issued by the education sector to address special situations; for instance, during the COVID-19 closure, a caregiver-led education guideline was provided by the Cox's Bazar Education Sector. However, there are no studies that we are aware of to evaluate the impact of this plethora of policies. Oftentimes, these policies are enacted to address urgent practicalities. Additionally, there is no evidence that shows proper evaluation of the impact of interventions that aim to implement these policies on the ground.

Switching from the LCFA to the Myanmar curriculum is the biggest policy change taking place in education for the FDMN. Until the Myanmar curriculum can be rolled out to include children of different ages at different learning levels, both the LCFA and the Myanmar curriculum will operate in parallel (ISCG, 2022). Skills and vocational training that are consistent with the Myanmar labor market can be a possibility for the future. This is expected to increase the enrollment of the older children, whose participation in education has been low (NPM and ACAPS, 2022). The Office of the Refugee and Repatriation Commissioner (RRRC) makes policies related to education from time to time, and continual advocacy to them has been found helpful in moving education policies in a more desirable direction. For instance, engagement of the community in education was banned for some time in 2019 and then reinstated after successful advocacy (IRC, 2021a). Similarly, EdTech was banned in 2021 and then the use of tablets for education by teachers was allowed after advocacy by the education sector. Given the importance of the role of advocacy, studying strategies for successful advocacy in a humanitarian setting is an interesting research area which remains tremendously under-explored.

While the education of the host community is regulated by national education policies and programs, the District Development and Growth Plan, under the auspices of the Deputy Commissioner's Office in Cox's Bazar and partially financed by the Joint Response Plan, has an important influence on the design of educational interventions in Cox's Bazar. Equitable access to high-quality education, and acquisition of vocational and livelihood skills are identified as high-priority investment areas (ISCG, 2022). Investment in the quality of education available to the host community is seen as a mechanism to ease tension between the FDMN and the host community. We have not found any studies that evaluate interventions on vocational skills.

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C.1.b. Budgets

Among the 127 studies reviewed, we found only 7 on education-related budget and funding in Cox's Bazar, and these were only partially researched. The education sector in Cox's Bazar spends over US$70m annually or approximately US$175 per learner per year (ISCG, 2022). The previous Learning Competency Framework was implemented on the basis of a short-term plan and financing whereas the success of the Myanmar curriculum depends on long-term planning and financing, which would be a formidable challenge (INEE and the Alliance for Child Protection in Humanitarian Action, 2020). Funding constraints necessitate cost-effective teaching–learning strategies. The available literature on educational interventions in Cox's Bazar does not adequately touch upon cost-effectiveness.

Another looming constraint is the gradual decline of financing for the Rohingya crisis in general and education in particular. Table 3 shows the challenge of funding as both general and education allocated remains the same in 2022 compared to 2018.

Table 3. **Budget allocation for Cox's Bazar humanitarian response and education from 2018 to 2022**

	2018	2019	2020	2021	2022
Budget for humanitarian response	$950.8 million	$950.8 million	$950.8 million	$950.8 million	$950.8 million
Budget for education	$920.5 million	$920.5 million	$920.5 million	$920.5 million	$920.5 million

Source: ISCG, 2018a, 2019d, 2020a, 2021, 2022

C.1.c. Data systems

We have not found any studies or reports that focus on education-related microdata and data issues. However, some studies lament the lack of data on education-related issues and outcomes, specifically on learning outcomes (Raza et al, 2021; Anderson et al., 2022). Although we found two studies that assess learning outcomes, data on learning assessment are not publicly available. Insufficient data on learning outcomes, safety in schools, and teaching–learning environments are a barrier to the design of new programs and the analysis of sector performance over time. The majority of learning assessment studies do not gather data on refugee or IDP status. Overall, a lack of data and evidence is widespread in education programming for Cox's Bazar (Raza et al., 2021).

C.2. At the local-systems level: What is the state of children's academic learning, their social-emotional learning, and their physical and mental health in Cox's Bazar? How do these affect their level of attainment? How do they vary by group and how equitable is the situation?

Looking at the state of research evidence in Cox's Bazar as related to children's education outcomes, we find that the majority of existing studies focus on academic learning (66), while only 17 focus on mental health and well-being and 7 on social-emotional health. In addition, we found 9 studies focusing on livelihood skills.

Figure 6. **Distribution of studies by local-level outcomes**

	0	10	20	30	40	50	60

Academic outcomes — 66
Socio-emotional learning — 7
Mental health and well being — 17
Livelihood skills — 9
Other — 26

Local-level ERICC Outcomes

Number of Studies
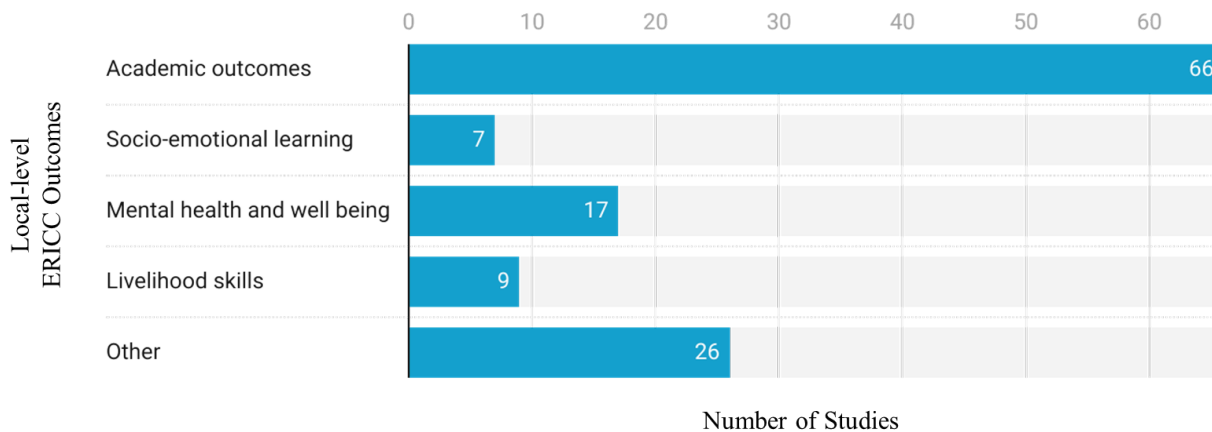
C.2.a. Academic learning

An Annual State of Education Report (ASER)-Plus assessment led by Room to Read in 2018 with 179,922 Rohingya children aged 4–14, found that over 76 percent of children assessed in their knowledge of Burmese, English and math were at ASER Level 1 (can read letters, can recognize numbers from 0 to 9), 22 percent at Level 2 (can read words, can recognize numbers from 10 to 99), less than 1 percent at Level 3 (can read paragraphs, can solve multiplication problems) and none at Level 4 (can respond comprehension question, can solve division problems), denoting extremely low levels of literacy and numeracy (ASER, 2019).

Cox's Bazar ranked second to last among Bangladesh's districts in reading and math skills in the most recent National Student Assessment (IRC, 2020).

The Save Our Education report 2020 assessed children in Bangladesh as being at moderate risk of school drop-out as a result of COVID-19. Cox's Bazar, traditionally having lower average enrollment than the national average, is a high-risk area for school drop-out. (Warren and Wagner, 2022)

An IRC study on the state of learning for Rohingya refugee children (Diazgranados et al., 2022) used Early Grade Mathematics Assessment (EGMA) and Early Grade Reading Assessment (EGRA) to generate data. The tests indicated that 22 percent of the children in the camp had emergent English literacy skills, while about 78 percent of the children could not read. Moreover 32 percent of children lacked basic math skills, 67 percent were developing those skills, and only 20 percent could successfully perform simple subtraction. Moreover, boys outperformed girls on all learning measures, creating a noticeable achievement gender gap. In all of the EGRA literacy subtasks, there were statistically significant differences between boys and girls. With the exception of 'missing number' for numeracy, all EGMA subtasks showed statistically significant variations. The study also found that compared to boys and children without disabilities, girls and children with disabilities experienced considerable academic disadvantages. Boys were more likely than girls to meet their targets, which was statistically significant.

C.2.b. Social-emotional and mental health

Stress and depression are high among the FDMN children and adolescents: respondents reported feelings of sadness (47 percent), anxiety (29 percent), grief (27 percent), stress (21 percent) and fear (six percent) (Raza et al., 2021). Uncertainty about the future, lack of mobility, and identity crises were major reasons. Relative to unmarried older girls, married girls are 150 percent more likely to report feeling psychological distress.

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The study by Diazgranados et al. (2022) also measured levels of motivation, optimism, agency, hope and perseverance. Rohingya children expressed similar and relatively high levels of motivation for learning math and reading. Fifty and 54 percent of children had high motivation to learn reading and math, respectively, whereas 9 percent demonstrated low motivation. Sixty percent of the children showed a lot of optimism and agency, whereas only 6 percent showed little hope and agency. Thirty percent of the children demonstrated poor levels of perseverance, whereas 55 percent of the children showed strong levels of perseverance. Additionally, boys showed much more perseverance than girls in the domain of social-emotional health outcomes.

C.2.c. Livelihoods

Members of the host community who were day laborers, farmers or fishermen experienced decreased income and impaired livelihoods after the refugee influx, and education of their children may be at risk. Fifty-six percent of host community households reported borrowing money in the 30 days preceding data collection.

D. Interventions

D.1. At the policy systems level: What interventions affect access to education, the quality and continuity of education, and system coherence?

The government of Bangladesh does not grant refugee children access to Bangladeshi schools outside the camps, and there are not enough school buildings available inside them. This is a breach of the government's international obligations, and the absence of policy guidelines for refugee education has resulted in a lack of standardized curricula (until the recent introduction of Myanmar curriculum) and age-appropriate teaching materials for education partners working with refugees. The Bangladeshi government's reasoning for their denial of education pertains to expectations about repatriation, despite the fact that repatriation has remained in doubt, owing to the minimal progress made in both Bangladesh and Myanmar. The dearth of a well-defined plan for refugee education hinders refugees' preparations for repatriation and threatens their ability to contribute to their temporary host country during their prolonged stay.

The government does not provide any education for Rohingya children and also bars United Nations humanitarian agencies and NGOs from providing them with any formal, accredited education. Previously, the educational resources offered to Rohingya refugees were limited to basic instruction, and there was no comprehensive guidance for inexperienced educators. However, some NGOs and INGOs in Bangladesh, such as UNICEF, UNHCR, Save the Children International and OBAT Helpers, are offering non-formal educational opportunities to refugee children in registered camps and makeshift settlements. These organizations are managing funds for offering Emergency Education to Rohingya refugee children in the camps. To implement these programs, some national and local NGOs, such as Bangladesh Rehabilitation Assistance Committee (BRAC), Community Development Center (CODEC), MUKTI, Dhaka Ahsania Mission (DAM), and Young Power in Social Action (YPSA) are directly involved in executing emergency-related issues in the camps and makeshift settlements.

The Learning Competency Framework Approach (LCFA) and the Myanmar curriculum are significant policy changes being implemented in Cox's Bazar. The LCFA was established as an emergency response to the education needs of Rohingya refugee children and is an informal primary-level educational model based on a locally customized curriculum approved by the government. It spans Levels 1 to 4 and is designed mainly for children between the ages of 4 and 14. Later on, the Bangladeshi authorities and the United Nations launched the Myanmar curriculum, a program based on the Myanmar national curriculum that aims to

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provide a formal, standardized education to all school-aged Rohingya refugee children in English and the official Myanmar language, Burmese.

It is noteworthy that most of the children had been learning through the LCFA until 2023. However, a significant development occurred in January 2020, when the government of Bangladesh made a significant decision by approving the Myanmar Curriculum Pilot (MCP) program. This initiative aimed to enhance access to education for Rohingya refugee children and adolescents who were displaced from Myanmar to Bangladesh during the August 2017 crisis. As of the end of 2022, more than 37,500 children, including over 18,400 girls, transitioned from the LCFA to the MCP. The UNHCR and the Cox's Bazar Education Sector have continued to expand MCP implementation throughout 2023 (UNHCR, 2023). Rohingya refugee children are now being provided with formal and standardized education based on the Myanmar national curriculum through the MCP. The curriculum is also addressing a gap in secondary education for older children who may have had limited access to educational opportunities.

The prevailing policies and regulations in Bangladesh have impeded the integration of Rohingya refugees into society, particularly with regard to education. Regrettably, the country has imposed restrictions on employment opportunities for refugees, along with prohibitive measures on humanitarian 'cash for work' initiatives. Furthermore, the education provided in the refugee camps is informal without explicit government recognition and only goes up to Grade 8, thereby rendering it inadequate for further studies or employment. As a consequence, refugees may lose interest in participating in the educational programs offered within the camps. Notably, since 2019, the government has imposed a ban on internet access within the Cox's Bazar camps, which has deprived Rohingya children of the remote learning opportunities available to other children in Bangladesh. Moreover, limitations on the use of technology , such as the confiscation of phones and SIM cards, have exacerbated the problem. As such, the lack of consistency in policies has led to a negative impact on the local-level drivers of learning that are outlined in the ERICC conceptual framework. It is important that policies are aligned and consistent to ensure that they are effectively supporting learning and development at the local level for ensuring improved access, quality education and continuity.

D.2. At the local systems level: What do we know about their impact, cost and cost-effectiveness?

In reviewing 27 studies that explored the impact of program interventions on educational outcomes, we found that most of the research centered on primary- or secondary-school-aged children. Specifically, 11 studies focused on this age group, while 7 studies looked at ECD programs. Only a few studies (6) addressed the needs of adolescents and girls, suggesting a gap in the literature and a potential area for future research.

ECD and Accelerated Learning Programs are the major interventions at local system level in Cox's Bazar. ECD is a comprehensive approach that supports the physical, cognitive, social and emotional development of children from birth to eight years of age and aims to improve the health, education and well-being of children in humanitarian settings. Accelerated Learning Programs is a collaborative initiative between Myanmar education experts and Save the Children that provides an accelerated curriculum-based education focusing on essential literacy and numeracy skills, as well as life skills such as health, hygiene and safety, to help children who have missed years of schooling as a result of conflict, displacement or other factors catch up and integrate into formal education as rapidly as possible.

Apart from BRAC's Humanitarian Play Lab, we did not find any other interventions that have been tested and studied rigorously. Despite poor learning outcomes in the camps and the host community, we have not found impact evaluations on interventions implemented in the camps or in the host community specifically focusing on learning outcomes. The IRC's Pop-Up intervention (see Appendix) documented baseline–endline changes in student numeracy skills, but the information was collected during a small pilot that aimed to determine feasibility and cost-efficiency as opposed to impact (DeReynal, 2020). We found one RCT

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implemented in the ECD realm focusing on cognitive development and mental health. Mariam et al. (2020) evaluated BRAC's Humanitarian Play Lab program (see Appendix), an ECD program implemented with Rohingya mother–child dyads and found that the intervention improved mental health, reduced trauma and depression, and improved the cognitive and social skills of the children. In a context where the Myanmar curriculum is being implemented without teachers and learners familiar with Burmese language, ECD can be an effective tool to overcome this language barrier. This could be a fertile research topic.

We found one RCT that evaluates a social-emotional skills intervention in Bangladeshi schools and the result was strongly positive in building self-control, prosociality, and language and math skills (Chowdhury et al., 2021). A school-feeding program was implemented and tested by the World Food Programme in the host community schools in Cox's Bazar and found promising in terms of access and retention although the evaluation was not very rigorous (World Food Programme, 2020). Remedial education and community engagement showed localized positive effects in a humanitarian context but require more evidence (INEE, 2021; Cox's Bazar Education Sector, 2021b). In the Appendix, we describe a few promising education interventions and their impact on learning.

V. DISCUSSION

This systematic review has aimed to collect, map and comprehensively examine all available and relevant data sources and evidence concerning education in Cox's Bazar, with the objective of enhancing access, quality, continuity and coherence in education provision. The aim is to conduct an analysis of policy-level and local-level enablers, constraints, risk and protective factors, and the outcomes in Cox's Bazar education using the ERICC framework. Additionally, the drivers of learning as defined by the ERICC framework, including access, quality, continuity and coherence, are analyzed to assess the progress in learning within the region. The purpose of this study is to generate evidence that is relevant to the context and actionable and can help improve education provision in Cox's Bazar.

While we found more than 1,500 studies during our search process and eventually included 127 studies for coding and analysis, we determined that the overall quality of evidence on education was far from adequate. The current research and data predominantly deal with needs assessment and engage in descriptive discussion of education-related issues and problems; there is little to no evidence on what works to address existing issues and problems, how those work, for whom, and at what cost.

Evidence on the quality of the LCFA is not abundant. The absence of periodic learning assessments and teachers' assessments is a barrier to estimating the quality of LCFA and will continue to be a challenge in rolling out the Myanmar curriculum. Delivering the Myanmar curriculum in an effective way will be a challenge owing to the Burmese language barrier and lack of skilled teachers. Cost-effective ECD interventions could be a good way of making children better prepared for school by improving their Burmese language, cognition and social-emotional skills. BRAC's Humanitarian Play Lab program, an ECD program implemented with Rohingya mother–child dyads, found that the intervention improved mental health, reduced trauma and depression, and improved the cognitive and social skills of the children. The learning outcomes of the host community students is the second to the lowest in Bangladesh. Inadequate teacher training, inadequate funding, a lack of skilled teachers, poor-quality teaching–learning materials, and overcrowded classrooms are often cited as major barriers to the delivery of quality education both in camps and the host community.

The learning outcomes of the Rohingya children are low. There are no regular learning assessments in the camps, which contributes to the poor quality and challenges in continuity of education. The mental and psychosocial health of the Rohingya and host students is a concern. One rapid assessment found that the drop-out rate in the host community had increased and that this was associated with drug abuse and

juvenile crime, which makes psychosocial support relevant in this context. We have not found any studies focusing on the psychosocial health of the children and adolescents in the host community. We found one RCT that addresses social-emotional skills intervention in Bangladeshi schools, and the result was strongly positive in building self-control, prosociality, and language, and math skills.

Continuity of education in the camps has improved in the last five years, although it has been a bigger issue for older adolescents because of the lack of age-appropriate learning content and the informal nature of the education. The introduction of the Myanmar curriculum up to Grade 8 may resolve this long-standing continuity issue for older adolescents. Access and continuity have become an issue in the host community for older adolescents. Child labor, child marriage, the increased cost of education, and teaching–learning environment are major drivers of drop-out in the host communities. Members of the host community who were day laborers, farmers or fishermen experienced income and livelihood losses after this refugee influx, and the education of their children may be at risk. While we have not found a good number of interventions that were rigorously tested to promote access, quality and continuity of education in this context, Pop-Up digital autonomous learning, Lions Quest SES, school-feeding programs, and Humanitarian Play Labs are a few interventions that were found promising.

Unfortunately, data on certain major assessments have not been made publicly available, and access to district-level education reports has been restricted in the Bangladesh Bureau of Educational Information and Statistics (BANBEIS), a government portal that disseminates data and information on education in Bangladesh. This lack of information limits the availability of reasonable, up-to-date evidence on the education situation in the area. Furthermore, owing to the dynamic and intricate nature of the situation, gathering sufficient information on past and present education interventions, particularly those conducted in the refugee camps, has been difficult, since education for Rohingya individuals is a politically sensitive issue in Bangladesh.

In conclusion, this study illuminates the potential of evidence-based interventions to support the vulnerable populations of Cox's Bazar, encompassing both the host communities and the camps. Through comprehensive mapping and analysis of existing data and evidence sources, along with the identification of gaps and needs in education in Cox's Bazar, this research underscores the need for stakeholder-centered research that addresses the needs, preferences and perspectives of the stakeholders. This study makes an important contribution to the accumulation of evidence and the discussion concerning decisions about education for Rohingya refugees and their host communities. Given the lack of information and the politically difficult atmosphere in Cox's Bazar, the context-specific insights presented in this research shed light on how to improve education provision and outcomes in this complicated and dynamic setting.

As part of our research, we have also identified the most effective and cost-efficient interventions for improving the education outcomes of both the Rohingya refugee children and the host community children (see Appendix). Our study focuses on improving access, quality, continuity and coherence and aims to inform the design and implementation of a comprehensive and coordinated education response plan that addresses the specific needs of and challenges faced by different groups of children, including girls, boys, adolescents and children with disabilities. By evaluating the purposes, impacts and sustainability measures of existing and planned education research, programs and interventions, we hope to identify gaps and opportunities for improvement and innovation. In the process, we are also working to foster collaboration and coordination among influential stakeholders, such as the government, donors, humanitarian agencies, civil society and the private sector, to facilitate a harmonized and coherent approach to education in Cox's Bazar. Ultimately, our goal is to generate evidence-based advocacy and practical strategies for improving access to high-quality education and mobilizing resources for education in this region.

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APPENDIX

Descriptions of selected education interventions in Cox's Bazar

Pop-Up

Pop-Up is a tablet-based offline learning platform. It aims to fill the critical educational gaps in a displaced child's life, providing some sense of normalcy and continuity, as well as developing critical foundational skills while formal education is being established. This product makes it possible to rapidly deploy learning programs in emergencies where no formal education is available and in a way that supports an eventual transition to formal schools. The technology delivers locally relevant, tablet-based learning that fosters emotional resilience, literacy and numeracy for primary-school-aged learners. Pop-Up adapts to the varying needs of displaced children around the world, including different educational levels and languages. How it works: personalized, adaptive technology serves to provide children with the tools they need to reach their development potential regardless of environmental circumstances. Autonomous learning includes: 1) Low-cost, flexible and mobile technology which allows deployments in homes, centers and schools. Learning can happen anywhere, at any time. 2) Interactive, engaging and adaptive learning games which enable children to learn at their level. 3) Human support to guide children through their learning, without the need for teachers with academic expertise, which can be difficult to find in crisis contexts (DeReynal, 2020).

This intervention has been tested in a pilot study that used baseline–endline data to identify changes in outcomes. The findings show positive changes in learning outcomes as well as social-emotional skills. The percentage of children who were unable to read words (Levels 0 and 1) decreased by 24.06 percentage points to 47.54 percent, as they moved to more advanced literacy levels. The study also reported that 40.81 percent of children were able to read words correctly (Level 2), a 12-percentage-point jump from the baseline, 4.04 percent of children were able to read a short Grade 1 paragraph correctly (Level 3) and 7.62 percent were able to read a Grade 2 passage correctly (Level 4).

The intervention also improved numeracy skills. The percentage of children in Levels 0 and 1 decreased by 30 percentage points, from 81.77 percent to 51.55 percent, as children progressed to more advanced math levels. Specifically, the research team observed that at endline, 46.51 percent of children were able to correctly identify numbers from 1 to 99 (Level 2), a small percentage (0.78 percent) of children were able to conduct subtraction (Level 3) and 1.16 percent of children were able to conduct division (Level 4). Overall, learners made an improvement of 0.33 ASER points after the intervention in numeracy skill. Pop-up also improved social-emotional skills. At the endline, the percentage of children with low levels of hope and agency decreased by 5 percentage points, and the percentage of children reporting high levels increased by 9 percentage points. The IRC had plans to rigorously measure the impact of Pop-Up on children's literacy, numeracy and social-emotional learning (SEL) outcomes using an RCT, but the plans are on hold because of the EdTech restrictions that were imposed in the camp in December 2021 and continue to be in place as of January 2023 (Diazgranados et al., 2022).

Skills for Growing by Lions Quest

The intervention implemented a curriculum for social and emotional skills developed by Lion Quest in 140 primary schools. The program used an RCT to evaluate the impact and found that the treatment increased prosociality and self-control by about 10 percent of a standard deviation. Implementing the same program in Grades 2 to 5 enabled the developers to investigate sensitive periods in the formation of socio-emotional skills through treatment effect heterogeneity across grades. For self-control, we found that younger children benefited most, while the effect sizes were generally stable across grades for prosociality. Interestingly, we found evidence for spillover effects on parents' self-control and prosociality. The intervention improved math and Bangla language skills as well.

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WFP school-feeding program in Ukhia and Teknaf

The program aimed to increase nutrition by distributing fortified biscuits and to raise awareness about nutrition and healthy foods. The intervention also included community awareness. The program used a mixed-method approach (quantitative and qualitative tools, administered through virtual engagement) to assess its impact. The evaluation report did not estimate the impact quantitatively but claimed that it had improved attendance, reading skills, learning outcomes and the retention rate (World Food Programme, 2020; Cano et al., 2018).

SOMGEP

A combination of academic support, including remedial classes, girls' leadership skills development, peer-support networks, and girl-led action to support struggling students, and the Citizen Engagement Center (CEC)s' follow-up with pastoralist households to ensure attendance and retention had a positive impact on girls' learning and retention. The project used a quasi-experimental evaluation design to estimate the impact of the program. At the project baseline (2017), owning goats or sheep was a predictor of lower literacy and numeracy scores (Ha and Forney, 2018); at the third evaluation round (2019), girls whose families owned goats or sheep had significantly higher gains than the comparison in numeracy scores (6 percentage points) and financial literacy scores (9 percentage points) (Miettunen et al., 2020). The project increased transition rates by 11 percentage points in 24 months, compared to a 7.8 percentage point gain in the comparison communities (Miettunen et al., 2020).

BRAC's Humanitarian Play Lab

BRAC's Humanitarian Play Lab model employs a two-pronged approach in the Rohingya communities of Bangladesh: it provides girls and boys ages 0–6 with play-based educational opportunities, and offers experiential learning and employment opportunities for young Rohingya women, many of whom are working outside the home for the first time. The Humanitarian Play Lab model, which has a play-based curriculum rooted in Rohingya social and cultural activities, also has para-counselors who provide psychosocial assistance to members of the community who have suffered a high degree of trauma. Play-based activities are an optimal way to help children learn, to promote the development of linguistic, social and emotional skills, and to foster creativity and imagination.

The Humanitarian Play Lab model has been in operation since late 2017, with funding from several donors, including Porticus, the Open Society Foundations and UNICEF. Since December 2018, BRAC has been working in partnership with Sesame Workshop, the IRC, New York University's Global TIES for Children and the LEGO Foundation to refine and expand the model. The model includes a home-based group intervention for children aged 0–2 and their mothers, which provides sessions on psychosocial well-being and child stimulation. The sessions are facilitated by Rohingya Mother Volunteers and para-counselors from the Bangladeshi host community.

The Mother Volunteers, many of whom have poor literacy skills and have never worked outside their homes before, are given basic training by a group of para-counselors who are chosen to be developed as Master Trainers. Their training focuses on early childhood development content, program objectives, the volunteers' roles and responsibilities, how to facilitate sessions effectively, and how to provide psychosocial support. The Mother Volunteers are also given monthly refresher sessions. At the end of 2019, 470 Rohingya Mother Volunteers were employed by BRAC. For girls and boys ages 2–6 who participate in the Humanitarian Play Lab, the intervention operates in local learning centers and home-based groups.

The curriculum builds on Rohingya cultural elements such as *kabbiyas* (rhymes) and *kissas* (stories), physical play activities and art. Young Rohingya women, many of whom have completed only primary or

early secondary school, serve as Play Leaders. They are given a five-day basic training, followed by a monthly refresher. The training focuses mainly on early childhood development, including playfulness, basic psychosocial support, and child protection. Before June 2018, BRAC employed 268 Rohingya Play Leaders to work in the Humanitarian Play Lab centers; the number rose to 608 in 2019— an increase of 127 percent in one year. In 2019, 50 young Rohingya Play Leaders facilitated sessions for children aged 2–4 in home-based groups.

The Play Leaders stated that the income they earned through stipends or honorariums helped them contribute to their household income for the very first time. They also are developing skills and experience that may help them find jobs in the future, should they return to Myanmar. Several qualitative research studies carried out in 2019 by the James P. Grant School of Public Health, BRAC University, and the BRAC Institute of Governance and Development also found that the Humanitarian Play Lab intervention has had a positive impact on children in an emergency setting, although this research was not disaggregated by gender (Khanam and Afsana, 2020; Mariam et al., 2020; Mistry et al., 2019).

ERICC

ABOUT ERICC

The Education Research in Conflict and Protracted Crisis (ERICC) Research Programme Consortium is a global research and learning partnership that strives to transform education policy and practice in conflict and protracted crisis around the world — ultimately to help improve holistic outcomes for children — through building a global hub for rigorous, context-relevant and actionable evidence base.

ERICC seeks to identify the most effective approaches for improving access, quality, and continuity of education to support sustainable and coherent education systems and holistic learning and development of children in conflict and crisis. ERICC aims to bridge research, practice, and policy with accessible and actionable knowledge — at local, national, regional and global levels — through co- construction of research and collaborative partnerships.

ERICC is led by the International Rescue Committee (IRC) and expert partners include Centre for Lebanese Studies, Common Heritage Foundation, Forcier Consulting, ODI, Osman Consulting, Oxford Policy Management and Queen Rania Foundation. During ERICC's inception period, NYU-TIES provided research leadership, developed the original ERICC Conceptual Framework and contributed to early research agenda development. ERICC is supported by UK Aid.

Countries in focus include Bangladesh (Cox's Bazar), Jordan, Lebanon, Myanmar, Nigeria, South Sudan and Syria.