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**Unlocking Educational Opportunities: The Role of EdTech in  
Enhancing Access to Education for Rohingya Refugee Children**

in the study program of Public Governance across borders

Submitted by

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## Abstract

The impact of ICT and especially EdTech within the Rohingya refugee camps remains poorly understood. The study investigates whether EdTech can serve as a scalable solution for mass education in the camps, considering current limitations. The ongoing conflict and the resulting humanitarian crisis have forced hundreds of thousands of Rohingya to flee, resulting in extremely limited educational opportunities for the children affected. Limited infrastructure hinders effective deployment of technological devices, exacerbated by unreliable power and internet access. Due to their stateless status, the Rohingya lack legal rights and protections, exposing them to exploitation, including human trafficking, child labor, child marriage and gender-based violence.

The research is based on a combination of content analysis, a comparative case study analysis and an expert interview. Particular attention is paid to the factors that influence the successful use of EdTech, including infrastructure, culture and sustainability of initiatives. The work identifies both the opportunities and challenges associated with the implementation of EdTech in refugee camps. This study contributes to the current debate on innovative education strategies in humanitarian crises and offers recommendations to improving access to education for some of the world's most disadvantaged children.

## List of Abbreviations

ADB – Asian Development Bank

BAMF – German Federal Office for Migration and Refugees

BHER – Borderless Higher Education for Refugees

BMZ – Federal Ministry of Economic Cooperation and Development

EdTech – Education Technology

ELCG – Education Local Consultative Group

ERC – European Rohingya Council

HBD – Humanitarian-Business-Partnerships

ICT – Internet and Communication Technology

ICT4D – Internet and Communication Technology for Development

IRC – International Rescue Committee

KICD – Kenyan Institute for Curriculum Development

LCFA – Learning Competency Framework and Approach

MOOC – Massive Open Online Course

NGO – Non-governmental Organization

RCM – Refugee Coordination Model

UNESCO - United Nations Educational, Scientific and Cultural Organization

UNHCR – United Nations High Commissioner for Refugees

UNICEF – United Nations Children Fund

UNCT – United Nations Country Team

WASH – Water, Sanitation and Hygiene

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# 1. Introduction

## 1.1. Context

A military coup in 2017 caused about a million of refugees to flee from the Myanmar government and cross the border towards Bangladesh. The Rohingyas, a Muslim minority from Myanmar, are victims of such overwhelming suppression and exploitation since 1978. Now situated in the region of Cox's Bazar, as shown in illustration 1, the number of refugees is increasing while the living conditions are declining (Chowdhury, 2020; Parveen et al., 2019). In Bhasan Char, a small island in the Bay of Bengal, the Bangladeshi Government built a new facility to distribute the Rohingyas away from Cox's Bazar as the camps in the region are already overcrowded. Current numbers say that there are living about 33,000 Rohingyas in Bhasan Char today (UNHCR Operational Data Portal, 2024).



Illustration 1, Cox's Bazar, Bangladesh (Frelick, 2018).

The UNHCR, which is the operator of the camps, stresses the dramatic situation on site (UNHCR, 2023). Insufficient food supply, terrible hygiene standards and violence are just a fraction of the problems that are present in the camps.

Neither the Myanmar government nor the Bangladeshi government consider the Rohingya minority their citizens. The statelessness and imposing trauma are affecting the refugees' mental health, resulting in attempted breakouts, arsons, and further violence through gang wars.

## 1.2. Core Problem

In the last couple of years there has been growing recognition of the importance of education in emergency settings, including refugee camps (Moser-Mercer et al., 2023). Education not only provides children with essential knowledge and skills but also serves as protection, offering stability and hope for future prospects.

The Rohingya children (up to the age of 18), who make up more than 50% of the total number of the people residing in the camp, are suffering from missing or inadequate education on site. The few children who get access to education through UNHCR and development cooperation often receive no formal accreditation of their education process (Prodip et al., 2023).

However, addressing the educational needs of Rohingya children in Cox's Bazar presents complex challenges that require a broad approach and commitment from various stakeholders. Due to the unwillingness to cooperate from both governments of Bangladesh and Myanmar, there seems to be no timely solution concerning the children's situation including statelessness and lack of education.

## 1.3. Research Objective

Focusing on the described background, this study is conducted to understand the potential of EdTech in humanitarian responses to provide access to education for Rohingya children. By examining the existing challenges, opportunities, and interventions concerning the implementation of EdTech in refugee camps, this study seeks to determine various stakeholders involved and points out the gaps and potential strategies for enhancing educational access and quality for Rohingya children.

Up to this point, there have been many studies and cases of EdTech pilot programs in humanitarian situations. Thus, the concept of EdTech in the humanitarian environment is no novelty.

What has been little researched so far, however, is the area of education. Education is one of the first pillars to fall away in the event of a humanitarian crisis or is overlooked because it is not considered "life-saving". Education was and still is broadly neglected by the Bangladeshi government. Considering some of the Rohingya children have been living in Bangladesh for almost eight years, it should be assumed that there was the opportunity for the government to provide a broad access to education. However, as the following thesis shows, there is still a long way ahead in providing access to basic education for all.

The motivation and aim of this thesis are to identify the problems of implementing basic access to education and to find out what requirements are needed to do so. This research investigates whether EdTech represents an opportunity to provide access to education for Rohingya children, and if not, what the general potential of EdTech can be in the Rohingya camps.

## 1.4. Research Questions

Therefore, the main research question is:

*What is the potential of Education Technology (EdTech) initiatives to increase access to education for children in the Rohingya refugee camps?*

The main research question will be explored with the help of three sub-questions:

*Who are the key stakeholders involved in the implementation of educational programs in refugee camps, and what factors influence the success and challenges of these educational initiatives in Bangladesh?*

*How is education practiced in the Rohingya refugee camps and what types of EdTech applications are currently being used? How are these technologies being integrated into the existing educational framework?*

*In other comparable humanitarian contexts, what evidence exists regarding the effectiveness of EdTech initiatives, and what are there identified best practices or lessons learned that could inform the implementation of EdTech in Rohingya refugee camps?*

## 1.5. Relevance

According to the newest UNHCR report, in 2023 there were approximately 110 million forcibly displaced people worldwide. Among them, around 43 million, or 40%, are children below 18 years of age (UNHCR Refugee Data Finder, 2024). These numbers have steadily increased over the past few years due to intensified refugee movements driven by conflict, oppression, and climate change. The number of climate refugees is expected to rise exponentially in the coming years and decades. Additionally, mass media has brought greater attention to these growing figures. The issue of forced displacement stands as one of the biggest humanitarian challenges of the 21st century.

Education is a Human Right and should be guaranteed and protected for all people, at all times. Despite enormous benefits for children and their families/communities, in crisis education is often the first service suspended and the last to be restored, as it is not seen as immediately lifesaving.

As UNICEF states it on their website: “Education is a lifeline for children in crisis” (UNICEF, 2024). In an emergency situation like the Rohingya crisis, the children lose their families and homes, drinking water, health care and food. But most importantly they lose their safety and routine. Without access to education, they will lose their future too.

Schools offer numerous benefits that extend beyond education, especially in challenging environments. They protect children from physical dangers, providing a safe space away from potential threats. Additionally, schools supply essential resources such as food, water, healthcare, and hygiene, ensuring that children's basic needs are met.

Beyond physical safety and necessities, schools also provide vital psychological support. In the context of disaster relief, post-conflict recovery, and peacebuilding efforts, schools create a secure environment where children can express their feelings and concerns, helping them process trauma and build resilience.

Moreover, being in a school environment allows children to interact with peers of the same age, fostering friendships and social skills that are crucial for their development. In essence, schools serve as a sanctuary where children can grow, learn, and thrive in a supportive community.

The European Commission started a campaign from January to December 2023 called “#EducationNoMatterWhat” to aim the people’s attention on the refugee children whose access to quality education is disrupted. This campaign was especially targeted to give children from Ukraine and Gaza a voice so they can express their experiences and wishes (European Commission, 2023).

Many major global players state how important education is in humanitarian situations, but also point out that education is underfunded and in a real crisis is not lifesaving and therefore not immediately important. The promotion of education in emergencies is even more important when numbers of worldwide refugees are increasing.

In situations like that of the Rohingya, it is important to examine and, if necessary, make use of all the options available to improve the initial situation. The use of innovative technologies and ICT can usually be beneficial for those affected. Accordingly, the use of EdTech could have the potential to set an example in the current situation of the Rohingya.



## 2. Conceptual Framework:

The following section consists of three different concepts which are relevant for the understanding of this study. Due to the broad spectrum of the humanitarian field these theories and frameworks were selected because of their relevance to the topic as well as to provide a deeper analysis, which aligns with the aim of the thesis.

The three concepts of Education, development and citizenship were applied on the empirical findings.

### 2.1. Education

As this study contends that education is a central feature for creating protective environments especially for displaced children, I conceptualized and explained the current research status concerning Education policy, Education technology and the stakeholders involved into the EdTech process in the following.

According to Article 13 of the International Covenant on Economic, Social and Cultural Rights, the right to receive an education includes four essential features: Availability, Accessibility, Acceptability and Adaptability (UN General Assembly, 1966).

The focus of this thesis lies particularly in the area of access towards education. For this thesis the definition on “access” of Katarina Tomaševski, 2001 is used. In her third letter in a series devoted to elucidating key dimensions of the right to education, she structures the rights obligations in education in a simple 4 A's scheme: making education available, accessible, acceptable and adaptable. She defines the accessibility of education as a need for diversity of education, meaning what is considered easy accesses to an individual may present a challenge to another. Additionally, for her, the accessibility factor highlights the removal of governmental and international policies that obstruct educational provision. This encompasses government policies, strategies, implementation processes, and NGO activities that hinder school facilities (Tomaševski, 2001).

#### 2.1.1. Education policy

The right of all persons to free and compulsory primary education is conformed in the Universal Declaration of Human Rights (United Nations, 1948) and the Convention on the Rights of the Child (UNICEF, 1989). The right to education during times of crisis was reaffirmed and strengthened in 2010 with the General Assembly Resolution 64/290 (United Nations, 2010). Like all human rights, the right to education is universal and inalienable, cannot be given, nor taken away, and is not suspended during times of crisis (UNESCO, 2019).

Additionally, education is part of the United Nations’ “Agenda 2030”. The core of the Agenda 2030, the Sustainable Development Goals, were designed based on the Millennium Development Goals and came into force on January 1<sup>st</sup>, 2016. The Sustainable Development Goal 4 aims for education as it tries to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

However, crises and conflicts make already-challenging educational targets more unattainable. Especially for vulnerable populations disproportionately affected by humanitarian crises and the political reactions to them (Schmid et. al, 2021). In response the international community has increasingly focused on policy and strategic concerns, recognizing that essential life-saving measures like water, sanitation, shelter, and food are crucial.

According to Aguilar, 2009 it's not enough to remediate the impact of catastrophic occurrences in the development of children (Aguilar et. al, 2009).

Ensuring timely provision of basic education materials is vital for children's learning. Additionally, establishing protective environments during crises is crucial for addressing specific needs caused by displacement, localized conflict, and natural disasters (Landgren, 1995).

### 2.1.2. Education Technology (EdTech)

Especially during COVID, the field of EdTech has received an incredible acceleration in terms of innovation and applications. From one day to the next schools were closed worldwide and lessons were redirected to online classes and lectures. This section defines the meaning of EdTech and gives two examples of running EdTech initiatives in the field.

The general definition of Education Technology varies only slightly throughout different strains of literature. In this report the definition of the International Rescue Committee (IRC) will be used. The IRC defines EdTech as “the application of a tool that combines hardware, software, educational theory, and practice, and promotes learning”. It encompasses a wide range of technologies, applications and platforms that support and improve teaching and learning, such as e-learning platforms, learning apps, virtual classrooms, interactive teaching aids and more (IRC, 2022).

EdTech is an approach that has existed for more than 25 years now, and is in constant evolution (Weller, 2020). According to Ahonen and Kinnunen the use of EdTech is part of the 21<sup>st</sup> century skills. Besides EdTech, they say, 21<sup>st</sup> century skills include collaboration, communication, ICT literacy, social/cultural skills, along with skills such as civic participation, creativity, critical thinking and problem-solving (Ahonen & Kinnunen, 2015).

The World Bank has established an inter-related set of five principles to maximize human engagement which education policies and initiatives that utilize EdTech should embrace: (1) Clear purpose of EdTech initiative; (2) design and act at scale, for all; (3) empower teachers; (4) engage a broad set of actors to support student learning; (5) be data-driven (World Bank, 2020).

This thesis primarily collects and explains content on the second and third principles. However, the principles provide an understanding of how complex and far-reaching the development and implementation of EdTech initiatives are. Access towards education represents only a small part of this larger structure.

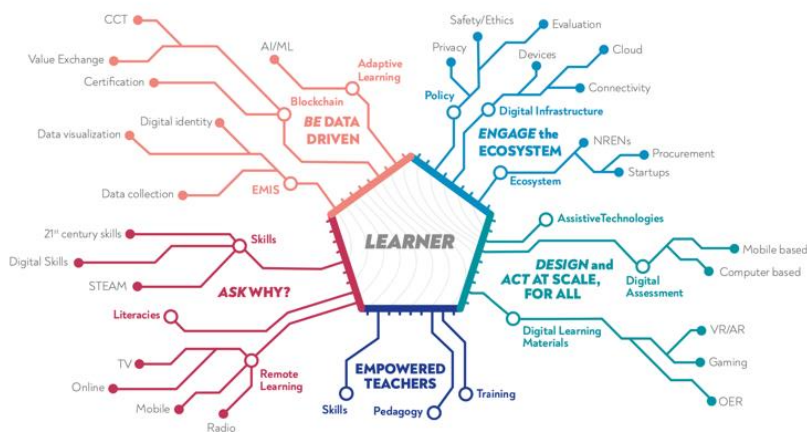


Illustration 2, Technology and Innovation in Education at the World Bank, (World Bank, 2020).

One Education Application provider which is directly cooperating with the World Bank and other organizations like NORAD and UNESCO is “Curious Learning”. They are a good example how EdTech can improve the access to education through international cooperation. The objective of it is to enhance children’s digital literacy skills. They collect, curate, and localize open-source digital literacy learning activities and distribute them via apps and the web. In order to give earlier education in particular a playful character, apps are also used that are designed to make the child fun through animations and rewards. One of their most important Apps, ‘Feed the Monster’ supports early reading and spelling. It has been translated into forty-eight languages. (Curious Learning, 2023).

An application developed by the German Federal Office for Migration and Refugees (BAMF) that is called “Ankommen” illustrates how EdTech can tackle specific challenges, such as the integration and orientation of refugees in new societies. It is mainly intended to serve as an initial orientation aid to help people find their way around Germany. However, this app also helps refugees learn numbers or pronounce and write words. Since its launch in 2016, after the large wave of refugees in Europe, the app has been used by numerous people (BAMF, 2018).

Besides a wealth of solutions EdTech companies advanced to tackle educational problems, there is an ongoing discussion on the emerging practice of EdTech in humanitarian contexts (Koomar et. al, 2020). One major barrier to the effective use of EdTech is rampant inequality in access to technology infrastructure, which includes both, devices (radios, computers, laptops, tablets, and phones) and connectivity to the Internet. Mobile devices, such as tablets, can be cost-effective in delivering education but they are believed to have higher potential. They can be utilized without an Internet connection, and they possess higher storage capacity compared to mobile phones allowing the download of a higher number of learning applications (Haleem et. al, 2022).

### 2.1.3. Education technology stakeholder

In this part of the conceptual framework, I am discussing existing frameworks and distinctions between stakeholders involved in the EdTech implementation process.

A very common definition of a stakeholder was made by Freeman in 2010. He defines stakeholders as any group of people that is affected by or is able to influence the achievement of organization’s objectives (Freeman, 2010).

Fontainha et al. note in their study on stakeholders in humanitarian situations that in the area of humanitarian support it is difficult to determine who is a stakeholder and who is not. as the fields of education and ICT each have already a broad spectrum of stakeholders involved. Therefore, it is hard to draw an exact line and determine which stakeholders are involved in EdTech.

In their analysis they identify three main stakeholder groups: the public group (military, government, and legislative and regulatory), the private group (private sector, direct supplier, media) and the people (international aid network, donor, and local aid network). They also identify the students and teachers, i.e. the beneficiaries, as an additional stakeholder (Fontainha et al., 2017).

These groups are not equal and certain hierarchies exist. They assigned two main perspectives to the area of humanitarian logistics: Vertical/horizontal and centralized/decentralized. Vertical/horizontal describes the relationship between stakeholders upward and downward on the supply chain or the relationship between stakeholders at the same level of the supply chain.

Centralized/decentralized, on the other hand, describes the existence of a higher-level stakeholder or a relationship that arises when no organization or agency has authority over another (Balcik et al., 2010; Akhtar et al., 2012).

In recent decades, increased costs, and decreased funding, governments, international organizations, and civil society have begun to welcome, and even call for, private sector support in the delivery of education (Schumann et al., 2019; Fontainha, 2017). Especially, through COVID, stakeholders like technology providers got established as key players in the field of education.

But the implementation of EdTech and technological innovations is not in everyone's favor. Opposing voices say that EdTech, and companies providing such, have become bigger but not necessarily more educational (Kucirkova, 2022). Hirsh-Pasek et al. stress that education fails to keep up with the advancements of technology. In their opinion technology, rather than the educators themselves, determine what qualifies as educational opportunity and what not (Hirsh-Pasek et al., 2022). This problem is addressed by Tauson and Stannard, 2018, who stress that EdTech is a tool which is made for children and hence needs to be constructed with principles of pedagogy (Tauson & Stannard, 2018).

## 2.2. Citizenship

One condition that must be met to have a right to education is citizenship. Therefore, this part of the conceptual framework explains the link between citizenship and education and defines the condition of being stateless.

One of the main reasons people are denied or deprived of nationality, hence called stateless, is racial or ethnic discrimination (Goris et al., 2009).

Stateless people face a range of different problems, depending on where they live and why they are stateless. This study uses the definition of statelessness of the UNHCR:

*"A stateless person is someone who is not considered as a national by any State under the operation of its law."*

This definition goes back to Manley O. Hudson in 1931 and is widely recognized in international law and practice (UNHCR, 2024).

Facing education, the problem of statelessness poses great difficulties. Without a recognized citizenship, refugees have no basic right to education. In an article on Mass Public Schooling without a nation-state, Waters and Leblanc conclude that there are three paradoxes that make the development and implementation of refugee education programs problematic: (1) a so-called international refugee relief regime ("pseudo-state") creates the curriculum and educational support; (2) education is always embedded in political judgements; and (3) schooling is inherently embedded in broader issues of individual and economic development which are for refugee populations often unclear and unimaginable (Waters et al., 2005).

## 2.3. Development

Development cooperation refers to the targeted support of developing countries through financial, technical or social aid in order to improve their economic development and living conditions. It aims to promote long-term sustainable improvements in areas such as health, education and infrastructure.

### 2.3.1. ICT4D

When talking about the use of technology in developing countries it is most likely part of the field of ICT4D. The abbreviation ICT4D stands for Information and Communication Technology for development. Hence, the concept/theory of ICT4D is relevant for this thesis. The concept of ICT4D tries to cover the technology that is applied in the broad spectrum of development work and humanitarian aid. It refers to using technology, such as mobile phones and the internet, to address socio-economic challenges and improve the quality of life in developing countries. The importance of ICT4D in this study lies especially in its socio-political context. ICT4D seeks to use the potential of technological innovation to ensure individual development, strengthen communities, and to advance sustainable development outcomes in countries of the global south and developing countries.

## 3. Methods

This section elaborates on the research methods and tools that were chosen to answer the research question. Firstly, the research design and its justification are presented, followed by the motivation of the case selection. Hereafter follows the description of the data collection methods and the data analysis, as well as the quality criteria.

### 3.1. Research design

To answer the research question of this thesis, a case study of the Rohingya refugee camps was conducted. The case study is bound to the general educational situation for Rohingya children in the camps and the problem of access to quality education.

The case study as a research method is an in-depth and detailed examination of a certain situation or phenomenon. It can focus on individuals, groups, organizations, events, or situations. Using a case study for scientific research is useful to provide rich, contextualized insights into a specific topic. It allows researchers to explore processes, behaviors, interactions, and outcomes in detail (Yin, 2009). In this study, the use of this method makes it possible to examine the context and complexity of the educational situation in refugee camps in depth and to gain deeper insights into the experiences and perspectives of the stakeholders involved.

To answer the central research question, the research is divided into three sub-questions. This is done to make the research more comprehensive, therefore, several methods are used to answer the sub-questions which will be explained in the following.

### 3.2. Case selection

The case of the Rohingya refugees was chosen due to a personal experience of the author in the field of German development cooperation with Bangladesh. During his time at the BMZ, the author was repeatedly involved in educational programs in the camps. There are several projects the German government is financing and supporting in the district of Cox's Bazar. Experiences have shown that the education for children is hard to access and lacks quality. Dealing with the field of EdTech and in general innovative technologies in humanitarian settings during his bachelor studies, the author then decided to evaluate the potential of EdTech in these camps and in how far they can help to get more Rohingya children to school and enhance their access to education.

### 3.3. Data collection

The research is based on primary and secondary data. The primary data was collected through an expert interview. Due to time and resource limitations, only one expert interview was conducted.

#### 3.3.1. Primary Data

The expert interview was conducted with an official from the Federal Ministry for Economic Cooperation and Development (BMZ), who is responsible for German development cooperation with Bangladesh. Due to government negotiations to Bangladesh, the interviewee has been in Cox Bazar refugee camps and was able to get an idea of the situation and the people firsthand.

The questions that were asked were open questions with focus on the first two sub-questions. The interviewee remains anonymous throughout the thesis. The text was categorized and coded based on predetermined criteria or emergent and relevant themes regarding the sub-questions. The coding was done with the software atlas.ti. The aim of this interview was, firstly, to get a deeper understanding of the educational situation. Secondly, this interview was used to carry out cross-checking to see whether the data from the interview corresponds to the data from the content analysis. Cross-checking also helped to eliminate bias in the analysis, as one challenge was to construct non-biased interview questions.

Another limitation was that some information could not be used due to confidentiality. The advantage of primary data is that it is up-to-date and is therefore typically more current than secondary literature. It is also important to capture specific data needed for the study which cannot be found in secondary data.

### 3.3.2. Secondary Data

For the textual analysis of the secondary literature, existing texts like reports, and documents related to EdTech initiatives and education in refugee contexts, including case studies, policy documents, and academic papers were reviewed. The process can best be described as semi-systematic literature review.

Semi-Systematic literature review is necessary as it allows for a thorough and structured examination of existing research on a topic, providing a comprehensive understanding of the current state of knowledge and identifying gaps for future research (Snyder, 2019).

Since the major Rohingya refugee movement from Myanmar took place in 2017, most of the scientific articles and reports used were published after 2017. Rohingyas had already fled to Bangladesh before, but the effects for the international community only really became apparent with the refugee movement in 2017.

One of the problems that occurred during data collection was, that relevant data is not yet available. Bolon et al., 2020 are calling refugee camps “black boxes” concerning data gathering and scientific research. Therefore, to add to the existing literature, studies concerning the use of ICTs from similar topics as well as reports from websites were used.

The abstract, introduction and conclusion of the previously collected literature was first read thoroughly. Afterwards relevant texts were identified and uploaded to the coding software atlas.ti. Atlas.ti is a qualitative data analysis software that provides tools for managing, analyzing, and visualizing qualitative data.

The predetermined codes were then used to mark certain keywords or information in the literature. The codes were mainly determined in alignment with the theoretical framework. In addition to these deductively derived codes, also inductive coding was used to capture all relevant data (Mayring, 2014). Thus, analysis with mixed coding was facilitated. The codes were then applied to the qualitative empirical data in atlas.ti. In the following for each type of document keywords and inclusion and exclusion criteria were highlighted. Due to the different methodical approaches, different coding schemes were used.

The coding schemes and entirety of codes are visible in the illustration below.

<b>Coding Scheme</b>	<b>Codegroup</b>	<b>Codes</b>
<b>Comparative Study</b>	<b>Contextual Factors</b>	Geographical Conditions
		Political Conditions
		Socio-economic conditions
	<b>Educational Outcomes</b>	Certification and Accreditation
		Career Advancement
		Learning Outcomes
	<b>Challenges and barriers</b>	Cultural barriers
		Gender issues
		Security concerns
		Technical issues
	<b>Educational Policy</b>	Policy design
		Policy implementation
	<b>ICT Infrastructure</b>	ICT Accessibility
		ICT Availability
	<b>Stakeholder Involvement</b>	International Organisations
NGO's		
Private Sector		
Other actors		
<b>Stakeholder Analysis</b>	<b>Public Group</b>	Government & Policy-makers
	<b>Public Group</b>	Researchers & Academic Institutions
	<b>People Group</b>	International Organisations
	<b>People Group</b>	NGO's
	<b>Beneficiaries</b>	Teachers and Educators
	<b>Beneficiaries</b>	Students
	<b>Private Group</b>	EdTech Companies and Developers
	<b>Private Group</b>	Private Sector
	<b>Impacts &amp; Outcomes</b>	Recommendations & Best practices
	<b>Impacts &amp; Outcomes</b>	Roles and contributions
<b>Expert Interview</b>	<b>Expert Interview</b>	Challenges faced
		Current education

Illustration 3, (made by author).

Mostly scientific articles, reports, and policy briefs and strategies were reviewed. Databases used were Google Scholar, JSTOR, as well as the Online Libraries of the University of Twente and the University of Münster.



For the last semester, the author was employed in the department responsible for development cooperation with Bangladesh at the BMZ in Berlin. The author has gained deep insights into the cooperation with Bangladesh and was particularly familiar with the ongoing projects in the Rohingya refugee camps. Therefore, personal field observations during the authors work at the BMZ was included into the collection of data as well.

### 3.4. Data analysis

In this part of the methodology, the process in analyzing the gathered data will be explained. For the first two sub-questions a textual content analysis was conducted. A textual content analysis is a method used to analyze qualitative data by identifying and interpreting patterns or themes within the data. It involves systematically coding and categorizing textual or visual information (Vaismoradi et al., 2013).

For the first sub-question, the analysis focuses on finding out who the stakeholders are, that are active in the field of matters regarding education. The stakeholder analysis provides insights into the structural barriers and biases and who is responsible for disturbing Rohingya children's access to education. Additionally, three main challenges were determined as the main determining factors for the educational situation of the Rohingya. Important to mention is, that due to the scope of this thesis the author took a selection of the most relevant stakeholders and challenges.

The analysis of the second sub-question focuses on the existing educational situation on the Rohingya refugee camps and the access towards technological devices in the current state. The majority of information was gathered through the expert interview with the BMZ representative. Additionally, desk research was done to substantiate the statements and arguments mentioned and to point out additional information.

The third sub-question is answered via a comparative study. A most similar case is used to compare possible best practices in terms of education and the use of technology. A "most similar" case study design is a comparative research approach where two or more cases with many shared characteristics are studied to identify and understand the impact of certain variables and elements. This approach offers several distinct advantages which are relevant for this thesis. It facilitates an in-depth analysis of the unique characteristics and complexity of each case (Knight, 2001).

After extensive research, the author has decided to compare the case of the Rohingya in Bangladesh with the refugees who have fled from Somalia to the region of Dadaab, Kenya in recent decades. This case was selected due to contextual similarities and a significantly better management of refugee education in Kenya. A detailed reasoning is provided in the analysis of the comparative study in this thesis further below. Due to the scope of this study, the data collection and analysis of this comparative study focuses on the refugee camp in Dadaab in Kenya.

### 3.5. Quality criteria

In the methodology of a research project, it is important to consider the quality criteria of validity, reliability, and limitations to ensure that the results of the study are reliable, valid and interpretable.

Validity refers to the fact that it must be ensured that the data and facts mentioned regarding the EdTech initiatives aim to improve access to education for Rohingya children. In other words, it must be ensured that this study measures what it claims to measure.

In this study, this is ensured by incorporating best practices from other EdTech initiatives as well as expert opinions, gathered through secondary literature and data.

The reliability and credibility of different sources was carefully treated. Academical books, articles, journals, statistical websites, and official reports were prioritized. However, online newspaper articles were also used when the searched information was not available elsewhere. Furthermore, there are limitations to consider. For this study the three following limitations should be considered:

Due to their focus on specific cases and phenomena, case studies can be criticized for their limited generalizability (Gerring, 2007). As each humanitarian crisis has various prerequisites and problems to overcome, the case of the Rohingya and its potential of EdTech cannot be directly transferred to other cases.

Utilizing atlas.ti enhances the efficiency and effectiveness of coding and conducting comprehensive literature reviews. However, language can be interpreted differently. Certain phrases or descriptions can be interpreted differently from researcher to researcher, resulting in intersubjectivity as a particular challenge of the study.

Another limitation is the time available for topic identification, data collection, analysis, interview and evaluation. The author had a total of around three months. If more time had been available, an even more comprehensive result could have been achieved by using a different/additional method.

## 4. Analysis

### 4.1. Stakeholders

The first part of this chapter is a brief stakeholder analysis, identifying involved stakeholders in implementing refugee education in humanitarian settings, specifically for the Rohingya. Despite major challenges in providing education in camps, recognizing the potential of EdTech requires understanding these stakeholders because it highlights underrepresented players in the education sector which could or should be involved in future policies. This section uses Fontainha et al.'s stakeholder management model, as explained earlier in the conceptual framework. The codes were created based on this model and subsequently assigned to a total of four stakeholder groups. The entirety of the codes can be viewed in the methods section (Illustration 3). Based on the research, at least one stakeholder from each group relevant to the access to education was evaluated. A broader analysis would have been outside the scope of this thesis.

The second part of this chapter analyzes the challenges and barriers to implementing EdTech in Rohingya refugee camps. Identifying these challenges is crucial for developing effective solutions and targeted strategies for organizations and policymakers. Understanding the barriers also allows for a more efficient use of resources, ensuring that limited financial means are directed where they are most urgently needed.

#### 4.1.1. Public group

##### 4.1.1.1. *Bangladesh Government*

The government of Bangladesh's responsibility for providing education to Rohingya refugees lies with the Ministry of Primary and Mass Education, the Ministry of Education, the Ministry of Disaster Management and Relief, and the Refugee, Relief and Repatriation Commissioner (RRRC). A coordinating group, called ELCG, in Dhaka is meant to bring UN agencies and NGOs together with government bodies on education issues, but the government rarely participates (Esveld, 2023).

The research has shown the government of Bangladesh does not have a refugee council or a particular department in a ministry that is directly responsible for the education of the Rohingyas. Areas of responsibility merge into one another. As the government itself takes little part in meetings relating to education, there is no overarching decision-maker.

However, according to the BMZ representative, there are so-called "camp commanders" in the individual camps. These are government officials from the Bangladeshi government who are sent to the camps to check on the situation. They are also responsible for coordinating international aid organizations such as UNICEF or UNHCR. These organizations in turn have informal contacts with informal persons in the camp.

#### 4.1.1.2. *European Rohingya Council*

What the research has also shown is that European governments and development ministries are much more involved in supporting the Rohingya education compared to neighboring countries of Bangladesh. A supporting actor for the awareness of the international development cooperation in the Rohingya situation is the European Rohingya Council. The European Rohingya Council (ERC) campaigns in various areas for the education of the Rohingyas to improve their chances of a better life and promote their integration into host societies. For example, the ERC supports initiatives such as scholarships, online learning platforms, teacher training and language courses (ERC About, 2024).

The Rohingyas in general lack a large international lobby to where attention is drawn to the problems and difficulties on the ground and can then be acted upon accordingly by the international community. As the example in Kenya below show (see Chapter 4.4), foreign universities can also play a positive role in the development of education for the Rohingyas. The analyzed documents showed that no foreign university has intervened for the education of the Rohingya so far. However, there were cases, mostly in the health sector, where universities added scientific knowledge towards researchers and project coordinators on site (Tay et. al, 2019).

#### 4.1.2. People group

##### 4.1.2.1. *UNHCR/UNICEF*

UNHCR has a mandate to protect refugees and find lasting solutions for their situation. This includes access to education as a fundamental human right and an essential component for the protection and long-term integration of refugees.

UNHCR works closely with the Government of Bangladesh, other UN agencies, NGOs and local communities to coordinate and implement education initiatives. One coordination tool is the Refugee Coordination Model (RCM), which was drawn up by the UNHCR itself. It is intended to serve as a structure and demarcation of the respective areas of affiliation. This model shows how the UNHCR analyses each situation and allocates tasks to the context of the particular humanitarian situation. Part of this model are country teams (UNCT's) in which matters and projects concerning education are discussed. The RCM names UNICEF and UNESCO as the main responsible parties here (UNHCR RCM, 2019). However, it is important to note that NGOs that on paper also fall under the coordination of UNHCR are less or reluctant to be coordinated by UNHCR because they prefer to operate more freely.

As the BMZ representative revealed, development work with Bangladesh in the field of education is mainly carried out with UNICEF. The organization is in the Rohingya refugee camps mainly concerned with the education of school-age children.

UNICEF, the United Nations Children's Fund, works to protect and promote the well-being of children worldwide. In crisis situations, the organization provides humanitarian aid and ensures that children's basic needs are met. In addition, UNICEF promotes children's rights and campaigns politically to ensure that laws and policies are designed and implemented in the interests of children.

#### 4.1.2.2. *NGO's*

NGOs often take on tasks in smaller niches, as financial resources are too limited here. Nevertheless, the research shows how important the deployment of NGOs is in these vulnerable environments. They can move more freely than the large IOs and are therefore much more capable of taking action in the short term. However, due to these circumstances NGOs on paper also fall under the coordination of UNHCR (Fontainha et al., 2017).

According to the BMZ representative they are less or reluctant to be coordinated by UNHCR because they prefer to operate more freely. They deal with issues and projects that they themselves currently consider important. The most current issue in Bangladesh is gender-based violence which will be evaluated on in the second part of this chapter. NGOs often have the opportunity to implement more innovative ideas/pilots. According to the BMZ representative, after visiting the camps, no laptops or tablets were seen in any of the classrooms controlled by UNHCR. NGOs are mainly concerned with the early childhood education. This includes the care of children of kindergarten age, which also takes place in the multi-purpose facilities (Rahman, 2022).

But NGOs also take on areas such as healthcare for the elderly and disabled. NGOs involved in Bangladesh are for example the Welthungerhilfe, the Save the Children and Caritas which provide a relatively broad portfolio of humanitarian aid and support. Research showed that small NGOs have problems raising the necessary funds and therefore usually work under one of the larger organizations mentioned.

#### 4.1.3. *Private group*

##### 4.1.3.1. *Private sector*

Another stakeholder in education is the private sector. This primarily includes technology providers, who are constantly bringing new EdTech initiatives onto the market.

The research has shown that so far there are hardly any private companies operating in the Rohingya camps. Even outside the education sector, private companies are hardly mentioned in connection with humanitarian aid. The relevant literature repeatedly advises that the private sector should be more involved in humanitarian crises. According to Sun et al. the private sector has the unique ability to change the attitude of the Bangladeshi government towards the refugees by investing in the local area, helping to create new jobs for refugees and locals (Sun et al., 2019).

One possibility put forward by Pascucci, 2021 is the promotion of humanitarian business partnerships. Humanitarian business partnerships are collaborations between humanitarian organizations and companies that aim to make humanitarian aid more efficient and sustainable. These partnerships combine the resources, expertise and innovation of the private sector with the experience and access of humanitarian organizations to affected communities. The existing literature on these partnerships focuses on logistics inside and outside humanitarian situations where supply chains need to be optimized and made more sustainable. One problem that is noted in the use of RCM's is private sector companies in particular want UNHCR to take on a leadership role and thus adhere to the agreed contracts. The UN's own organizations, on the other hand, strive for internal coordination and definition of areas of responsibility (Abu Jarour, 2017).

#### 4.1.4. Beneficiaries

##### 4.1.4.1. *Students and teachers*

According to the World Bank's evaluation of the five EdTech principles, truly relevant education can only be provided if users are involved in the process. Research supports this, emphasizing that feedback from consumers or beneficiaries is crucial to ensuring education is targeted, sustainable, and up to date (Siarova et al., 2022; Pasucci, 2021; Fontainha, 2017). The research has shown that language problems in particular contribute to the fact that the children or teachers cannot give proper feedback. Children who lived their whole life in the camps cannot give proper feedback because they do not know whether the educational programs, they participate in are good or not, as they have no comparative value.

#### 4.2. Challenges

The stakeholder analysis already revealed some of the challenges that arise in Bangladesh. It was decided that the following three challenges based on their importance concerning access to education for the Rohingya children would be considered in more detail for this thesis: Citizenship, Infrastructure and Culture.

##### 4.2.1. Citizenship

At the legal level, it has to be noted that Bangladesh has not ratified the 1951 Geneva Refugee Convention, leaving the Rohingya without a legal right to education. In government circles, the refugees have been and still are being called “forcibly misplaced Myanmar nationals”. The official policy has made an election campaign promise that everything will be done to get rid of the “forcibly misplaced Myanmar nationals”, no matter what (Ministry of Foreign Affairs Bangladesh, 2020).

In their current position the Rohingya are stateless, as neither the Myanmar government nor the Bangladeshi government recognize them as their citizens. The Rohingya do not get any birth or marriage certificates. In addition, there are no inheritance options since they do not receive a death certificate either. Without official documents, apart from a UN identity card, the Rohingyas are made to feel on purpose that they are unwanted and virtually non-existent by the Bangladeshi government. Furthermore, the Rohingya children get no accreditation of their education-related progress (Rahman, 2022).

This is also prohibited by the Bangladeshi government, as, according to recent statements of the Ministry of Foreign Affairs, the Rohingyas stay only temporarily (Ministry of Foreign Affairs Bangladesh, 2020). According to the BMZ representative attempts are currently being made to accredit certificates, the initiatives have only just started or are not yet working. It is not yet possible to predict when and if they will work.

##### 4.2.2. Infrastructure

Another challenge to improve access towards education is the infrastructure in the camps. The Bangladeshi government bans to building permanent structures, only some facilities of the WASH sector are built on permanent basis. The local houses are made of bamboo and corrugated iron. Since 2020, there are multi-purpose buildings in which educational programs take place. These buildings are of a more solid nature but are also only bolted together and can be dismantled if necessary.

In its five principles for the successful implementation of EdTech, the World Bank explains that basic infrastructure such as technical devices and internet connectivity must be in place to close the digital divide and stop inequality in access to education (World Bank, 2020).

As several scholars highlight, the infrastructure in the refugee camps is miserable in every respect (Frelick, 2023; Tay et al., 2019; Sun et al., 2021). The multi-purpose buildings, where most of the education in the Rohingya refugee camps takes place, are not within walking distance for many children. The camps were built one by one and so roads were simply extended and meander through the camps without much structure.

Even when it is dry, the roads are not easy to pass. In rainy seasons or during floods, the community centers are sometimes inaccessible for days or weeks and make traveling throughout the camp almost impossible.

Another problem that directly affects the potential of any technology implementation in the Rohingya refugee camps is the internet connectivity. In many parts of the camps there is 2G internet connectivity, but there are frequent irregularities and outages. Furthermore, not many families own laptops or tablets; the only medium that is widely used is the smartphone (Haleem, 2022). Due to COVID and the political escalation in Europe and the Middle East, financial promises are not being held or are being cut. The major donors from the industrialized countries, with the BMZ as one of the major donors with a total of 275 Mio. Euros in 2021 and 2022 (BMZ, 2024), are directing their budgets away from development cooperation and towards their own needs and problems (McNair et al., 2024). As the BMZ representative reports, the refugees' food allowance had to be reduced from twelve dollars per person per month to ten dollars and finally to eight dollars. The provision of food and water has priority.

#### 4.2.3. Culture

The research has shown that the problem of gender-based violence is widespread in the field of humanitarian aid and that there are so far only a few sustainable solutions for it. No exact official figures could be found, but an annual report from 2022 shows that domestic gender-based violence has risen from around 72% to around 84% during COVID (UNHCR Annual Results Report, 2022).

Mwoma et al., 2021 conducted a study on gender-based violence in refugee camps. It turned out that, regardless of the humanitarian situation, the problem of gender-based violence exists in all cases. From the prejudice that girls have to help with household chores and are more often kept away from educational programs than boys to hygiene problems during menstruation and childbirth. Akhter et al., 2014 add that the problem of gender-based violence was already acute in the camps of Cox's Bazar before the large refugee movement in 2017. This also includes a higher birth rate than death rate that currently prevails in the camps. Domestic and sexual violence result in unwanted pregnancies and unsafe abortions. Further consequences include the spread of sexually transmitted diseases and related general health issues and an overload of the already meager health sectors in the camps (Shohel et al., 2023).

Another cultural challenge regarding access to education is that the refugees who came to Bangladesh before 2017 are generally of a higher status than the refugees who came to the country after 2017 (Shohel et al., 2023). Resulting that some of these households that are better off could buy available technology earlier, giving them more advantages and compounding disparity.

The educational level of Rohingya refugees was lower than that of the average child in Bangladesh in 2017 due to the ongoing civil war and already missing education in Myanmar. Therefore, another major challenge in dealing with refugee children's education is that there is hardly any information regarding their previous education (Solis, 2016). Many Rohingya children speak neither Bengali nor English, which makes integration into the existing education system difficult and requires special programs.

Up to this day it is still hard to measure the education level of each child entering refugee education. Frameworks like the Learning Competency Framework and Approach (LCFA) were the first approaches to get things in order (Shohel et al., 2023). It provided blueprints for education providers what were taught in Rohingya camps considering each age group and education level, before it got replaced by the Myanmar Curriculum Pilot in 2021.

#### 4.3. Current educational situation in the Camps

This chapter is dedicated to the evaluation of currently practiced traditional education in the camps. To determine what the potential of EdTech in the Rohingya refugee camps is, it is important to know what educational services are currently available for children in the camps, to highlight shortcomings which could be solved through the application of technologies. The possible potentials as a result of this chapter are taken up and discussed at the end of this thesis.<sup>1</sup>

Shortly after 2017 the children in the camps learned the basics of writing and calculating with their hands and fingers. Until 2019 there was no formal education at all. Rohingya who have been teachers in Myanmar before, held informal classes for children in small circles. Today, after COVID, the first generation, the so-called "lost generation", is starting school (p.3). These children have lived their whole life in the camps and know nothing else. There is still no official or comprehensive educational program, apart from international programs lessons continue to be informal. Until today, classes are held entirely in the language of the Rohingyas, as the Bangladeshi government prohibits classes from being taught in Bengali (p.4).

There are no proper classrooms in the camps. Classes are taking place in so-called multi-purpose centers, which are spread out in relatively small numbers across the camp. There is barely enough money in the camps to provide everyone with food, which is why there is no money left over for luxuries such as laptops or tablets. They are hardly equipped with modern technology. There are blackboards made of wooden boards (p.5). There is an increase in the number of students. However, it is not yet so drastic that it would no longer be possible to manage it. During class, the children sit on wooden benches or on the floor, depending on how busy the class is (p.8).

During COVID, school education was completely suspended. Attempts were made to provide at least some education via cell phones, such as the alphabet or counting from 1-10, but with 2G this was almost impossible (p.6).

Compared to the educational level with the western curriculum, the education in the camps is primary school level even for older generations. That means the stakeholders are forced to limit interventions to the essentials. The problem of not being able to divide up the educational level of each individual child is reflected accordingly in the classrooms (p.4-5).

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<sup>1</sup> The majority of the data for the analysis is provided through the expert interview (see annex data) as the BMZ representative was able to identify more recent developments as the available literature. To ensure validity, the respective pages of the interviews script are mentioned.



The government prohibits the provision of higher education; however, it cannot be provided by international society due to missing financial support anyway. Primary education receives the most amount of funding and tertiary education the least, if at all (Wright et al., 2012).

Refugees who were already teachers or had started their training before fleeing, received further training, or completed their training in order to teach according to the Myanmar curriculum. Due to a lack of translations of the textbooks, some texts are written in academic English. The teachers who are Rohingya themselves have difficulties to understand the texts and therefore cannot discuss or explain them to the students (p.4).

A few Rohingya who received education before fleeing to Bangladesh get the opportunity to work in small NGOs. However, one of the requirements for this is to speak English. Additionally, in the informal sector, there is the possibility of collecting garbage or even helping with the water supply and thereby learning something practical. However, these examples are rather the absolute exceptions (p.7).

#### 4.3.1. Access towards technologies

Separate from the educational sector, there are community centers with a few computers that can be used. Among other things, they are mainly used for complaints or to communicate concerns that are currently pressing (p.6).

According to the BMZ speaker, technology such as tablets, laptops and cell phones can be found in the camps with the informal leaders. Over time, power structures and clan structures have developed. These gangs take advantage of the Rohingyas' emergency situation and thus have the dominant position when the NGOs and IOs leave the camps in the evening (p.5-6).

#### 4.4. Comparative Study

To assess whether and which EdTech initiatives could work in the Rohingya refugee camps to increase access to education, best practices are helpful. Accordingly, a comparative study is used to answer the third sub-question. The definition of accessibility to education by Tomaševski, 2001, that mentioned in the conceptual framework, focuses on governmental structures and policies that create hindrances in the provision of education. Therefore, the focus here lies upon why certain policies or initiatives were implemented in Kenya and why they do not exist in Bangladesh. The analysis seeks to identify whether successful EdTech initiatives in Kenya could also be applied in Bangladesh and what conditions may need to be in place to implement them.

This chapter begins with a brief overview of the situation in Kenya. Next, the criteria used to compare the two cases are listed, followed by the respective findings. Similarities and differences are identified, which are then interpreted and discussed with regard to the sub-question and the general aim of this thesis.

##### 4.4.1. Criteria

The particular codes for this comparison are developed deductively based on the theoretical framework and the educational situation in Bangladesh. Inductive codes were also created, as during the coding process, there were influences and topics that had not been considered before or that were thought not to play a major role in the respective case. All final codes can be looked up in the methods section (see Illustration 3). For the clarity of the analysis every code was assigned to a code-group which serve as subsections.

#### 4.4.2. Legal Framework

In Kenya refugees are protected through national and international law, which secure their access towards education. The Constitution of Kenya, particularly Chapter 4, which deals with fundamental rights and freedoms, provides protection for all persons on Kenyan soil, including refugees (KLRC, 2024). The government allows refugee children to visit national schools which makes the integration into the national school system a lot easier.

Compared to Kenya, Bangladesh did not ratify the 1951 Geneva Refugee Convention and therefore misses the legal recognition compared to Kenya (Biswas, 2023). The educational programs are more temporary and rely strongly on the participation of the international community.

#### 4.4.3. Contextual Factors

The humanitarian situation in Kenya is helpful for this thesis because the external circumstances, in this case the political and geographical situation, are very similar to the situation in Bangladesh. Due to the large amount of refugee camps in Kenya and the scope of this thesis the author decided to focus on the camps in the region of Dadaab.



Illustration 4, Refugee Camps Dadaab & Kakuma, Kenya (Al-Jazeera, 2021).

Kenya has seen a continuous inflow of refugees from surrounding areas as a result of political and military conflict in regions such as Somalia and South Sudan. The Dadaab refugee camp, has responded to refugee flows for over 30 years. Dadaab, located in Garissa County, was first established in 1991 as refugees fled civil war in Somalia (Burkardt et al., 2019). As of January 2024, over half of the refugees in Kenya originated from Somalia, where they fled from famine, drought, and oppressive ruling caused by a militarized government. Though the inflow of Somali refugees is decreasing, there is very little outflow of refugees from these camps; it is still estimated that Somali individuals spend an average of 30 years in refugee camps globally. Just a few of them are able to return home (UNHCR Kenya, 2024).

In Bangladesh the external conditions are similar. There have been refugee movements from the 90's onwards, the refugees' origin in majority from one neighboring country and the reasons for fleeing are militarized governments, oppression, and persecution. In addition, both sites suffer major constraints due to the effects of climate change. Floods, heavy rainfall, and draughts repeatedly lead to difficult conditions regarding housing and movements inside of the camps.

#### 4.4.4. Educational Integration

Kenya makes efforts to include refugee children into the national society and national school system. As Al Jazeera reports, Kenya has recognized that supporting refugees can bring an advantage to the national economy and beyond (Al Jazeera, 2021). The Refugee Act, which was passed and implemented by the government in 2021, is among other things, intended to give refugees wider access to education (Halakhe et al., 2022).

In Bangladesh the educational programs are limited to the multi-purpose centers inside the camps. The research showed no official attempts to open national schools or the curriculum towards the Rohingyas. Structural difficulties between the ministries and the negative overall attitude towards the Rohingya make such decisions in Bangladesh considerably more difficult (Rahman et al., 2022). These problems were confirmed by the BMZ speaker during the expert interview.

#### 4.4.5. Political support

One core aspect the research has shown is the Kenyan government has a more positive attitude towards Somali refugees than it is the case in Bangladesh with the Rohingya. This opens up new opportunities, particularly in the area of decision-making regarding educational issues and ultimately the educational outcomes themselves.

Kenya shows besides existing challenges a certain political will and support for the education of the refugees. The Refugee Act aims to widen access to education by turning refugee camps into integrated urban settlements, to integrate them into the host community (Lugulu et al., 2023). The governments' objective with socio-economic integration is to allow the private sector to get involved in the humanitarian support. An example that is not used in Dadaab particularly but in the other large refugee camp, Kakuma, is the Kakuma Kalobeyi Challenge Fund. With this fund, it is hoped that greater financial support from the private sector will be obtained in order to increase access to and quality of education (Halakhe et al., 2024).

In Bangladesh, hardly anything could be found about cooperation with the private sector in the field of education. A report on mHealth for the Rohingya only states that there is still a long way to go before successful cooperation in the ICT sector is established and that, among other things, private stakeholders need to be more involved in the financing and implementation process of ICT (Christensen et al., 2020).

#### 4.4.6. Educational Policy

Before the Refugee Act was passed, the Kenyan government developed the Kenyan Institute of Curriculum Development (KICD) in 2016. Besides the general evaluation of the Kenyan curriculum, which is taught in the Dadaab refugee camps, it became vital during COVID, where employees of the institute gave learning lessons to the refugees in the Dadaab camps via radio so that classes would not be cancelled entirely (Muraya, 2020; Dzame, 2020).

In comparison, the government of Bangladesh still prohibits the use of the Bangladeshi curriculum and the teaching of Bengali. The Learning Competency Framework and Approach (LCFA) was one approach by the government to provide a blueprint for education providers on what will be taught in Rohingya camps. However, it was replaced by the Myanmar curriculum pilot which started in 2021.

The Myanmar Curriculum should provide inclusive access and standardized education as it also fills a critical secondary education gap: It provides schooling for older children who have largely lacked access to education (Shohel et al. 2023). According to the BMZ representative, however, there are still no decisive figures to suggest that the Myanmar curriculum has changed access to education for the better.

#### 4.4.7. Educational Outcomes

Due to the changing attitude of the Kenyan government towards the refugees and the freedoms given by the Kenyan government, stakeholders who take the educational mandate seriously and promote the education of refugees have been able to emerge.

One of these stakeholders in Kenya, which is also crucial for the successful use of education technology, is Borderless Higher Education for Refugees (BHER). The BHER appears repeatedly in various reports and articles on the subject of education in Kenya (Mwoma et al., 2021; Dippo, 2021). The BHER is a development project that was initiated in the Dadaab region by Canadian and Kenyan universities and NGOs. Its aim is to improve access to and the quality of primary and secondary education in refugee camps (BHER, 2024). A successful online-course initiative came from a Canadian university. A selected group of refugees in Dadaab were connected with a class at the University of Toronto who exchanged ideas about daily life in Canada and in Dadaab over a longer period of time and thus got to know the other ones habits and culture (Giles, 2018).

In the research on Bangladesh, no initiatives emerged in the field of education where universities from other countries and NGOs have worked together to provide education. There are no official efforts by the government to include the refugees in the national school system. Just small initiatives, like the above-mentioned study by Christensen et al., which was conducted in cooperation with the University of Copenhagen in Denmark. Other examples were not found in the research for this thesis.

#### 4.4.8. ICT Infrastructure

Nevertheless, the research also showed that the COVID period plagued huge problems to both sites. In both camps, COVID has largely paralyzed education.

However, Kenya was able to restart education after the COVID lockdown thanks to its already better existing infrastructure. Even during the lockdown, initiatives, such as the KICD's educational radio, enabled large numbers of refugees to continue to participate in the education program.

In Bangladesh, on the other hand, there was no education at all during COVID. The progress that had been made up until shortly before was destroyed and they more or less had to start from scratch. That is why, to date, only a small proportion of Rohingya children, regardless of age, have the opportunity to receive an education and thus a perspective for life.

## 5. Discussion

The following results emerged from the analysis. Conclusions were drawn from these results as to why certain problems arise. Based on these conclusions, recommendations were made as to where EdTech can be used or where there is potential for how access to education can be increased.

The objective of this thesis was to identify the problems of implementing basic access to education and to find out what requirements are needed. Additionally, it should be determined whether EdTech represents an opportunity to provide education for the masses and if not, what the general potential of EdTech can be in the Rohingya camps.

But as the analysis shows, there are still enormous problems in Bangladesh in providing education at all. There is no existing framework in which the educational programs can be integrated in. Children enjoying education is still the exception. The educational programs that exist in the Rohingya camps are still only at the level of pilot projects or initiatives. There is not the necessary infrastructure structure to use technological devices in such a way that they can be beneficial for teaching. In the event of power or internet outages, for example, the downloading of applications or online teaching in general is delayed. However, before we can talk about the use of technology, we should focus on providing basic education for all children. Learning in the camps is limited to the few multi-purpose centers within the camps. There are no designated schools and only a few teachers who have received the pedagogical training to help the children in the long term. School should continue to be a place where the children enjoy going. The problem of gender-based violence prevents girls from having the same access to lessons as boys.

The comparative case study shows that despite similar external conditions, the internal political and legal frameworks in Kenya and Bangladesh lead to very different provision of educational programs for refugees.

A better attitude towards the refugees is crucial for progress and improvement of the situation in Kenya. The government's will and intention to use the refugees to strengthen its own economy has ensured that a curriculum has been created and schools built. In addition, the government's own interest in the education of the refugees enables outside participation, as the example between the BHER and the Canadian university shows. Since then, the participating children had better access to educational opportunities, especially in times of COVID, thanks to better ICT infrastructure. Without ratification of the 1951 UN Convention or a Refugee Act like the one Kenya has, the Rohingya can never be sure that they will be protected legally or from deportation. With such great structural differences, the potential of edtech in the Rohingya camps cannot be transferred or generalized to other humanitarian situations. Every country faces different problems due to different legal and structural conditions.

One reason why decision-making on better education has stagnated so far is the lack of consent from the Bangladeshi people and especially the locals around the camps. The refugees inside the camps are better off than the locals who live outside the camps. They have electricity, internet, garbage collection and the provision of hygiene goods. In general, on a bigger scope, throughout the thesis it was difficult to refer to challenges in the refugee camp, as the whole country is actually struggling with the similar problems. Without the local population's consent to continue supporting the refugees, the Bangladeshi government lacks the authority to advocate for the Rohingyas. One could argue that it would be problematic to provide Rohingya children with better access to education than the children of Bangladesh, as this disparity exacerbates further tensions and hinders progress.

But EdTech and the use of ICT can serve as a bridge. Due to the shortage of teachers, an increase in internet connectivity and quality (2G to 3G) could help to establish live streams. Until the financial and human resources are available locally, one teacher can teach several pupils at the same time. If there are no teachers or teachers who are poorly trained, children tend to stay at home because the learning effect is zero. Important here is to keep the figure of the teacher in the classroom. The educational component that teachers give to children, some of whom are mentally unstable, is very important for their development. Schools should remain places where children feel comfortable and are looked after. Allowing children to interact with educational technology unsupervised and without guidance is an ineffective approach.

What needs to be considered when installing these livestreams or distributing ICTs widely is the power of the targeted gangs and militias within the camps. They could ban the technologies or appropriate laptops or other mobile devices. This would mean that the actual use and benefits of these technologies would not be realized, and the children would not benefit from them.

In the course of writing this thesis, a decision was made by the Bangladeshi government with the World Bank regarding financial resources. For the first time, the government is investing considerable funds of around USD 700 million in, among other things, the infrastructure of host communities and is allowing long-demonstrated model projects such as mobile payment of aid and more permanent housing. The focus will also be on intensified early education for 300,000 Rohingya children under the age of twelve (World Bank, 2024). What could give hope for the Rohingyas in Bangladesh is that the Kenyan government has not recognized the potential benefits of the refugees right away and took time. Therefore, the above-mentioned investment is definitely a step in the right direction for Bangladesh. It is also assumed that the Asian Development Bank (ADB) could follow suit with similar approaches which could lead to an even larger financial impact.

### 5.1. Limitations

Overall, the combination of textual analysis and the cross-checking with an expert-interview provided a comprehensive impression of the educational situation of the Rohingya. Without the expert interview, it would have been particularly difficult to determine the actual current conditions on site, as the majority of scientific literature was being published with a time-delay of about 1-2 years. Technologies could help with monitoring and collecting data within the camps. The broader flow of data then makes it possible to recognize patterns and thus develop solutions to specific problems more quickly.

Of course, it must also be noted here that the reviewed reports and the expert interview tend to be western-biased. There was only one interview and several interviews from other organizations might have given an even more differentiated overview of the situation. For example, an interview with someone who works on site for the UNHCR, or an NGO would have been interesting in order to better understand the processes within the UNHCR instead of using predetermined frameworks that describe how things should work.

For further research in the future, the 700 million USD promised by the Bangladeshi government could be interesting. Here, researchers could determine through interviews with local workers or through surveys with the Rohingyas whether the money is noticeably reaching the camps. With a volume of USD 700 million and a planned early childhood education for 300,000 Rohingya, the workers on site should be able to feel and see clear changes.

## 5.2. Ethical considerations

A research question concerning the potential of EdTech in a humanitarian situation, assumes to a certain extent that EdTech will only have a positive influence on the children's education. However, it must be questioned whether the use of ICTs in such a vulnerable area is actually advantageous for the beneficiaries of the application. Critics often point to a fixation on "innovation" in this space as justifying experimentation with refugees (Sandvik et al., 2017). Moreover, in many humanitarian situations, refugees often lack necessary digital literacy. The refugees, like the Rohingya, are not used to handle digital devices or any sort of technological application as they are in a way digital immigrants even though they are born in the 21<sup>st</sup> century. In that case, topics like digital divide, "function creep" as well as the reliability of the humanitarian sector towards its donor states need to be dealt with. Innovative practices should not be supported for their own sake, but where they offer the possibility of improving outcomes for target populations.

## 6. Conclusion

The analysis of the educational situation in the Rohingya camps reveals significant challenges in providing basic education, which must be addressed before fully integrating EdTech solutions. The primary issues include a lack of infrastructure, insufficient pedagogical and academic training for teachers, and systemic problems such as gender-based violence that restrict access to education, especially for girls. The existing educational programs are limited to pilot projects, and there is an urgent need for more structured and widespread educational facilities.

The comparative case study between Kenya and Bangladesh highlights the importance of political and legal frameworks in shaping educational outcomes for refugees. Kenya's more favorable policies have enabled better educational provision and external collaboration, resulting in improved access to education for refugee children, especially during crises like the COVID-19 pandemic. In contrast, Bangladesh's lack of a legal framework protecting refugees, coupled with local opposition, hampers efforts to improve education for the Rohingya.

In conclusion, while EdTech offers promising opportunities to enhance education for the Rohingya, it must be complemented by efforts to address basic educational needs, improve infrastructure, and ensure the involvement of trained educators. Only through a comprehensive approach that includes both technological and human elements can meaningful and sustainable improvements in education for refugee children be achieved.

## 7. Literature

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