Asia-Pacific regional synthesis

Climate change, displacement and the right to education

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How climate change impacts the right to education in Asia and the Pacific

In 2020, 30.7 million people were displaced by natural disasters – disasters which the scientific community acknowledges are more frequent and more intense as a result of climate change.

In Asia and the Pacific alone, 21.3 million people were displaced, making it the region the most impacted by national disasters and climate change in the world. Therefore, country case studies were carried out in Bangladesh, India, Indonesia, Tuvalu, and Viet Nam to examine not only specific vulnerabilities to climate change and related mobility, but also the impacts of climate change on the right to education in Asia and the Pacific.

These case studies show that climate change directly threatens education – through the destruction of schools and property – but also indirectly puts education in peril by forcing people to cross borders, ensuring neither legal residency nor the right to education.

21.3
million displacements
took place in Asia and the Pacific

This regional synthesis report aims to guide policy-makers through providing operational policy recommendations on how to ensure education is protected in Asia and the Pacific in the face of climate change and displacement from a human rights-based approach. The report is one of four being developed and will contribute to the global initiative on climate change and displacement and the right to education – launched by UNESCO in 2020 – by informing the development of a Global Report with global policy recommendations.

UNESCO

"Since wars begin in the minds of men and women it is in the minds of men and women that the defences of peace must be constructed"

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Executive summary

The year 2021 has been another year of extreme climate events: increasingly powerful tropical cyclones, more intense heatwaves, frequent wildfires, and prolonged droughts. At the time of writing this synthesis report, 2.4 million people are still in need of humanitarian assistance after Super Typhoon Rai (locally known as Odette) hit the Philippines in December of 2021. Nearly 144,000 people remained displaced for more than a month after the event. Many more still are living in damaged shelters with little access to basic services. The COVID-19 pandemic further worsened their livelihoods and security as an already vulnerable group who is often 'ignored, invisible and excluded' (Orendain and Djalante, 2021, p. 337), as access to safe shelters has been hindered by social distancing restrictions to avoid infections among the evacuees (OCHA, 2022).

Disaster displacement is now one of the world's most concerning humanitarian and sustainable development challenges. As of 2017, there were 18.8 million new internally displaced persons associated with disasters, compared with 11.8 million due to conflict and violence (IDMC, 2018). The number of new disasters displacement has increased over the last few years, with 17.2 million in 2018, 24.9 million in 2019, and 30.7 million in 2020 (IDMC, n.d.). Every year over the past decade, most of the world's new disaster displacements are recorded in East and South Asia and the Pacific. Tropical cyclones, monsoon rains, and floods hit highly exposed areas, particularly in Bangladesh and India – areas that are home to millions of people. In many communities, vulnerability to economic and climate shocks are compounding each other, locking people into a trap of repeated disruption, food and water insecurity, and economic precarity.

The impacts of slower-onset changes such as sea-level rise and salinization are felt incrementally over time, with assets and security being steadily eroded, and communities faced with a long and difficult decision-making period. Those who make the decision to move under such circumstances are being forced to move involuntarily. Many of them gravitate toward urban areas, adding more stress to the infrastructure, resources and services. Climate change and urbanization are expected to aggravate the phenomenon. Yet, although displacement and climate migration have been regarded as one of the most adversely impactful human mobility issues (IPCC, 2014; Orendain and Djalante, 2021), this issue remains underrepresented in international discourse, advocacy, and research (UN OCHA, 2018, p.46), and even within the framework of the SDGs (Zeender, 2018).

The present report is a part of the 'Climate Displacement and the Right to Education' initiative that UNESCO launched in 2020 with the publication of a policy paper on this subject.[1] This initiative takes up a rights-based approach to climate displacement and migration and is concerned about the right to education of all displaced persons including those affected by the impact of climate change. This report synthesizes findings from five country studies in Asia and the Pacific that ask: To what extent does climate change, and particularly climate displacement, threaten the right to education in the selected countries, namely Bangladesh, India, Indonesia, Tuvalu, and Viet Nam, and how to overcome any existing barriers? The goal is to provide

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1   https://unesdoc.unesco.org/ark:/48223/pf0000374966

evidence-informed recommendations for building national education systems that are resilient to the impacts of climate change and ready to ensure the minimum learning disruption for all ages during the inevitable displacements.

Drawing on the five country studies, this regional synthesis presents five climate-induced displacement scenarios prevalent in Asia and the Pacific.

Concrete policy recommendations for each scenario are also provided, with key points summarized in the table that follows.

A summary of displacement scenarios in Asia and the Pacific, barriers to education and policy recommendations

	General profile of CDPs at risk	Main barriers to education	Policy recommendations
Learning disruption due to sudden onset disasters	Children and youth living in remote and/or disaster-prone areas; low-income households in disaster-prone areas	▪ Inconsistent and disintegrated disaster response policy and measures across government sectors, thereby delaying students' return to learning ▪ Issues associated with inadequate school buildings and disaster management ▪ School closures, or unstable schooling in the schools that are used as emergency shelters ▪ Lack of resources and limited capacity of schools. Lack of emotional support and counselling for displaced children and youth, resulting in low engagement and motivation for learning in school	▪ Strengthen governance with clear communication and implementation guidelines to ensure timely local responses ▪ Plan and implement holistic and inclusive remote learning to mitigate school closures ▪ Identify public buildings other than schools to be selected as emergency shelters ▪ Prepare schools with receiving areas for accommodating the influx of CDPs after a disaster through increased structural capacity and resource reserves ▪ Prioritize appropriate responses to already vulnerable groups of learners, such as women, children, youth, and ethnic, religious, and linguistic minorities ▪ Support teachers (prioritize teachers in providing aid akin to prioritizing medical staff for COVID-19), including thorough teacher training on climate change issues and potential responses that they can pass onto students, as well as through targeted teacher training on hybrid learning pedagogies, teaching at the right levels, assessment of learning losses, and more ▪ Consider creating a cash transfer programme for those students most financially disabled to encourage them to return to school post-disaster

	General profile of CDPs at risk	Main barriers to education	Policy recommendations
From seasonal to permanent migration	Children and youth experiencing frequent migration;low-skilled migrants	▪ Complex administrative procedures for school enrolment ▪ Pre-existing inequalities becoming structural barriers for CDPs to assess and enjoy their right to education ▪ Unresponsive education practices lead to various barriers to learning	▪ Simplify administrative procedures for CDPs in accessing education, notably through flexible, exceptional registration and documentation requirements ▪ Provide financial support for education-related expenses (e.g. learning materials, uniforms) ▪ Implement TVET programmes and informal adult learning programmes in target cities, such as Dhaka and Ho Chi Minh City, to encourage upskilling and lifelong learning ▪ Increase teachers' and educational staff's awareness of climate change impacts on CDPs and their learning needs
Government-planned relocation	Marginalized groups, such as less educated women, indigenous people	▪ Persistent gender-specific risks as well as other intersecting inequalities ▪ Pre-existing inequalities faced by indigenous communities ▪ De-prioritization or exclusion of school/teacher relocation in the national relocation master plan.	▪ Adopt a gender-responsive approach to redressing unequal access to resources across and within relocated communities, including education support and lifelong learning opportunities for girls and women ▪ Take into account indigenous peoples and indigenous knowledge in educational planning ▪ Prioritize school/teacher relocation to ensure the right to education of relocated persons as well as communities in receiving areas ▪ Ensure that relocated communities are close enough to former livelihoods, or create livelihood opportunities to avoid poverty becoming a barrier to their children's education

	General profile of CDPs at risk	Main barriers to education	Policy recommendations
Cross-border migration	Stateless migrants;children and women international migrants; migrants on a short-term visa	▪ Lack of international policy frameworks to protect cross-border CDPs and their rights to education and residency ▪ Strict immigration quotas and regulations neglecting CDPs' needs ▪ Compounding barriers to accessing education and lifelong learning	▪ Establish the concept of 'climate refugees', or an equivalent concept, and a legally binding framework to ensure CDPs' access to education on equal footing as refugees ▪ Pursue bilateral agreements for migration with aid partner countries based on the principles of equitable responsibility and burden sharing through, for example, granting the right to education for both children and adults on equal footing as nationals ▪ Ensure that any bilateral agreements do not have strict quotas or language/education restrictions that inadvertently prevent the most vulnerable from migrating ▪ Place CDPs' identity and cultural heritage at heart when handling issues related to climate migration ▪ Enhance people's climate change literacy among displaced and host populations taking into account cultural context to enable engagement with climate action
Trapped population	Vulnerable groups who lack the physical capacities	▪ Pre-existing inequalities exacerbated by climate change impact	▪ Use schools as a starting point to create social protection networks for children and develop community resilience through education and training ▪ Develop social safety net programmes and cash transfer programmes for trapped populations who are continually financially disadvantaged after multiple disasters in order to mitigate school drop-outs ▪ Increase the awareness of vulnerable populations about their legal rights ▪ Continue efforts of 'Education for All' and SDG4 ▪ Focus on capacity-building and lifelong learning that help secure people's livelihoods, which in turn may increase the likelihood of their children's enrolment in school ▪ Mainstream climate resilience and adaptation into policy and planning for development

Key highlights and takeaway messages are summarized as follows:

Highlights

- The Asia-Pacific region faces a wide variety of climate hazards and weather extremes every year. Weather-related disasters, such as monsoons, cyclones, and flooding are becoming more frequent and more intense as a result of climate change. The region is also impacted by the slow-onset effects of climate change including drought, sea level rise, and salinization.

- These effects of climate change are now driving human displacement – either directly by destroying human settlements or indirectly through climate-driven loss of livelihood and subsequent forced migration.

- Through the present study, five displacement patterns have been identified in the region: (1) temporary displacement following sudden-onset disasters; (2) permanent migration to urban settlements; (3) government-planned relocation; (4) cross-border migration; and (5) trapped populations.

- Each displacement scenario entails different barriers to education, with lacking financial resources as the key factor across all scenarios hindering access to quality education during and after displacement. The loss of property and assets due to weather-related disasters and displacement can take years for families to recover from or receive support for their losses. Many families are thus forced to prioritize economic security over their children's education.

- Climate change and climate displacement exacerbate existing educational inequalities and barriers to education, and more adversely affect the financially disadvantaged, girls and women, rural communities, those with pre-existing health risks, and persons with disabilities.

- For those facing forced migration – both internal and cross-border, administrative barriers, lack of documentation, residency requirements, and language barriers impede full access to quality education.

- Among the five countries studied in the region, Bangladesh, with its National Strategy on the Management of Disaster and Climate Induced Internal Displacement (NSMDCIID), has the only comprehensive, national-level policy that explicitly ensures the right to education for those displaced by climate change. This strategy could serve as a model for other Asia and the Pacific countries.
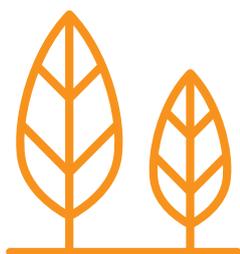
List of acronyms and abbreviations

ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
ASER	Annual Status of Education Report
BANBEIS	Bangladesh Bureau of Educational Information and Statistics
CDPs	Climate displaced persons
CESCR	Committee on Economic, Social and Cultural Rights
CIA	Central Intelligence Agency
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
FRA	European Union Agency for Fundamental Rights
IDMC	Internal Displacement Monitoring Centre
IFRC	International Federation of Red Cross and Red Crescent Societies
IMF	International Monetary Fund
IOM	International Organization for Migration
IPCC	Intergovernmental Panel on Climate Change
ILO	International Labour Organization
MMC	Mixed Migration Centre
MOET	Viet Nam Ministry of Education and Training
SDGs	Sustainable Development Goals
TVET	Technical and Vocational Education and Training
OCHA	UN Office for the Coordination of Humanitarian Affairs
UIS	UNESCO Institute for Statistics
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
UNODC	United Nations Office on Drugs and Crime
WEF	World Economic Forum

Terminology

Asia-Pacific/ Asia and the Pacific	In this document, references to countries within the Asia-Pacific region follows IOM's definition and includes the following countries: Afghanistan, Australia, Bangladesh, Brunei Darussalam, Bhutan, Cambodia, China, Cook Islands, Democratic People's Republic of Korea, Fiji, Federated States of Micronesia, India, Indonesia, Islamic Republic of Iran, Japan, Kiribati, Republic of Korea, Lao People's Democratic Republic, Malaysia, Maldives, Marshall Islands, Mongolia, Myanmar, Nauru, Nepal, New Zealand, Pakistan, Palau, Papua New Guinea, the Philippines, Samoa, Singapore, Solomon Islands, Sri Lanka, Thailand, Timor-Leste, Tonga, Tuvalu, Viet Nam and Vanuatu.
Climate displaced persons (CDPs)	Those who 'move for reasons relating to climate change. This phenomenon is referred to as climate displacement and covers all forms of human movement, whether internal or cross-border, and whether voluntary to some extent, or forced. Movement may be temporary or permanent and the climate change related trigger may be a slow onset or rapid onset environmental hazard' (UNESCO, 2020, p. 2).
Climate migrant	This report follows IOM's (2008) definition: 'Climate migrant implies the pull of the destination more than the push of the source country and carries negative connotations which reduce the implied responsibility of the international community for their welfare' (p. 14).
Internally displaced persons	People or groups of people who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of armed conflict, or to avoid the effects of armed conflict, situations of generalized violence, violations of human rights, or natural or human-made disasters and who have not crossed an international border.
New displacement	The number of new cases or incidents of displacement recorded, rather than the number of people displaced. This is done because people may have been displaced more than once.
School-age population	Population of the age group theoretically corresponding to a given level of education as indicated by theoretical entrance age and duration. (UIS)
Seasonal migrants	Members of the household who leave for part of the year to work but are still considered household members.
Spontaneous migrants	Individuals or households who make the choice to permanently migrate internally, as opposed to migrating as part of government-planned relocation.
Trapped population	Vulnerable populations lacking the resources to escape environmental stressors although wanting to do so.
Vulnerability	The propensity or predisposition to be adversely affected by climate hazards; encompasses a variety of concepts and elements, including sensitivity or susceptibility to harm and lack of ability to cope and adapt (IPCC, 2014).

Chapter 1

Introduction

> *The gravest effects of climate change may be those on human migration as millions are displaced by shoreline erosion, coastal flooding and severe drought. Many areas to which they flee are likely to have insufficient health and other support services to accommodate the new arrivals. [...] In addition, resettlement often causes psychological and social strains, and this may affect the health and welfare of displaced populations.*
>
> (IPCC, 1992, para. 5.0.10)

The impact of climate change on human movement was first identified in the 1990s (IPCC, 1990; 1992). More than two decades later, the IPCC's 2014 report offers empirical evidence on how major extreme weather events have already resulted in 'significant population displacement' (Adger, et al. 2014, p. 758), thus drawing attention to changes in the incidence of extreme events that amplify the challenges and risks of such displacement.

The past few years have witnessed an increasing trend supporting this warning. An average of 25.3 million[2] new displacements have been brought on each year by sudden-onset disasters since the data became available in 2008 (IDMC, 2020). It is worth noting that this global figure is likely an underestimate, as it does not include the people forced to flee their homes due to slow-onset adverse effects of climate change.

From 2008 to 2020, the Asia-Pacific region accounted for 80 per cent of the total global new displacements related to disasters, becoming the world's most climate-vulnerable region in both slow-onset and sudden-onset events (du Parc, 2020; IDMC, 2021; MMC, 2021). In 2021, Asia and the Pacific still accounted for 80 per cent of the world's new disaster displacements, and China, the Philippines, India, and Viet Nam had the highest numbers of displaced persons per country (IDMC, 2022). On a per capita basis, however, Pacific small island states experienced some of the highest levels of displacement (IOM, 2021). In 2015, Tropical Cyclone Pam displaced more than 50 per cent of the population of Tuvalu and about a quarter of the population of Vanuatu.

Population growth and rapid urbanization, including in highly hazard-prone urban areas, are heightening the vulnerability of people in the region (IDMC, 2020). East Asia and the Pacific have had an average annual urbanization rate of 3 per cent, higher than any other region (Baker and Gadgil, 2017). Rapid and often unplanned urbanization increases the risk of disaster displacement by concentrating people in areas exposed to hazards. In South and East Asia, the exposure and risk are expected to rise due to the increasing numbers of people living in low-lying coastal cities and delta regions (UNDRR, 2019). The regional coastal population is predicted to double in Bangladesh, India, the Philippines, and Viet Nam by 2060 (IFRC, 2018). While sudden-onset disasters generate increased need for humanitarian assistance and disaster response, slow-onset processes can generate a shift in geopolitical stability that impacts food security, water scarcity, economic migration, and forced displacement. Perhaps the most evident example is the growing population in informal settlements and entrenched poverty. The World Bank data shows that, as of 2018, about 47 per cent of the urban population in Bangladesh reside in densely populated slums prone to flooding and lacking basic infrastructure, increasing displacement risk.

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2   This figure includes displacements caused by geophysical phenomenon such as earthquakes and volcanic eruptions, but the vast majority are displaced by weather-related events.

Climate change is expected to aggravate these phenomena and have significant impacts on forms of displacement and migration that threaten global security and human rights (Adger, et al. 2014). Such impacts are now widely recognized by the international community and backed by empirical evidence. As is asserted in the 2022 IPCC Working Group II Summary for Policy-makers, Section B.1.7, 'Climate change is contributing to humanitarian crises where climate hazards interact with high vulnerability (high confidence). Climate and weather extremes are increasingly driving displacement in all regions (high confidence)', and 'through displacement and involuntary migration from extreme weather and climate events, climate change has generated and perpetuated vulnerability (medium confidence)'.[3]

As a response to these growing risks, UNESCO launched a global initiative in 2020 to advocate for the education rights of climate-displaced persons (hereafter CDPs). The right to education is one of the most direct but frequently compromised dimensions throughout people's displacement (UNESCO, 2020). Disasters, for example, can destroy or damage school infrastructure, thus preventing students from attending school, in addition to forcing migration or displacement from school districts. Moving – within and across borders – often involves learning disruption, limited access to quality education, or increased drop-out due to a variety of barriers. Inclusive, principled responses, which account for the specific needs and conditions of the most vulnerable, are essential to ensure the education rights of all affected persons.

> **Box 1: What do we mean by climate displaced persons?**
>
> In this report, we follow UNESCO's (2020) definition of climate displaced persons (CDPs). That is, CDPs are those 'who move for reasons relating to climate change. This phenomenon is referred to as climate displacement and covers all forms of human movement, whether internal or cross-border, and whether voluntary to some extent, or forced. Movement may be temporary or permanent and the climate change related trigger may be a slow onset or rapid onset environmental hazard' (p. 2).

The present report synthesizes the results from five selected countries in Asia and the Pacific, namely Bangladesh, India, Indonesia, Tuvalu, and Viet Nam, with a view to advocating for CDPs' right to education. The goal is to provide evidence-informed recommendations to build national education systems that are resilient to the impacts of climate change and ready to ensure the minimum learning disruption for all ages during the inevitable displacements. To this end, the research is guided by the question: To what extent does climate change, particularly climate displacement, threaten the right to education in the selected countries in Asia and the Pacific, and how to overcome existing barriers?

The next chapter elucidates the background of this report and turns to study objectives and methods of each country case. Chapter 3 offers an overview of the climate displacement situation in the region. Chapter 4 presents the education systems and status on the right to education of the studied countries. Chapter 5 presents the main findings across the country cases where five displacement scenarios vis-à-vis their implications for the right to education are explored. Policy recommendations for each scenario are explored in the same chapter.

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3   https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf

Chapter 2

Synthesis context and study methods

2.1 Synthesis context

This regional study investigates five countries, namely Bangladesh, India, Indonesia, Tuvalu, and Viet Nam, with diverse economic and social development status (see country profiles in Table 1). These countries were selected for the region of Asia and the Pacific because they are already on the frontline of the displacement challenge.

Bangladesh is among the top countries globally with the most disaster-related internal displacement. The Global Climate Risk Index rates Bangladesh as the seventh most affected country in the world from extreme weather events over the last two decades, and it is currently host to the world's largest refugee camp with nearly one million refugees exposed to the effects of climate change (Vince, 2020).

In India, the 2019 Cyclone Bulbul affected and internally displaced 3.56 million people (Singh and Basu, 2020). Other seasonal extreme weathers have been and are causing more displacements (detailed in Annex E). The country case study of India therefore mainly investigates strategies and measures taken to relocate many school-aged children at sudden and rapid onset of natural disasters, along with remaining barriers and challenges.

For the Indonesian case, an analysis of the current national relocation plan of the capital city, Jakarta, is the main focus of the study, with special attention given to the intentional measures to ensure the relocation of schools, teachers, and educational facilities in an inclusive manner. Findings from the Indonesian case study provide significant implications to some other coastal or island megacities, such as Bangkok and Dhaka, which are likely to face a similar fate in the near future (WEF, 2019).

The country case of Tuvalu is representative of many other island nations that are suffering from the rising sea level. The measures for Pacific small island relocations require special attention to ensure social and cultural integration as it involves indigenous people with unique cultural identity and intertwined relationships with the land, which may not be readily transferred to wherever they migrate (Holliday, 2020). It is also concerning that, with the current labour agreements with New Zealand, the relocation has been in favour of the small number of Tuvaluans who are already well educated, speak English, and demonstrate expected skill levels, thus leaving the majority of under-resourced Tuvaluans behind (Constable, 2017).

Finally, Viet Nam's planned relocation against climate change has a long history starting as early as 1960s since Viet Nam is known to be one of the most vulnerable nations to weather extremes (Chun, 2015). It is noteworthy that the country went through the 2015–2016 historic extreme weather events such as drought, floods, and salinized water caused by the rising sea level when the National Strategy for Natural Disaster Prevention, Response and Mitigation (Government of Viet Nam, 2007) had been activated a decade earlier. In this regard, a critical reflection on the implementation of that strategy can offer insights into the unique challenges pertaining to weather-related relocation and policy measures for ensuring the rights of temporary and/or long-term displaced persons in other Mekong countries.

This regional synthesis aims to understand the existing barriers to the right to education of people displaced by the effects of climate change in the five countries, with a particular focus on the law and policy implications of heightened human mobility in the region.

The specific objectives are:

- to identify the characteristics and profiles of climate displaced persons (CDPs);
- to identify barriers to education for CDPs (and opportunities if they exist);
- to investigate whether national policies, strategies, actions or measures already exist for CDPs in the field of education; and
- to develop policy recommendations to enhance the quality and inclusiveness of national education systems and optimize education opportunities for CDPs.

Table 1: Profiles of selected countries

	Bangladesh	India	Indonesia	Tuvalu	Viet Nam
Demographic					
Total land area (km^2)	130,170	2,973,190	1,877,519	30	310,070
Population	164.7 million	1.38 billion	273.5 million	11,792	97.3 million
Population density (per km^2)	1,265	464	146	393	314
Urban population (% of total population)	38	35	57	64	37
Urban population growth (annual %)	3.0	2.3	2.2	2.4	2.8
Total number of disaster displacements in 2021	99,000	4,903,000	749,000	–	780,000
Economic					
GDP ($ billion, current)	323.1	2,660	1,058	0.049	271.2
GDP per capita ($, current)	1,961.6	1,927.7	3869.6	4,143.1	2,785.7
GDP growth (annual %)	3.5	-7.3	-2.1	4.4	2.9
National poverty rate (% of population)	24.3 (2016)	21.9 (2011)	9.4 (2019)	26.3 (2010)	6.7 (2018)
Agriculture, forestry and fishing, value added (% of GDP)	12.9	18.3	13.7	16.5 (2015)	14.9
Services, value added (% of GDP)	53.4	48.9	44.4	70.0[a]	41.6

	Bangladesh	India	Indonesia	Tuvalu	Viet Nam
Social					
Urbanization rate, (% of total population)	38.177	24.926	56.641	64.014	37.34
Literacy rate (15+), %	75	74 (2018)	96	–	96 (2019)
Fertility rate (number of children per woman)	2.0 (2019)	2.2 (2019)	2.3 (2019)	–	2.0 (2019)
Stunting among children (aged under 5), %	28.0 (2019)	34.7 (2017)	30.8 (2018)	10.0 (2007)	23.8 (2017)
Under-5 mortality rate, ‰	31 (2019)	34 (2019)	24 (2019)	24 (2019)	20 (2019)
Maternal mortality ratio (modeled estimate, per 100,000 live births)	173 (2017)	145 (2017)	177 (2017)	–	43 (2017)
Life expectancy at birth	73 (2019)	70 (2019)	72 (2019)	67.07[b]	75
Human development index (HDI), rank[c]	133	131	107	–	117

Data sources: World Bank. 2020, unless specified; [a]Central Intelligence Agency (CIA), 2012; [b]Central Intelligence Agency (CIA), 2021; [c]UNDP, 2020.

2.2 Study methods and limitations

This report includes a comprehensive review, synthesis, and examination of available data from a variety of sources. The identification of displacement scenarios, general profiles of CDPs at risk, and educational barriers relied primarily on the five country studies that are summarized in Annexes D to H.

Given the diverse status and characteristics of climate displacement scenarios in the region, it is of paramount importance to adjust the methodology for each country, as well as to secure access to local data sources, policy documents, and informants in the respective native languages. As a result, the methodological approach for all the country cases was primarily extensive literature review of journal articles and published reports from UN agencies, international institutions, and government ministries. Institutional databases such as those from the World Bank, UNESCO UIS, UNICEF, IOM's Global Migration Data Analysis Centre, IDMC's Global Internal Displacement Database, and Sendai Framework online Monitoring tool were used where relevant. The techniques of document mapping and policy analysis of relevant laws, policies, and secondary data from non-governmental organizations (NGOs) and online news media were also used. Moreover, the extensive desk review process is supplemented by limited primary data via surveys, focus group discussions, and/or key informant interviews. The variety of methods allowed us to analyze the immediate, underlying, and structural barriers that CDPs face in the realization of their rights to education. Table 2 outlines the data sources of each country case.

Table 2: A summary of the data sources

		Bangladesh	India	Indonesia	Tuvalu	Viet Nam
Method used	literature review	✓	✓	✓	✓	✓
	grey-literature review	–	–	–	✓	✓
	survey	✓	✓	✓	–	✓
	interview	–	✓	–	–	✓
	focus group	–	–	✓	–	–
Number of documents reviewed (including peer-reviewed and grey literature)		–	–	55	71	95
Number of survey respondents		1,100	15	41	0	28
Number of key informant interviews		20	6	0	0	3
Number of focus group discussions		10	0	3	0	0
Number of expert review sessions		0	1	1	2	1

The UNU-IAS team adhered to all the protocols that were approved by the UNU-IAS research ethics committee. No data was collected from minors in the county cases of India, Indonesia, Tuvalu, and Viet Nam.

One study limitation is the lack of robust and empirical research in relation to some of the areas covered by the analysis (e.g. lacking demographic insights on who are displaced by slow-onset climate events). These gaps are noted throughout the country cases and this synthesis report. A further limitation was the tight timeframe and limited possibility to collect empirical data during the COVID-19 pandemic. Fieldwork, for example, was not possible given a variety of travel restrictions and measures. Accessing government officials, school principals and teachers was also difficult because many of them have been overwhelmed by the rising demands and continuous policy changes caused by the pandemic. In addition, there is a lack of official data focusing on climate migrants and displaced persons, as well as relevant proxies included in data that would allow for meaningful statistical analysis. Again, gaps are highlighted throughout the report as necessary.

Chapter 3

How climate change is driving displacement

This chapter presents evidence on the linkages between the impact of climate change and human mobility in Asia and the Pacific, with a specific focus on the five studied countries.

3.1 Displacement caused by weather-related extremes

Globally, disasters cause a significantly larger number of displaced persons than conflict and violence. In 2021, at least 23.7 new displacements were brought on by weather-related disasters in 104 countries and territories outnumbering new displacements associated with conflict and violence by three to one (see Figure 1). Most new displacements triggered by disasters in 2020 were recorded in East Asia and the Pacific, as well as South Asia, with a record of 4.9 million in India, 780,000 in Viet Nam, 749,000 in Indonesia, 1.27 million in Indonesia, and 99,000 in Bangladesh (IDMC, 2022). Tropical cyclones, monsoon rains and floods affected the whole region, particularly Bangladesh where displacement figures were the highest since data became available in 2008.

Figure 1: New displacements in 2020: Breakdown of conflict and disasters

Due to rounding, some totals may not correspond with the sum of the separate figures.

Source: IDMC, 2021, pp. 11-12. http://www.internal-displacement.org
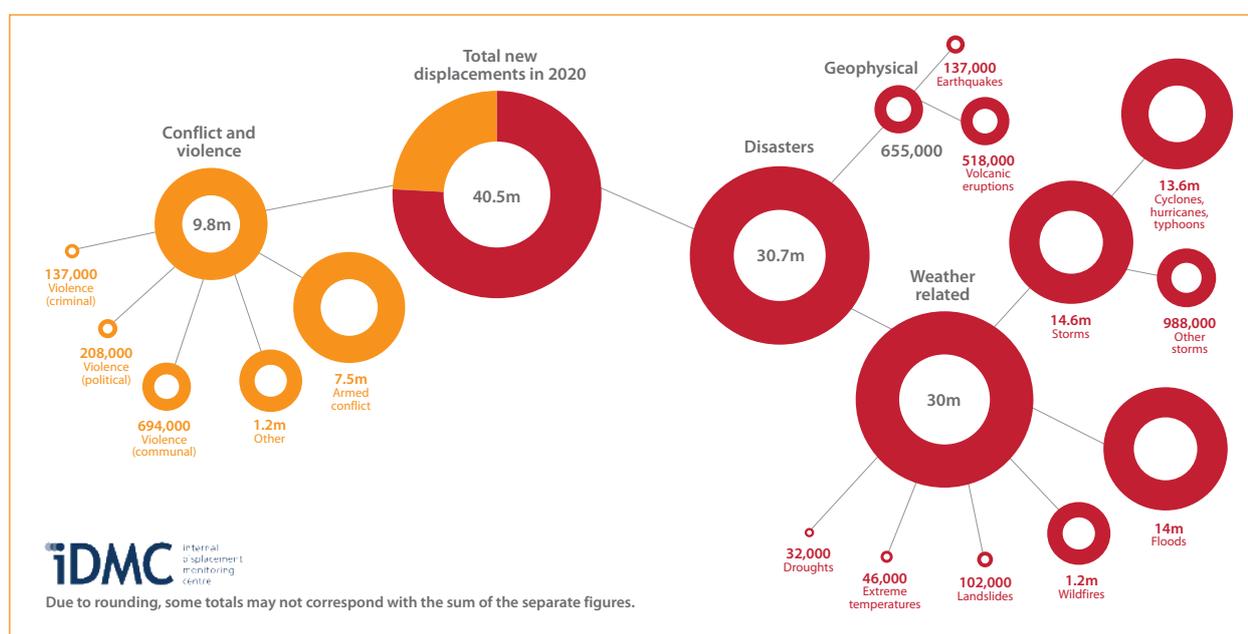
Note: The research team notes the limitations of categorizing displacements between disasters and conflicts given that issues of climate-related conflicts and violence are on the rise (IPCC, 2022).

The number of displaced persons in Viet Nam varies significantly from year to year, ranging from 9,500 displaced in 2015 up to 1.27 million displaced in 2020, for instance (see Table 3). This variance is strongly influenced by mega-scale disasters that occur relatively infrequently and unpredictably, but can displace millions of people at a time. Cyclone Amphan, for example, triggered nearly five million evacuations across Bangladesh, India, Myanmar, and Bhutan in May of 2020, making it the largest disaster displacement event of the year globally. The variance has major implications in the planning and management of displacement, such as durable solutions focusing on the resilience of at-risk communities and the readiness of schools and shelters in receiving areas. It is important to note that the term 'durable solutions' should be considered as creating conditions in which internally displaced persons 'no longer have needs related to their

displacement and when they can exercise their rights without discrimination because of their displacement' according to the UN Secretary-General's High-Level Panel on Internal Displacement.[4]

Table 3: Weather hazard-related displacements in studied countries (2010–2020) (emphasis added)

	Bangladesh	**India**	**Indonesia**	**Tuvalu**	**Viet Nam**
2010	569,000	1,410,000	*230*	–	422,000
2011	*4,000*	1,430,000	2,000	–	230,000
2012	651,000	*9,110,000*	103,000	–	15,000
2013	1,160,000	2,090,000	316,000	–	1,040,000
2014	543,000	3,430,000	764,000	–	68,000
2015	531,000	3,530,000	169,000	*5,430*	*9,550*
2016	614,000	2,390,000	*1,130,000*	–	80,500
2017	939,000	*1,350,000*	199,000	–	633,000
2018	77,800	2,680,000	81,100	–	143,000
2019	4,090,000	5,020,000	168,000	–	88,700
2020	*4,440,000*	3,860,000	705,000	*400*	*1,270,000*

Data source: https://www.internal-displacement.org/database/displacement-data

Note: Emphasis added by author to illustrate the variation of the number of displaced persons each year in a country.

Major disaster events can greatly impact the number of persons displaced. Such patterns can be seen in disasters like Tropical Cyclone Pam which hit the northern and central islands of Tuvalu in March of 2015. This category 5 cyclone generated strong winds and storm surges that caused extensive damage to crops, housing, and other vital infrastructure. In total, 4,600 people – nearly half of the country's entire population – were displaced by the cyclone and the government declared a state of emergency (World Bank, 2015). The subsequent economic loss from Tropical Cyclone Pam was 10.34 million USD, which was over a third of the country's GDP at the time (Tuvalu Coastal Adaptation Project, n.d.). Indeed, many areas and populations are hit by multiple hazardous events and repeated displacements, even within the short time span of a year. Such an example occurred in Viet Nam when seven consecutive tropical storms and cyclones hit the country within five weeks, from 6 October to 17 November in 2020. Sustained heavy rain resulted in devastating landslides and historical floods. More than 1.5 million people were directly affected, and 862 schools were damaged or unroofed (OCHA, 2020). The recurring hazards made the emergency response and reconstruction efforts tremendously challenging; hence, only 7.84 per cent of the school-age children who required education assistance in the disaster hit areas were reached (UNCT Viet Nam, 2021). These examples are among many others to show that displacement among highly exposed and vulnerable populations may become chronic or prolonged for years before sustainable solutions are found.

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4   https://www.un.org/internal-displacement-panel/sites/www.un.org.internal-displacement-panel/files/durable-solutions-ferris_1_apr_2021.pdf

3.2 Displacement in the context of the adverse effects of climate change

Repeated cycles of displacement and return can eventually culminate in vulnerable people seeking longer-term safety and more secure livelihoods elsewhere. However, there is some evidence that new migrants face even greater risks in destination areas such as cities. In Bangladesh, for example, millions of people who move to the capital Dhaka end up in the slums (UNICEF, 2017). These slums, now home to almost 40 per cent of Dhaka's population, are overwhelmed by an influx of migrants who are often forced to give up their livelihoods and leave their homes for abject conditions due to climate-related displacement. The slums have poor water and air quality, and unsafe infrastructure that endanger their residents. Moreover, Dhaka is itself prone to floods that will likely become more common and severe with a changing climate. Improper shelter, debt dependency, and deficient social networks, information, and knowledge are thus making this population more vulnerable to climate variability.

The impacts of sea-level rise and other slower-onset changes such as salinization are felt incrementally over time, with assets and security being steadily eroded, and communities faced with a long and difficult decision-making period. The world's atoll nations, such as Tuvalu, face a truly existential threat from sea-level rise. The ongoing salinization through saltwater intrusion is destroying many ground crops such as Pulaka (*Cyrtosperma merkusii*, or swamp taro) and decreasing yields from many different types of fruit trees (UNDP, 2021). In Bangladesh and Viet Nam, rising seas, combined with more intense storms, are increasing coastal erosion and inundation. By one estimate, in the long term, sea-level rise resulting from 2°C of warming could submerge land that is currently home to 280 million people (Strauss, et al. 2016). The loss of land to erosion and inundation damages livelihoods and security; it also threatens deep cultural ties to the land and sea.

Slower-onset events such as droughts and temperature rise also have severe impacts on the working population whose livelihood depends on the agricultural sector, as is evident in India (Mohanty, 2020), Indonesia (Bohra-Mishra, et al. 2014; Thiede and Gray, 2017), and Viet Nam (Islam and Winkel, 2017). Droughts certainly affect agriculture, and can lead to loss of livelihood which may be a push factor for migration. Dallman and Millock (2017) found a strong correlation between extreme drought episodes and the highest out-migration states in India. Droughts also directly affect human health, and can create an influx of CDPs in search of potable drinking water to live. In one part of Maharashtra in India, 90 per cent of all residents fled in search of water; and in Bundelkhand, 55 per cent of the population fled for the same reason. Media reported that 'village after village is deserted' (Climate Guide, 2019, para. 3).

Existing inequality can cause disadvantaged groups to suffer disproportionately from the adverse effects of climate change, resulting in greater subsequent inequality. During the most severe drought in 90 years in Viet Nam, occurring between January and May in 2016, about 275,263 hectares of rice paddies and 189,878 hectares of perennial crops were severely affected (UN Viet Nam, 2016). It was estimated that about two million people were affected to varying degrees by the impacts on their livelihoods and losses during that drought. One of the hardest hit regions was the Central Highlands, which was already the lowest income area in the country, and the drought caused a loss of 60 per cent of crop production for every farmer that year. Droughts have also been linked to malnutrition and stunting of children, as well as to a lack of safe drinking water, with longer-term impacts on health, hygiene, and sanitation (ESCAP and ASEAN, 2019).

3.3 Climate risks and displacement in the studied countries

As discussed in Chapter 2, Bangladesh, India, Indonesia, Tuvalu, and Viet Nam were the five countries selected for Asia-Pacific region because they are already on the frontline of the displacement challenge. Specifically, India and Indonesia have some of the highest levels of displacement associated with disasters worldwide, in part because of their rapid population growth and urbanization. Bangladesh and Viet Nam are ranked as the most flood-prone countries in the world. Moreover, sea level rise will increasingly inundate coastal lands in Bangladesh and dramatic coastal and river erosion will destroy both lands and homes. It is believed that about 10 per cent of the land will be flooded if the sea level were to rise by one meter. Tuvalu, as a low-lying archipelago, is also highly vulnerable to sea level rise and subsequent coastal erosion. Changing rainfall patterns have put Tuvalu at risk from both drought and flooding, and increasing intensity of tropical cyclones has contributed to the destruction of infrastructure throughout the nation. Table 4 and Figure 2 outline the displacement status and climate risk in the studied countries.

Table 4: Impact of climate change in the studied countries

	Bangladesh	India	Indonesia	Tuvalu	Viet Nam
World Risk Index (WRI) (2021)[a]	16.23	6.65	10.67	–	10.27
WRI rank[a]	13	90	38		43
Total number of displacements resulting from disasters in 2021	99,000	4,903,000	749,000	–	780,000
Expected causes of displacements[b]	Flood (86.9%); Cyclonic wind (9%)	Flood (84.2%); Cyclonic wind (10.4%)	Flood (82.1%); Earthquake (16.8%)	Storms and cyclones; Coastal erosion and salinization	Flood (96.7%); Storm surge (2.7%)
Displacement scenarios discussed in the country report	Economic migrants: urbanisation	Seasonal migration; trapped populations; cross-border CCDPs	Sudden-onset (temporary shelters); Jakarta relocation; slow-onset (planned migration);	Internal migration and displacement: urbanisation; temporary and seasonal migration; international migration and displacement	Seasonal migration; spontaneous migration vis-à-vis urbanization; government's planned relocation; sudden climate-induced displacement

Data sources: [a]World Risk Index. 2021. (Available under: Creative Commons Attribution 4.0 International license (CC BY 4.0); [b]IDMC.
IDMCses information about the probability of future hazard scenarios to model displacement risk based on probable housing destruction. Find out how IDMC calculates their metrics (https://www.internal-displacement.org/database/global-displacement-risk-model) and explore the likelihood of future displacement around the world (https://www.internal-displacement.org/disaster-risk-model).

Figure 2: Vulnerability and readiness of Bangladesh, India, Indonesia, and Viet Nam
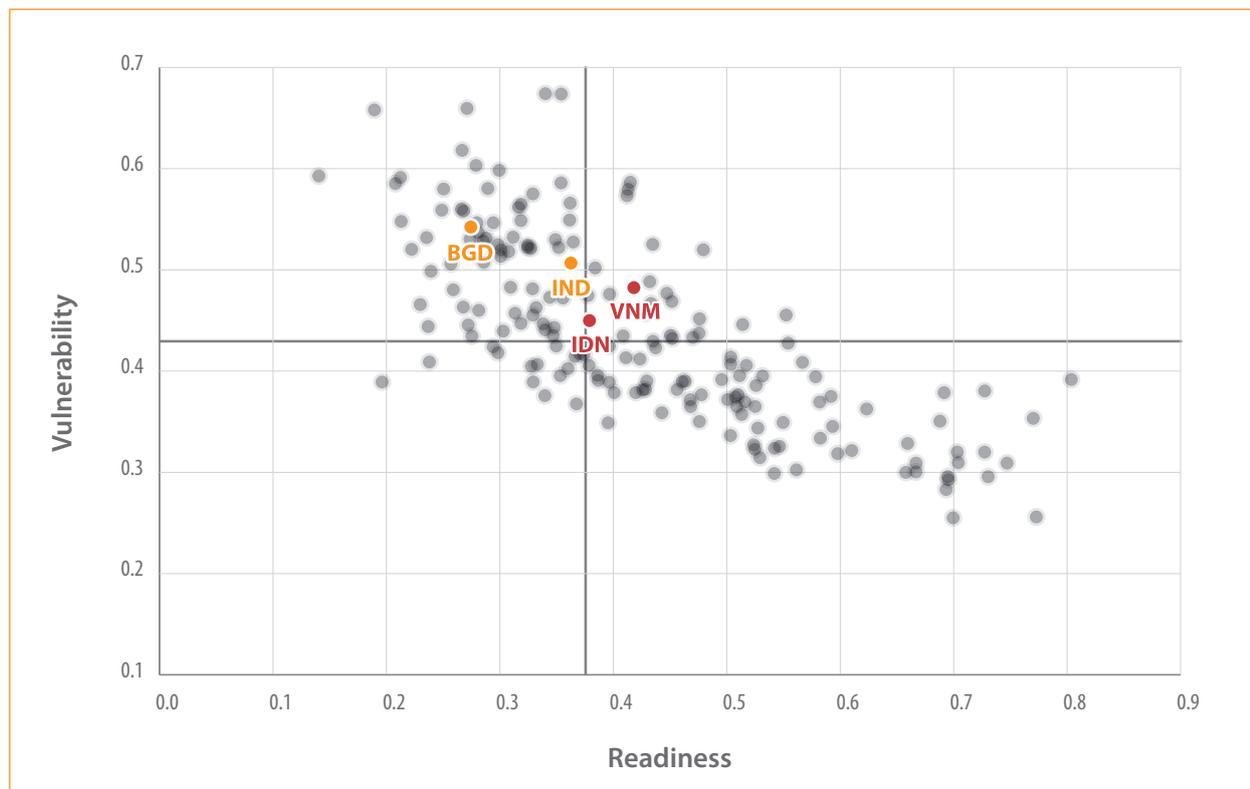
⮑ Figure is created by the UNU-IAS team using the data from the ND-GAIN Matrix (2019). The ND-GAIN Matrix illustrates the comparative resilience of countries. The vertical axis shows the score of vulnerability and the horizontal axis shows the readiness score. Data for Tuvalu are not available. The methodology of the matrix can be found at: https://gain.nd.edu/our-work/country-index/methodology.

Chapter 4

Status of the right to education in the studied countries

This chapter starts by introducing what the right to education is. It then goes on to explain the essential features of the right to education drawing on the 4As framework – a widely used framework for understanding the normative content of the right to education (UNESCO, 2018). Afterwards, the chapter turns to the national education systems of the countries selected for this regional synthesis.

4.1 Education as a human right

Education is a basic human right and there are numerous moral, political, economic, social, and pragmatic reasons for the right to education of everyone to be legally protected. The right to education is guaranteed in several human rights treaties, primarily the Universal Declaration of Human Rights (1948), the Convention against Discrimination in Education (1960), the International Covenant on Economic, Social and Cultural Rights (1966), the Convention on the Elimination of All Forms of Discrimination against Women (1979), and the Convention on the Rights of the Child (1989). Under international human rights law, the right to education ensures that the individual is placed firmly at the centre of education frameworks. This framework offers an internationally agreed normative framework for the standards, and places legal obligations on states when they make decisions regarding education and their education systems (UNESCO, 2018).

In addition to the legal basis of education as a human right, there is sufficient evidence to argue that better educated societies are more resilient and hold greater adaptive capacity to climate change. Several studies have shown that communities and countries with higher average levels of education experienced much lower losses in human lives from climate-related disasters (Frankenberg, et al. 2013; Lee, 2015; Lutz, et al. 2014; Muttarak, et al. 2014; Striessnig, et al. 2013; Tang, et al. 2014). Higher-educated individuals are exposed to more opportunities to diversify their sources of income when facing climate pressure (Drabo and Mbaye, 2015; van Aelst and Holvoet, 2016). With greater social capital and larger social networks, the more educated also have better access to information and social support, which facilitate coping responses and undertaking adaptation measures. Thus, protecting the right to education for all is not only a legal imperative but a logical one as the global climate crisis continues to unfold. Yet, while millions are deprived of educational opportunities every day due to the impact of climate change, the right to education has not been at the centre of the discussion and action in regard to climate migration and displacement (UNESCO, 2020).

4.2 Main features of the right to education

The 4As framework was developed by Katarina Tomaševski, the former UN Special Rapporteur on the right to education and founder of the Right to Education Initiative.[5] The Committee on Economic, Social and Cultural Rights uses the 4As to elaborate the essential features of all types and levels of education. The 4As declares that education must be:

Available: Availability, in terms of the right to education, means the existence of sufficient numbers of functioning education institutions and programmes within the jurisdiction of States.

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5   See Right to Education Initiative (RTE). 2001. Right to Education Primer No. 3: Human Rights Obligations: Making Education Available, Accessible, Acceptable and Available and UN Committee on Economic Social and Cultural Rights (CESCR). 1999. General Comment No. 13: The Right to Education (Art. 13 of the Covenant) (Doc. E/C.12/1999/10.) (CESCR General Comment 13 para. 6).

Accessible: Accessibility is defined differently depending on the level of education, but the common elements across the levels of education that are most relevant to this report are:

▪ Non-discrimination: All aspects of education institutions and programmes must be accessible to everyone, without any overt or latent discrimination, on any grounds, that are prohibited in international human rights law.

▪ Physical accessibility: Education needs to be offered within safe physical reach of all users, at neighborhood schools or other reasonably convenient locations.

▪ Economic accessibility: States should commit their maximum available resources to providing free primary education and should progressively introduce free education at the secondary and higher levels. Ensuring free education includes eliminating the direct fees as well as the hidden costs such as books, uniforms, and transportation.

Acceptable: Acceptability 'closely corresponds to the concept of quality education and applies to both the form and substance of education' (UNESCO, 2018, p. 77). States have a duty to establish minimum education standards that are relevant, culturally appropriate, of good quality and acceptable to students as well as parents when appropriate.

Adaptable: Adaptability can be interpreted as the ability to meet the unique needs of individual students, including children with disabilities, indigenous peoples, minorities, and in some cases, working children. That is, it is not for pupils to do their best to cope with whatever education may be available, or otherwise face rejection. States have a duty to ensure that education institutions and programmes are flexible and adaptive to the needs of students in their diverse social and cultural settings, and 'to the needs of changing societies and communities' (CESCR, General Comment 13 para. 6).

Annex A outlines the normative content of the right to education in detail by explaining the four essential features of all types and levels of education. The figure is taken from the Right to Education handbook published by UNESCO (2018). Approaches to ensuring the right to education for all vary. For example, UNESCO (2019) also takes up a rights-based approach when postulating that acceptability and quality should also be incorporated when implementing Education for Sustainable Development (ESD) at all levels of education.

4.3 Status of the education systems in the five studied countries

The right to education of school-age children is protected in the constitutions of all five of the countries in this study. Following the UN's Education for All (EFA) objectives and the Millennium Development Goals (MDG), all of the studied countries provide free and compulsory education for children although the duration varies (see Tables 5 and 6). Progress has also been made to improve the quality of education and address educational inequalities in all five countries. Perhaps some of the most impressive developments are the eradication of mass illiteracy and the almost universal enrolment of children into primary schools.

However, some issues in the education systems remain and can have critical implications when considering the right to education of CDPs. **First, drop-out rates at secondary levels, especially upper secondary level, are relatively high in all five countries.** In Indonesia, for example, the number of people over the age of 25 who had completed at least upper secondary education in 2018 was 34 per cent, and the number of those who completed post-secondary education was only 10 per cent, one of the lowest among ASEAN countries (UIS, n.d.). Socio-economic background, urban-rural divide, and accessibility of secondary schools are the primary factors for drop-outs in all of these countries.

Table 5: Education systems in the studied countries

	Bangladesh	India	Indonesia	Tuvalu	Viet Nam
Years of compulsory education (yrs)	5	8	9	8	10
Annual official budget for education (%)	2.1 (2021)	4.5 (2020)	3.5 (2020)	3.73 (1997)	4.1 (2020)

Data source: World Bank. 2022a and 2022b.

Table 6: Current education status in the studied countries

		Bangladesh[a] (2020)	India[a] (2020)	Indonesia[a] (2018)	Tuvalu[a] (2020)	Viet Nam[a] (2020)
ECCE (Gross enrolment)	Total (%)	45.6	61.1	62.3	78.9	92.8
	Female (%)	46.8	61.3	59.1	73.7	94.1
	Male (%)	44.4	60.9	65.4	83.8	91.5
Primary (Gross enrolment)	Total (%)	119.6	99.9	106.4	85.5	117.2
	Female (%)	125.0	100.9	104.6	86.0	118.6
	Male (%)	114.4	99.0	108.1	85.1	115.9
Secondary (Gross enrolment)	Total (%)	74.4	75.5	88.9	62.6	89.2[b]
	Female (%)	81.5	75.3	90.0	63.0	90.2[b]
	Male (%)	67.6	75.7	87.8	62.2	88.2[b]

Data sources: [a]UNESCO UIS http://data.uis.unesco.org; [b]2019 Population and Housing Census of Viet Nam (Net enrolment, 2019, lower secondary level) https://www.gso.gov.vn/en/data-and-statistics/2020/11/completed-results-of-the-2019-viet-nam-population-and-housing-census.

Secondly, the disparity between urban and remote areas is particularly critical, as it often compounds existing inequalities of wealth, gender, and ethnicity. In Viet Nam, for example, the Mekong River Delta region, while already vulnerable to climate risk, displays the lowest gross enrolment rate and the highest drop-out rate at both the primary and secondary levels across the country. Reasons for this phenomenon include geographical challenges such as difficult transport conditions, long distances between school and home, and internal migration (Kataoka, et al. 2020). The lower value placed on education, coupled with higher opportunity costs caused by the availability of work even for young children, are also factors causing low enrolment in the region (ibid.). Furthermore, many ethnic minorities live in remote, mountainous zones of the Northern Central and Central Coastal Areas of the Central Highlands in Viet Nam where rates of infrastructural development are lower and access to services is limited compared to other regions (Anh, et al. 2016), thereby leading to high drop-out rates among ethnic minorities.

In India, 62 per cent of the drop-outs occur at the secondary school level in rural regions, and the 2020 ASER report even reveals a widening gap in drop-out rates between urban and rural areas. It has been reported that 5.3 per cent of children aged 6-10 years in rural areas did not enroll in school in 2020, compared to 1.8 per cent in 2018 (Menon, 2020). This trend is alarming, as climate change disproportionately affects the states that are already having low enrolment rates, such as Bihar, Uttar Pradesh, Rajasthan, and Madhya Pradesh. These are the states with the lowest completion rates among school-age children across the country (NITI Aayog, 2021).

Thirdly, girls continue to face barriers to education caused by poverty, cultural norms and practices, poor infrastructure, and violence. Girls are more likely to drop out, especially at the secondary level in Bangladesh, India and Indonesia, because parents often prioritize marriage or domestic work for girls, and provide financial support for education for boys so they might join the workforce (Gulankar, 2020). In Bangladesh, over 50 per cent of the girls at the secondary level report marriage as the reason for school drop-outs, whereas 44 per cent of the boys identify the necessity to earn income for the family as the reason for dropping out (Nath, et al. 2008). In Indonesia, the number of out-of-school girls was over one million in 2018, which was more than twice that of out-of-school boys (482,000) (UIS, n.d.). At the upper secondary level (aged 16-18), a striking number of youth (29%) are not in school, and 12.3 per cent of female youth identified marriage as the reason that they are out of school, while only 0.4 per cent of male youth indicated the same (UNICEF and UNESCO, 2021). Human trafficking is also a major concern. Among all detected victims of trafficking in South Asia, 21 per cent are school-age girls (UNODC, 2021). Information for trafficking cases detected in India, Nepal and Sri Lanka shows that trafficking for the purpose of forced marriage is recorded as a main form of exploitation after sexual exploitation and forced labour.

Other remaining issues that have potential implications for the right to education for CDPs include the digital divide that causes further inequalities for marginalized children (e.g. Annex B), language barriers to learning in multilingual countries like India, Indonesia, and Viet Nam, and low government investment in education in Bangladesh and Indonesia. The next chapter will discuss in detail how these pre-existing issues in education can be amplified by the impact of climate change.

Chapter 5

Displacement scenarios and policy recommendations

This chapter synthesizes the key findings of the five country cases and presents the displacement scenarios where people's right to education is likely to be threatened in the region. The five scenarios are: (1) learning disruption due to sudden-onset disasters, (2) seasonal migration and challenges faced by migrant households, (3) government-planned relocation for climate mitigation and adaptation, (4) cross-border migration (international) and challenges faced by migrants, and (5) trapped populations and their right to education. The discussion of each scenario follows a structure that is in line with the objectives of this report. That is, the characteristics of CDPs in each scenario are first identified. Afterwards, barriers to education for the CDPs in that scenario are elucidated with a particular focus on existing national policies and actions. Policy recommendations that seek to enhance the quality and inclusiveness of education systems to ensure the right to education of CDPs are offered, and the discussion is closed with some examples of promising practice in the region.

5.1 Learning disruption due to sudden onset disasters

Key points	- School closures due to flooding represent massive disruption to education in all of the selected countries; - Children and youth in remote and/or disaster-prone areas are most at risk of learning disruption; and - Low-income households in disaster-prone areas face additional challenges in supporting their children's education.
Barriers to education	- Inconsistent and disintegrated disaster response policies and measures across government sectors, thereby delaying students' return to learning; - Issues associated with inadequate school buildings and disaster management; - School closures, or unstable schooling in the schools used as emergency shelters; - Lack of resources and capacity of schools; and - Lack of emotional support and counselling for displaced children and youth, resulting in low engagement and motivation for learning in school.
Policy recommendations	- Strengthen governance with clear communication and implementation guidelines to ensure timely local responses; - Plan and implement holistic and inclusive remote learning capabilities to mitigate school closures; - Identify public buildings other than schools to be used as emergency shelters; - Prepare schools with receiving areas for accommodating the influx of CDPs after a disaster through increased structural capacity and resource reserves; - Prioritize appropriate responses to already vulnerable groups of learners such as women, children, youth, and ethnic, religious, and linguistic minorities; - Support teachers (prioritize teachers by providing aid just like prioritizing medical staff during the COVID-19 pandemic), including through teacher training on climate change issues and potential responses that they can pass onto students, as well as through targeted teacher training on hybrid learning pedagogies, teaching at the right levels, assessment of learning losses, and more; and - Consider creating a cash transfer programme for those students most financially disabled to encourage them to return to schools after disasters.

School closures due to flooding represent a massive disruption to education in all five selected countries. As mentioned earlier, although all countries selected for this regional synthesis are not strangers to disasters and heavy storms, the frequency and intensity of extreme weather such as cyclones are getting worse, and the recurrence of disasters gives little time to recover from previous events. The 2020 flood in Greater Jakarta is an example of how a sudden-onset disaster can disrupt pupils' learning for weeks and potentially overwhelm the schools and other services in neighbouring areas. The flood occurred in the early hours of 01 January 2020, due to an overnight rain that was recorded as being more than three times the average

amount. The massive downpour caused the Ciliwung and Cisadane rivers to overflow. About 397,000 people were evacuated to higher grounds – which was more than half of the total new displacements that year. Officials reported 66 deaths due to landslides, hypothermia, drowning, and electrocution. Many parts of the city were left without power, as the power was switched off for safety reasons. Multiple transportation networks were disrupted, including an international airport. Almost one-third of the schools (89 out of 290) in the affected area became completely inaccessible (ReliefWeb, 2021). Schools and government buildings that were less affected were used for temporary shelters. Two months later, as many CDPs were still in recovery, Jakarta witnessed another flood. The Indonesian government has been forced to address the chaos caused by these repeated floods in the country's capital, hence a relocation plan of moving the city of nearly 10 million people is underway (see in Section 5.3).

5.1.1 General profile of CDPs particularly at risk of learning disruptions

Disaster displacement has disrupted the learning of many children and youth living in remote and/or disaster-prone areas. In India, for example, following the monsoon in 2017, Save the Children reports that over 7,000 schools were damaged or destroyed by flooding (Watt, 2017). Even worse than simply destroying the physical building, many educational materials were lost, leaving children with little opportunity to study and learn at home during the educational interruption. A year later, a monsoon deluge in 2018 left 1.4 million people homeless in Kerala state and affected 650 schooling institutions. Three weeks after the disaster, only 211 schools reopened to welcome students back to their education. Students in Kerala reported losing not only their educational materials, but also their uniforms and their educational certificates (Theirworld, 2018). When disasters like these hit, many schools and families rely on international aid and emergency responses to reconstruct necessary facilities and recover from the loss for their children to return to school safely. Yet, remote areas with less media attention often receive fewer donations and less relief, and damaged road conditions often do not allow journalists and aid to get in. As an NGO Programme Director in India's West Bengal reported, the 17–20 families who lost their houses by flood in Basanti fled 'without any documents, books, or materials to resume or continue [their children's] education'. Unlike Sundarbans (which gets much more media attention and thereby a large amount of aid relief), they could not 'access the government rehabilitation scheme' for a long time.

Low-income households in disaster-prone areas face additional challenges in supporting their children's education. In disaster-prone areas, frequent disasters and displacement often erode households' capacity to recover between one disaster and the next, hence threatening the right to education of their children and youth. Anecdotal evidence in Bangladesh and Viet Nam shows that some pupils are not able to continue their education because the family can no longer afford their education-related expenses, such as school uniforms and transportation costs. About 36 per cent of the survey respondents in the country study of Bangladesh indicated that they need financial support to be able to send their children to school. About one-fifth of them believe that the expenses for their children's school uniforms and learning materials should be supported by the government, which is not the case now. This kind of financial challenge has led children and youth to attend school irregularly or permanently drop out in order to start earning income for the family.

5.1.2 Main barriers to education

Perhaps the most evident barrier to accessing education in the face of climate change is school closures resulting from sudden-onset disasters that are becoming unprecedently severe. Inaccessibility to school buildings, loss of educational materials, and difficulties in commuting to school are found to be the primary reasons for learning disruption in India, Indonesia, and Viet Nam. In Indonesia, the most striking challenges that CDPs face in sending their children back to school are uniform regulations and the prioritization of younger children. Resuming school and receiving government aid are more difficult for secondary students – despite the already low completion rate at the secondary level. Furthermore, students' learning can be disrupted because their school buildings are turned into evacuation shelters. In Tuvalu, for example, schools are designed to withstand disasters. Therefore, schools often serve as community evacuation points, meaning learning activities are suspended when they are turned into emergency housing.

Issues associated with inadequate school buildings and disaster management are threatening the essential rights of students in deprived, disaster-prone areas. The results of our desk review show that, in Bangladesh there are more than 200 social safety net programmes currently being implemented by different ministries of the government. These programmes primarily aim to reduce the vulnerability of economically disadvantaged communities and many of them support students and families by offering food and cash assistance. However, these programmes have not reached their full potential to ensure that every child's right to a quality and safe education is protected. Official records show that about 57 per cent of the schools in disaster-prone areas, especially those in economically disadvantaged areas, are made of non-concrete materials (BANBEIS, 2015). Almost half of the classrooms are fragile and unsuitable for use. Moreover, most of the schools in the disaster affected areas have no disaster management plan or additional funding to protect their school resources from disaster impacts. Access difficulty due to long distances through unsafe conditions has remained a major challenge for both students and teachers living in these areas.

The lack of resources and capacity"can 'hreaten the education rights of children and youth in remote and/or disaster-prone areas. While attracting teachers and school staff is already challenging for schools in remote areas, frequent disasters and displacement often worsen the situation, as evident in the country cases of Bangladesh, India, and Viet Nam. A case study in West Bengal in India revealed that their teachers prefer transferring to schools that are closer to the cities, which has led to an acute shortage of trained teachers in the rural areas. This barrier can disproportionately affect the right to

> ### Box 2: How the COVID-19 pandemic hampered the process of disaster evacuation and management
>
> Typically, when a disaster hits, local authorities in India can rely on nearby towns to assist affected populations. However, when the Tropical Cyclone Amphan hit India in 2020, people were not allowed to leave their homes during the disaster due to the nation-wide lockdown due to COVID-19. Physical distancing measures reduced the capacity of shelters to 40 per cent (Kishore, 2020). And, evacuees were forced to decide between being caught in the storm's path, or risk contracting the disease in the crowded shelters. The cyclone left an estimated 1.7 million people displaced outside shelters (IDMC, 2020). Many had no option but to find refuge in tents and on embankments where the risk of flooding associated with the monsoon could potentially trigger a second displacement (IFRC, 2020).

education of children and youth from ethnic, religious, and linguistic minorities who might need additional support and trained staff to engage them in school. Furthermore, on the individual and household level, a lack of financial resources and economic capacity is an extremely prominent barrier to education. Financial resources often go first to securing basic necessities such as food, water, shelter, and reconstruction as opposed to school needs and affiliated costs – putting educational continuity at a standstill for many individuals, depending on the financial cost resulting from the disaster.

A related consequence of this barr"er i' the lack of emotional support and counseling for displaced children and youth, resulting in low engagement and motivation for learning. The survey results from the Viet Nam country case show that almost 80 per cent of the teacher respondents identify 'having difficulties moving on from traumatic experience' as the main barrier to learning for CDPs in their schools. The traumatic experience of repeated disasters, loss of home and/or family members, a lack of social support due to frequent relocation, and violence and exploitation associated with displacement can have negative effects on students' engagement at school and academic aspirations – albeit often overlooked by policy-makers.

The lack of policy integration across government sectors and levels hinders the process of emergency responses on the ground, thereby delaying students' return to learning. Survey respondents in India identify inadequate coordination between state and local government as the main reason that teachers are not able to fully access the educational materials and necessary information for supporting CDPs in a timely manner. Similarly, although Indonesia is equipped with a systematic governance system for disaster management, there is a lack of clarity in the responsibilities and roles of different government levels. For example, when a school is damaged and households with children are displaced, the local government is responsible for repairing or rebuilding the school facilities and providing food and shelters for CDPs. In reality, however, local governments have limited budgets and human resources to cope with such demands and often rely on the central government.

5.1.3 Policy recommendations

- Strengthen governance with clear communication and implementation guidelines to ensure timely local responses;

- Plan and implement holistic and inclusive remote learning to mitigate school closures;

- Identify public buildings other than schools to be used as emergency shelters;

- Prepare schools with receiving areas for accommodating the influx of CDPs after a disaster through increased structural capacity and resource reserves;

- Prioritize appropriate responses to already vulnerable groups of learners such as women, children, youth (especially at the secondary level), and ethnic, religious, and linguistic minorities;

- Support teachers (prioritize teachers by providing aid just like prioritizing medical staff during the COVID-19 pandemic), including thorough teacher training on climate change issues and potential responses that they can pass onto students, as well as through targeted teacher training on hybrid learning pedagogies, teaching at the right levels, assessment of learning losses, and more; and

- Consider creating a cash transfer programme for those students most financially disabled to encourage them to return to schools after disasters.

5.1.4 Examples of promising practices

The Comprehensive Safe School Framework (CSSF) in Indonesia and Viet Nam:
The Government of Viet Nam adopted the CSSF as part of the ASEAN Safe Schools Initiative (ASSI). The goal of ASSI is to provide direct capacity and financial support to schools preparing for extreme weather events and becoming more resilient to the effects of climate change. A wide range of recommended activities include constructing a safe learning environment for students, training for teachers and education staff, and raising awareness and building capacity for children on DRR and CCA. Similarly, since 2009, the Government of Indonesia has maintained and monitored their 'disaster-prepared schools' against the CSSF, as well as implemented DDR curriculum in these schools. This initiative was later scaled up as 'disaster-safe schools' in 2015.

Learning from Home programme in Indonesia: To prevent students from disengaging from their learning during school closures, the Government of Indonesia launched a national remote learning programme, called 'Learning from Home' and targeted 68 million students across 12,000 islands (UNICEF and UNESCO, 2021). In addition, an educational TV network (Belajar dari Rumah) was also launched in April 2020 to reach students who have limited internet access.

5.2 From seasonal to permanent migration: Challenges faced by migrants

Key points	▪ While seasonal migration can be an advantageous strategy in the case of regular, mild climatic cycles, the severity of sudden-onset and slow-onset events has moved from a seasonal occurrence to a more permanent phenomenon in some areas, resulting in increased spontaneous, permanent migration; ▪ Children and youth who experience frequent migration are most at risk; and ▪ Low-skilled migrants' right to lifelong learning needs to be considered and protected.
Barriers to education	▪ Complex administrative procedures for school enrolment; ▪ Pre-existing inequalities becoming structural barriers for CDPs to accessing and enjoying their right to education; and ▪ Unresponsive education practice leads to various barriers to learning.
Policy recommendations	▪ Simplify administrative procedures for CDPs in accessing education, notably through flexible, exceptional registration and documentation requirements; ▪ Provide financial support for education-related expenses (e.g. learning materials, uniforms) ▪ Implement TVET programmes and informal adult learning programmes in target cities such as Dhaka and Ho Chi Minh city to encourage upskilling and lifelong learning; and ▪ Increase teachers' and educational staff's awareness of climate change impacts on CDPs and their learning needs.

Seasonal migration is a common strategy to improve the living standards of households across the study countries. In Viet Nam, for example, seasonal migration has long been used as an adaptation strategy to regular climatic events (de Brauw and Harigaya, 2007). Migrants are

primarily younger and well-educated individuals in their households, and they move to urban or peri-urban areas during periods of low agricultural production for approximately 4.6 months out of the year (ibid.). This form of movement allows the migrating member(s) of the household to send remittances back to their family, which in turn allows the remaining members to keep possession of their homestead, have more financial stability, and ensure continuity of the child's enrolment in education (ibid.).

While seasonal migration can be an advantageous strategy in the case of regular, mild climatic cycles, the severity of sudden-onset and slow-onset events has moved from a seasonal occurrence to a more permanent phenomenon in some areas, resulting in increased spontaneous permanent migration. In the Greater Mekong Sub-region, the degradation of water and soil quality is found to be a push factor (ADB, 2013). Extreme hot weather and desertification have damaged plants and crops, and have negatively affected people's health. These slow-onset processes, coupled with recurring floods in the Mekong Delta, are driving more CDPs towards Ho Chi Minh City (HCMC) to look for work each year (Entzinger and Scholten, 2015).

Similar to the context of Viet Nam, nearly half of the population in India is still employed in agriculture, rendering them particularly vulnerable to the adverse effects of climate change. Increased temperatures reduce grain yields and plantation productivity; droughts and heat stress diminish milk production; flooding degrades and erodes pastureland and crops; sea level rise and saltwater intrusion impact coastal aquaculture and decrease the fertility of agricultural soil. These environmental stressors can place farmers in debt, thereby driving them to move somewhere else for employment opportunities.

While recurring droughts, floods and other natural hazards are adding to the pressure to migrate, these climate risks will only be further exacerbated by this unprecedented transition from rural to urban areas (IOM, 2008). Many low-skilled workers may congregate in slums with little water, electricity, or financial means, thereby becoming more vulnerable to climate change. In Bangladesh, coastal communities have already begun migrating inland, mostly to urban areas. With weak local governance, poor urban management and existing ethno-religious tension driving underlying domestic fragility, climate-induced migration and poverty will drive or amplify conflicts and human-rights challenges (Adger, et al. 2014). In India, the intensity of rain and floods during monsoon is on the rise in big, densely populated cities, hitting those living in marginalized, informal settlements like Mumbai's slums the hardest (WRI India, 2020). Research has revealed some connections between mental ill-health and life dissatisfaction in the slums of Dhaka and Khulna with climate-induced mobility (Ruback, et al. 2002, 2004; Rahaman, et al. 2018).

5.2.1 General profile of CDPs particularly at risk of losing the right to education

Children and youth who experience frequent migration are most at risk. One recurring finding across the country cases of Bangladesh, India, and Viet Nam is that CDPs often lack the financial means to support their children's education. Other reasons such as lacking required documents to gain admission, inaccessibility to the available school where they move, and language barriers can demotivate migrant families to continue investing in their children's education. All these

factors are highly associated with frequent displacement and migration, and past research has indicated a similar trend. In Bangladesh, frequent migration is found to be correlated with school drop-outs, ineffective learning, and poor academic performance (Sarker, et al. 2019). About 20 per cent of survey respondents in Dhaka also share that their children have been denied school admission due to a lack of vacancies in the receiving areas, and they are still waiting for an admission opportunity to send their children to school.

Similarly, the Terre des Hommes (2017) report shows an increase in the number of people seasonally migrating due to the drought in Odisha, India. Droughts have created distress migration – a concept which UNESCO considers a form of climate displacement when the distress is linked to climate, used as a strategy to deal with food insecurity and allows fewer options for diversifying from agriculture. Due to climate change, the duration of this seasonal migration has extended from three to six months, which denies the children access to quality education. There also has been an increasing trend of landless families migrating permanently due to the uncertainty of climatic conditions and lack of safety nets (UNICEF, 2016). Government figures, which only include those who are registered, show that 146,000 seasonal migrant workers left Odisha for other states in 2015, compared to 87,000 in 2008 (Pradhan, 2016).

Low-skilled migrants' right to lifelong learning needs to be considered and protected.
When forced to leave their homes due to the impact of climate change, many CDPs choose a migrant route to urban areas in hope for better economic opportunities. However, migrants with lower socio-economic status, limited family networks, and/or lower education levels often find themselves in sprawling slums or industrial areas in city outskirts, leaving them in a physical and/or financial situation with little access to public services, safe housing, electricity, food, and freshwater. Without adequate access to education and lifelong learning opportunities, households are likely to be stuck in the poverty trap choosing other costs for survival over their children's education expenses. Indeed, when asked about lifelong learning opportunities in Bangladesh, almost 40 per cent of the respondents say that they would join non-formal educational centres if opportunities were made available, and job-oriented vocational training programmes are even more preferable. The importance of lifelong learning needs and their relation to employability in the face of climate change was recognized at the UNESCO World conference on Education for Sustainable Development in Berlin (2021), which led to the unprecedented pledge from education stakeholders including over 80 ministers that all individuals should be provided with lifelong opportunities and training for sustainable development. This is particularly relevant for low-skilled migrants searching to acquire skills and knowledge to access sustainable livelihoods.

5.2.2 Main barriers to education

Complex administrative procedures often prevent CDPs from school admission and other educational opportunities. In Viet Nam, for example, the complex administrative procedures of the household registration system (*Ho Khau*) prevent nearly 34 per cent of migrants from having an official residency status in HCMC and hence restrict their access to public education (World Bank, 2016).[6] In India, new residents are required to request for a certificate of residence from local officials (i.e. Panchayats) to receive social benefits and school admission for their children.

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6   Although this system has been reformed in recent years, the situation still persists.

However, this process is often difficult for CDPs who lost their documents when fleeing their home due to a disaster. It is also difficult to track out-of-school children through this system because it does not collect information on the educational status of children who migrate with their parents. Thus, the ways in which frequent migration affects school drop-outs in India remains unclear. As some parts of India are experiencing a widening school drop-out gap between urban and rural areas (Menon, 2020), complex administrative procedures will further discourage families in remote and disaster-prone areas from sending their children to school. The zoning system in Indonesia is an example of this issue. Although the system has improved over the years (e.g. simplifying the required documents for a student to enroll in a school in new location within fourteen days), infrastructure disparities, such as power outages, unstable connectivity, printer availability, continue to be major barriers to minimizing the learning disruption, and can result in months of wait time for some students (Aziz, 2018).

While poverty is a pre-existing barrier to education for many in Asia and the Pacific, it is further exacerbated by climate change and is hurting CDPs the hardest. As has been made clear earlier, even when compulsory education is free, because of the costs of educational materials, uniforms, transport, etc. those from a lower socio-economic background continue to struggle more than those with means to access quality education. In Bangladesh, drop-out students came from significantly low-income households, with household heads working as unskilled labour and mostly in informal sectors (Hasan and Muneer, 2019; Hossain, 2021). The survey results in Bangladesh also reveal a similar trend where 41.7 per cent of the respondents are borrowing money from relatives and informal social networks.

As climate change exacerbates poverty for those remaining and for those already displaced, families are likely to use their small disposable income for essentials such as food rather than fees associated with education. They might also encourage their children to work instead of study to cope with the worsened poverty (Rastogi, 2019). This phenomenon is seen in both urban and rural settings, as evident in the Dhaka slum in Bangladesh (Hossain, et al. 2009; Hossain, 2022; Nath, et al. 2008; Quattri and Watkins, 2019), in households relying upon agriculture for their source of income in India (Roy, et al. 2015), and in the Delta and HCMC corridor in Viet Nam (Bui, et al, 2020). In Dhaka, while almost 67 per cent of the respondents share that they will send their children to school when they are financially secure, about 11.7 per cent of the respondents say their children are engaging in income generating activities.

Unresponsive education practices, including issues related to diverse languages and lacking mental health and psychosocial support, lead to various barriers to learning. As mentioned in Chapter 4, language barriers are a major challenge for achieving quality education in many multilingual countries, such as India, Indonesia, and Viet Nam. India, for example, is home to 19,500 languages and dialects spoken as mother tongues. This means that it is very likely for CDPs to end up in a region that does not provide instruction in their mother tongue, even if they move within the same state (The Indian Express, 2018). Even when CDPs manage to learn the local language, or one of the major languages of instruction such as Hindi or English, they are most likely to be in less advantageous learning conditions in comparison to local students. They might also face discrimination by other students and/or teachers, which could lead to low academic performance and even dropping out. Addressing this issue requires not only policy action, but also adequate professional training for teachers – in both disaster-prone and receiving areas – for understanding the effects of slow-onset climate events on CDPs as well as their unique learning needs. Even outside of the immediate impacts of language barriers on

education, long term impacts can result in the continual diminishing of minority languages, which in turn can impact culture, identity, and knowledge systems. Bui and colleagues (2016), for example, found that teachers in Viet Nam have not received comprehensive training in incorporating students' cultural knowledge into their teaching, even though the 1946 Constitution recognizes the right of minorities to be educated in their own language. Consequently, students from rural areas and linguistically marginalized groups continue to demonstrate lower academic performance due to the predominance of monolingual discourses in education. Providing relevant and culturally appropriate education for CDPs is certainly covered under the acceptability feature of the right to education, and thus should be considered carefully.

Language barriers can also threaten CDPs' right to access learning support. Ethnic, and thereby linguistic, minorities in Viet Nam have difficulty in accessing health care, education, and social services after they migrate to urban areas where Vietnamese (the official language) is more commonly used (UN Viet Nam, 2014). Moreover, migrants tend to have little knowledge of their rights, as much of the information around climate change, human rights, and gender equality exists primarily in English (Pentlow, 2020). These existing challenges associated with language diversity can certainly be exacerbated for those displaced internally or internationally by climate change.

Adverse psychological effects on children of seasonal migrants are well-documented in the literature. Lacking communication with parents can negatively affect the development and education of young children whose parents have migrated (Viet Nguyen, 2016). Children of labour migrants who are left in the originating areas tend to experience lower test scores, less nutrition intakes, more mental health challenges, and more peer relationship problems than other children (Luot and Dat, 2017). Additionally, since migrant students need time to adjust to their new learning environment, they can sometimes feel isolated or embarrassed (GSO, 2019). These findings point to the importance of trained personnel in providing responsive education and additional support – academically and emotionally – for migrant children and youth.

5.2.3 Policy recommendations

- Simplify administrative procedures for CDPs in accessing education, notably through flexible, exceptional registration and documentation requirements;

- Provide financial support for education-related expenses (e.g. learning materials, uniforms);

- Implement TVET programmes and informal adult learning programmes in target cities such as Dhaka and Ho Chi Minh City to encourage upskilling and lifelong learning; and

- Increase teachers' and educational staff's awareness of climate change impacts on CDPs and their learning needs.

5.2.4 Examples of promising practices

Tent Special Training Programmes in India: The *Migration Card Initiative* allows state governments to track interstate and intrastate migration of school-going children. Based on this data, intra-state migrant children can be accommodated and educated in seasonal hostels at their domiciles while the inter-state migrant children are covered under Tent Special Training Programmes in temporary schools near their parents' worksites. Further, migration cards record

the educational level of the children and their respective grades. This allows pupils to sit for a placement exam at an appropriate level. The initiative resulted in a significant decrease in the overall drop-out rates for classes I to VII between 2004–05 (18.79%) and 2012–13 (7.08 %) (Gujarat Council of Elementary Education, 2013).

Reforming the Vietnamese Household Registration System (*Ho Khau*): Before the reform, the difficulties in obtaining legal residency via the registration system resulted in many unregistered migrants living in cities without access to government-provided services for health, schooling, and social protection (Duong, et al. 2011; Kataoka, et al. 2020). However, the rules of the system have been relaxed significantly since the 1990s. The latest change is the creation of the National Database of Residence which replaces the physical booklets with online identification information of each Vietnamese citizen (via a unique 12-digit ID number) (Huy, 2017; Apolat Legal, 2020). This simplifies the administrative procedures for citizens to change residency status.

Direct orders creating favourable conditions for students studying at the place of residence due to the COVID-19 pandemic in Viet Nam: The MOET ordered that students whose learning might be interrupted in their registered residence can continue their learning in other areas. The measure allows students to transfer and be re-accepted with their training and learning results (studied at the school of residence) when they return to the old school to study. Also, schools are responsible for facilitating the process for the students who wish to apply for a transfer.

Social safety net programmes in Bangladesh: More than 200 social safety net programmes are currently being implemented in Bangladesh by different government ministries. These programmes primarily aim to reduce vulnerability of the poor sections of the community. Many such safety net programmes support students who are in difficulties, such as ensuring the distribution of meals to students in need through a voucher system in partnership with local food caterers. The system, initiated in the aftermath of Hurricane Dorian, was continued and further developed as a response to school closures in the context of COVID-19. The government also provides food and cash support for a few months under social safety net programmes to displaced persons who stay in government shelters or waste lands (e.g. backyard of a market place or school etc.).

Seasonal boarding schools in India: The state of Gujarat in India collaborated with NGOs to track children on the move online and provide migrant children with education at seasonal boarding schools. In Maharashtra, authorities recruit local volunteers to provide after-school psychosocial support to children left behind by seasonal migrating parents.

Language support projects in India: *Project Roshni* is a state-level initiative that can serve as an example for addressing the diverse linguistic and cultural backgrounds of CDP children. This is a pilot project in Ernakulum district of India for migrant children to learn Malayalam, English, and Hindi in 90-minute morning classes before school through code-switching as a learning tool. Project Changathi is also a state-level initiative implemented by the Kerala State Literacy Mission. This literacy programme targets migrant children to learn Malayalam. A special textbook called 'Hamari Malayalam' is published for these students and placed in study centres at schools, libraries, workplaces, and shelters for migrant workers. These are innovative initiatives, however sporadically conducted. These need to be continued and supported systemically with the focus on CDPs.

Sarva Shiksha Abhiyan (Education for All) in India: The interventions put forward by Sarva Shiksha Abhiyan can be used to overcome the linguistic and cultural challenges that CDPs face. Sarva Shiksha Abhiyan, working together with Rashtriya Madhyamik Shiksha Abhiyan (RMSA), provides for seasonal hostels in source villages and schools at destination sites. Under this scheme, seasonal boarding schools have been established for migrant children, which can also be used to support CDPs. Further, Sarva Shiksha Abhiyan provides teaching volunteers who speak the mother tongues of the migrant children to counter the linguistic barriers faced by the children.

Zoning policy for internal migrants in Indonesia: The purpose of Indonesia's zoning system is to equalize the quality of public schools, reduce the transportation time and cost, and eliminate the dichotomy between desired schools and less preferred schools. Under this regulation, public schools are obliged to accept at least 90 per cent of the registrants from the zone radius, 5 per cent with academic and non-academic achievements and merits, and 5 per cent for prospective students who may be transferred during the school year for household relocation or 'natural/social disaster' (see Minister of Education Regulation No. 14, 2018, Article 16). In addition, 20 per cent of the main quota (90%) is allocated for low-income families, certified by 'Relief Letter (SKTM)'.

5.3 Government-planned relocation for climate mitigation and adaptation

Key points	▪ Resettlement programmes can be instrumental in decreasing the exposure and vulnerability of those at risk; ▪ Without livelihood opportunities available upon relocation, community members risk returning to their place of origin; ▪ Displaced women's adaptive capacities are often limited; and ▪ Without proper planning, the right to education of both relocated and indigenous pupils is at risk.
Barriers to education	▪ Persistent gender-specific risks as well as other intersecting inequalities, ▪ Pre-existing inequalities faced by indigenous communities; and ▪ De-prioritization or exclusion of school/teacher relocation in the national relocation master plan.
Policy recommendations	▪ Adopt a gender-responsive approach to redressing unequal access to resources across and within relocated communities, including education support and lifelong learning opportunities for girls and women; ▪ Take into account indigenous people and indigenous knowledge in educational planning; ▪ Prioritize school/teacher relocation to ensure the right to education of relocated persons as well as communities in receiving areas; and ▪ Ensure that relocated communities are close enough to former livelihoods or create livelihood opportunities to avoid poverty becoming a barrier to their children's education.

Migration can be an adaptation strategy, particularly if it is supported by policy action (IOM, 2017). In Viet Nam, government-led resettlement programmes have been instrumental in decreasing the exposure and vulnerability of those at risk in the Mekong Delta region – which is currently home to 20 per cent of Viet Nam's population. These programmes are largely on a voluntary basis, and people generally accept such interventions (Entzinger and Scholten, 2015). Relocated persons are entitled to a certificate that guarantees their access to land and loans to rebuild their lives. Living conditions in resettled areas are often reported to be better with more accessible public services, such as clean water, electricity, healthcare, and education (Collins, et al. 2017). Years of Vietnamese experience show that allowing people to keep their previous livelihoods is key to ensure the success of a resettlement programme. The implication of this finding is more than the need for diversifying and upgrading CDPs' skills to prepare them for participating in the workforce in the destination areas. Resettlement plans must consider migrants' cultural heritage and identity – which are often associated with their livelihoods – to avoid forced migration. We will return to this point regarding climate justice when discussing Tuvaluan's perspective on preventing displacement in Section 5.5.

The scale of the resettlement programmes in Viet Nam is far from the one that is currently underway in Indonesia, namely, moving its national capital from Jakarta to the province of East Kalimantan on Borneo Island starting in 2024.[7] The current capital Jakarta is the centre of the economy, culture, and politics of Indonesia and home to about 10 million people. Yet, it suffers regular flooding and is one of the fastest sinking cities globally due to the over-extraction of groundwater. Parts of north Jakarta are sinking at an estimated 25 cm a year, due to subsidence and sea level rise, even with the seawall designed as a buffer for communities (Van de Vuurst and Escobar, 2020). However, this move has not been widely accepted because thousands of indigenous people may be uprooted from their ancestral lands on Borneo Island. As large areas of forests and peatlands are cleared to make way for Indonesia's new capital, some environmentalists have warned of the potential damage to the ecosystems that are already threatened by mining and palm oil plantations. It could also negatively affect one of the world's oldest rainforests which is home to many endangered species. It is worth noting that ensuring the right to education of relocated persons has not been at the centre of this massive project. This is evident by the lack of discussion on an estimated number of pupils, teachers and educational staff, and new schools and learning centres required to accommodate the influx of migrants from Jakarta.

5.3.1 General profile of CDPs particularly at risk in relocation programmes

Displaced women's adaptive capacities are often limited. Although the gender gap in education has closed recently in Viet Nam, policies on planned relocation and displacement in the context of climate change and disaster risk are often insufficiently gender responsive. Household surveys on the resettled population in Ca Mau and Kien Giang provinces reveal that women are generally less educated than men (PC Ca Mau, 2019). Given that men are better educated, they tend to be the main source of income for families, resulting in high economic

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7   The government capital relocation plan has been reassessed and repeatedly adjusted by the Government of Indonesia. However, at the time this paper was drafted and, confirmed by the UNESCO Jakarta office in August 2022, the original relocation plan is still active.

dependency of women on men and low capacities to cope with climate-related risks. Moreover, women have fewer opportunities to access information and extension services compared to men. Out of 143 relocated households in Ca Mau, 41 households attended 144 farmer training classes over the past five years (PC Ca Mau, 2019). Of these, men participated in up to 129 classes (89.6%), whereas women participated only in fifteen classes (10.4%). Female farmers often cannot participate in the training because they are busy with housework, or the training takes place at inconvenient times, and they have less decision-making power.

Without proper planning, the right to education of both relocated and indigenous pupils is at risk. For decades, indigenous communities on Borneo have had their land rights denied by the Indonesian government in favour of large plantations and mining companies (Hitchner, 2010; Sirait, 2009). Conflicts between the government and indigenous community are building up because thousands of indigenous peoples are at risk of being expelled from their lands to make way for the construction of a new capital on Borneo. However, despite an extensive document search and consultations with local government officials and experts, an official government masterplan or detailed information about the Jakarta relocation plan was inaccessible at the time of this research. Questions such as how the residents and services of Jakarta will be relocated and in what ways the indigenous communities will be resettled or even forced to move currently remain unclear. The officially estimated number of students to be moved from Jakarta is also unknown and, as a result, the estimated number of teachers and schools needed to accommodate the relocated students is not available, nor is information of necessary budget allocations. The access to education for both relocated students and indigenous communities is thus not currently ensured.

5.3.2 Main barriers to education

Gender-specific risks continue to threaten the right to education of women and girls in Viet Nam's relocation programmes. The relocation programmes in Viet Nam mainly target the most vulnerable and affected communities who largely rely on agriculture and fisheries in the Mekong Delta. Existing gender inequalities, combined with other characteristics such as age, ethnicity, and socio-economic status, continue to contribute to differing vulnerabilities and displacement dynamics. As discussed earlier, women and girls are often prevented from pursuing education. Their adaptive capacities are often limited due to socio-cultural norms, restricted livelihood options, lack of access to formalized safety nets, and fewer possibilities to benefit from technologies and information. Being less educated than men in a household can mean that women have limited access and control over resources such as land, property, or job-training, all of which reinforce their lower status in such societies. Indeed, local committees on disaster management and adaptation planning are mostly led and attended by men, except for those organized by a Women's Union. If women are not encouraged to participate in the political process, their interests and needs are likely not represented or addressed.

Unclear plans on the relocation project in Indonesia risks overlooking the right to education of both relocated persons and indigenous communities. According to the representative from BAPPENAS, the Government of Indonesia is projecting a move of 1.5 million people by the end of the relocation project. It can thus be anticipated that a high number of students will move with their families from Jakarta to East Kalimantan in 2024 when the capital relocation is inaugurated.

However, the data from Indonesian Directorate General of Early Childhood Education, Primary Education and Secondary Education shows that the numbers of students and teachers in East Kalimantan (the receiving province) are far fewer than those currently in Jakarta, as shown in Table 7. Without early planning, relocated students are at risk of learning disruption. Little attention is given to ways to ensure a safe and respectful school environment for both relocated students and indigenous people in the new capital, as tensions between the indigenous communities and 'Jakarta elites' are already on the rise (Koswaraputra, 2021). To address these tensions and also in the pursuit of climate change adaptation, initiatives highlighting the relevance of indigenous knowledge and other minorities' knowledge in climate change education should be encouraged. In this way, learning institutions can enable an action-oriented approach to climate change education that centres on local and culture-specific concerns and values.

In addition, the top ten universities of Indonesia are all currently located on Java Island where the city of Jakarta is located. Ways in which the move would affect people's access to higher education and/or continuing education remain unclear. Nevertheless, the government's current plan is to prioritize infrastructure development, starting with building the government complex and relocating the civil servants.

Table 7: Number of students in Jakarta and East Kalimantan (2020)

	Kindergarten	Elementary	Junior high	Senior high
Students, Jakarta (2020)	68,184	797,324	366,044	170,562
Students, East Kalimantan (2020)	18,805	405,316	185,372	77,017
Teachers, East Kalimantan (2020)	4,729	23,624	9,657	4,592

Data source : Directorate General of Early Childhood Education, Basic Education and Secondary Education. 2020. (Accessed March 2022).

5.3.3 Policy recommendations

▪ Adopt a gender-responsive approach to redressing unequal access to resources across and within relocated communities, including education support and lifelong learning opportunities for girls and women;

▪ Take into account indigenous peoples and indigenous knowledge in educational planning;

▪ Prioritize school/teacher relocation to ensure the right to education of relocated persons as well as communities in receiving areas; and

▪ Ensure that relocated communities are close enough to former livelihoods, or create livelihood opportunities, to avoid poverty becoming a barrier to their children's education.

5.3.4 Examples of promising practices

EmPower in Viet Nam was implemented from 2019–2022 in partnership with the Ministry of Agriculture and Rural Development, Ministry of Natural Resources and Environment, Ministry of Labour, Invalids and Social Affairs, Viet Nam Women's Union and other strategic partners to address gender equality in climate change and disaster risk reduction. It aims to strengthen the knowledge, capacity, and leadership of women's NGOs to engage in climate change and DRR processes. It also promotes women's entrepreneurship in renewable energy in the Central Highlands.

UNHCR's gender-responsive climate projects: Since 2014, with the support of the US government, UNHCR has implemented thirty-seven multi-sectoral and gender-based violence risk mitigation mainstreaming projects in twenty-seven countries. Projects include improving gender-responsive measures for safe and sustainable energy solutions, targeted livelihoods inclusion, and increasing women's access to technology in a wide range of displacement contexts, including in areas most vulnerable to climate change like the Sahel, the Horn of Africa and Asia.

One house one family at a time project in Bangladesh: In 2015, Displacement Solutions (DS) and local partner Young Power in Social Action (YPSA) identified a range of viable land parcels that are suitable relocation sites for climate displaced families in Sitakund, Bangladesh. They developed affordable houses that provide all the basic amenities, including a kitchen and washing facilities, a tube well to provide safe drinking water, and a solar heating and energy system for the house. The homes are provided at no cost to the families, and legally held in trust by YPSA to ensure that these homes will remain permanently within the social housing sector. YPSA and other partners provide ongoing support for livelihood opportunities, healthcare, and education in the area.

5.4 Cross-border migration and challenges faced by international migrants

Key points	- International laws and conventions have not given necessary attention to the rights of cross-border CDPs; - This lack of attention can be traced partly to (i) the multifaceted nature of migration, (ii) the absence of internationally agreed measures, and (iii) a dearth of information on what migration data are collected and their availability for law-making; - Global data on cross-border CDPs and climate migrants are needed for law-making; - Stateless migrants are in the most vulnerable position amongst the cross-border CDPs; - Children and women are most at risk among international migrants; and - Migrants on short-term visas risk being deported when seeking asylum as 'climate refugees', given there is no legal provision to grant asylum based on climate-induced displacement.
Barriers to education	- Lack of international policy frameworks to protect cross-border CDPs and their rights to education and residency; - Strict immigration quotas and regulations neglecting CDPs' needs; and - Compounding barriers to accessing education and lifelong learning.
Policy recommendations	- Establish the concept of 'climate refugees' or an equivalent concept and a legally binding framework to ensure CDPs' access to education on equal footing as other refugees; - Pursue bilateral agreements for migration with aid partner countries based on the principles of equitable responsibility and burden sharing through, for example, granting the right to education for both children and adults on equal footing with nationals; - Ensure any bilateral agreements do not have strict quotas or language/education restrictions inadvertently preventing the most vulnerable from migrating; - Place CDPs' identity and cultural heritages at heart when handling issues related to climate migration; and - Enhance climate change literacy among displaced and host populations taking into account cultural context to enable engagement with climate action.

Migration in response to climate impacts may range from mobility as a proactive adaptation strategy to forced displacement in the face of life-threatening risks.[8] This mobility may occur

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8   The evidence on the link between climate change and conflict has been synthesised by Working Group 2 in the IPCC (2022), which states: "TS.B.7.4 Climate variability and extremes are associated with more prolonged conflict through food price spikes, food and water insecurity, loss of income and loss of livelihoods (high confidence), with more consistent evidence for low-intensity organized violence within countries than for major or international armed conflict (medium confidence). Compared to other socio-economic factors the influence of climate on conflict is assessed as relatively weak (high confidence), but is exacerbated by insecure land tenure, weather sensitive economic activities, weak institutions and fragile governance, poverty and inequality (medium confidence). Literature also suggests a larger climate-related influence on the dynamics of conflict than on the likelihood of initial conflict outbreak (low confidence). There is insufficient evidence at present to attribute armed conflict to human-induced climate change."

within or across international borders, although most people displaced or migrating as a result of climate impacts are staying within their countries of origin. However, despite the evident urgency in climate displacement, international laws and conventions to protect the rights of refugees, displaced persons, and migrants remain heavily focused on the cross-border, conflict-induced refugees and migrants. Thus, policies, strategies, and measures to ensure the right of CDPs to access basic services such as education and health care in their new homes have not been given necessary attention.

One reason for this oversight may be because migration has always been a feature of human behavior and the product of multiple drivers. Many Tuvaluans, for example, work on overseas fishing vessels or engage in seasonal migration for economic and workforce training opportunities in New Zealand and Australia – even though migration out of Tuvalu is often framed as permanent in contemporary narratives on climate change (Oakes, et al, 2017). Movement of Bangladeshis across the Indian border for work, health care and tourism has also been common over decades. Thus, treating climate change as the definitive condition in triggering migration can oversimplify the complexity of people's lived experience and decision-making process.

The second reason, and perhaps the one that varies across contexts and may change over time, is that most migrants do not identify themselves as climate migrants or CDPs. The lack of clear terminology or official designations also adds to this confusion. This is in keeping with our findings in Viet Nam and Tuvalu where very few migrants cite climate stressors as a factor of their decision to move. Oakes and colleagues (2017) also find that most international migrants from Tuvalu attribute their decision to social and economic motivations, such as furthering their education, better work opportunities, and gaining access to more comprehensive medical services. This is despite the fact that Tuvaluans are well-aware of the threat of sea level rise, and most households say that they will migrate internationally if climate impacts worsen to a significant degree (ibid.). Yet, it should be stressed that this willingness to migrate and their understanding of the situation does not mean there is currently an influx of Tuvaluans migrating due to climate change. Although the concept of climate migrants or climate refugees is often linked narratively to Tuvalu internationally, only 8 per cent of study participants identify climate stressors as a reason for their migration (ibid.).

Moreover, compared to displacement in the aftermath of sudden-onset events, movements in the context of slow-onset processes are less concentrated and more diluted over time. As a result, it is very difficult to distinguish climate-induced migrants from other types of movements (e.g. labour migration, shorter-term circulation) of people who might use the same routes, come from the same areas, and/or be directed towards the same destinations (IOM, 2020). This, coupled with the multifaceted nature of migration, has led to an ill-structured policy domain and hence an absence of internationally agreed measures.

Taken together, empirical data particularly on this scenario in Asia and the Pacific is thin. There is also a dearth of information on what cross-border migration data are collected and their availability to law-making. Thus, the interpretations presented here were drawn from anecdotal evidence as well as discussions within the research team. In doing so, a few trends emerged:

- International migrant households (households where at least one family member is overseas) are less vulnerable to climate change than non-migrant households, likely due to remittances giving more resources for adaptation (Milan, 2016).

- Disaster displacement, particularly due to cyclones and flooding ranging from the Himalayan range and Bengal Delta, appears to be a push factor for undocumented Bangladeshis to risk their lives and cross the border to India (Wilson, 2021). However, there have been major disagreements over the exact numbers of Bangladeshis who have entered India illegally, and more reliable data on cross-border CDPs and illegal migrants are needed.

- As many Tuvaluans are facing the prospect of permanent international migration within their lifetimes due to the sea-level rise, some in Tuvalu are proposing other strategies for securing both land and a future elsewhere, notably in New Zealand and Australia. One such example occurred when the Church of Tuvalu bought ten acres of land around the outskirts of Auckland in New Zealand to prepare for future migrants from Tuvalu (Radio New Zealand, 2019). In 2015, the Prime Minister of Tuvalu, Enele Sopoaga, publicly stated that Tuvalu might have to consider buying land in both New Zealand and Australia to ensure the country has access to land to grow food and accommodate future migrants (Radio New Zealand, 2015).

5.4.1 General profile of CDPs particularly at risk when crossing borders

Stateless migrants are in the most vulnerable position amongst the cross-border CDPs. There is no doubt that the rights of cross-border, stateless migrants are not protected, and they face tremendous hardships, including not being able to claim their rights, being denied opportunities for work and access to services, housing and education, and the fear of deportation. Their safety is not protected, as evidenced by how the Rohingya people were exposed to critical environmental risk and further disaster displacement after they fled from conflict zones. However, undocumented CDPs who cross national borders are currently not entitled to the same legal standing as refugees fleeing from conflict according to the United Nations. Wilcox (2021) thus notes that many scholars and activists examining migration issues appear rather ambivalent to those displaced by climate change, resulting in little advancement of this global challenge.

Children and women are most at risk among international migrants. Data from the Census of India 2011 offers insight into an understanding of international migrants in India. Among all international migrants, almost 60 per cent of female migrants and 26 per cent of male migrants are illiterate. Illiteracy often becomes the reason for poverty and a lack of awareness of legal rights in the regions they have migrated to. Therefore, many migrants often end up being exploited. Longer distances traveled also increase the risk of sexual and gender-based violence and keeps children out of learning centres. Studies show that human traffickers in Bangladesh target economically disadvantaged people who cannot afford necessities, such as food, clothing, education, shelter and health care services, and offer them an employment opportunity (Rahim, 2019; Sarker and Panday, 2006). In some cases, girls are married to the traffickers by the head of the family members to overcome financial difficulties.

Migrants on short-term visas risk being deported when seeking asylum as 'climate refugees'. Due to the reasons mentioned in the earlier section, regional and bilateral agreements specifically addressing the issues of climate migration and asylum are underdeveloped in Asia and the Pacific. A rare precedent happened in 2014 when a court in New Zealand recognized a family from Tuvalu displaced by climate change as 'climate refugees'. However, this single case

has not prompted serious policy reform or the revision of migration quotas within New Zealand that would allow for more people displaced by climate change to enter the country (Stanley and Williamson, 2021). Only a year later, in September 2015, the Government of New Zealand denied a 'climate refugee' asylum case and deported Ioane Teitiota[9] from New Zealand. In response to this case, the UN Human Rights Committee (HRC) set a global precedent and ruled that governments must take into account the human rights violations caused by the climate crisis when considering deportation of asylum seekers. While the Committee found that Teitiota's deportation had not been unlawful because he did not face an immediate danger to his life in Kiribati, it recognized that climate change represented a serious threat to the right to life and therefore decision-makers need to consider this when examining challenges to deportation.

5.4.2 Main barriers to education

There is a lack of an international policy framework to protect international CDPs and their rights to education. Laws and policies in destination countries that exclude non-citizens from accessing national education systems could potentially impact CDPs who lack legal ways to migrate internationally, as they are not recognized as refugees under the 1951 Refugee Convention. Indeed, without the option for a regular legal status, CDPs may avoid enrolment in school for fear of deportation (OHCHR, 2014), especially when immigration authorities use harsh enforcement practices, such as detention centres (UNESCO, 2020). This may be true for any international migrants, not just CDPs.

Strict immigration quotas tend to privilege conflict refugees and have yet to recognize the hardships that international CDPs face. As mentioned earlier, international CDPs are currently not entitled to the same legal standing as refugees fleeing from conflict. This is according to the United Nations or any regional or bilateral treaty or agreement. Therefore, CDPs who wish to cross borders have limited visa options, and will most likely apply for a work visa if available. However, the type of work visas afforded migrants, such as those for Tuvaluans to neighbouring Pacific nations, are often strictly for working adults, and in most cases do not allow access to a host nation's educational systems for either workers or their family members. While New Zealand's Pacific Access Category visa does allow for access to the country's education system for migrants from Tuvalu and their families, the visa's strict quota system and requirement for a pre-existing job offer makes accessing this visa and the right to education it entails difficult for many migrant families. However, several studies highlight the risk of immigration policies that tie a residence permit to a specific employment contract. These policies can result in leaving the worker with no choice other than accepting exploitative working conditions (FRA, 2015; Latham-Sprinkle, et al. 2019; Palumbo and Sciurba, 2015).

Several barriers can interact in a multitude of ways and impact the right of international CDPs to education and lifelong learning. Similar to the experience of within-country CDPs, other factors, such as cultural differences, indigenous and ethnic discrimination, language barriers and racism, can also exacerbate international CDPs' vulnerable condition. For example, political

9   Ioane Teitiota, a man from the Pacific nation of Kiribati, claimed that he had faced land disputes and difficulties accessing safe drinking water in his home country as the result of the climate crisis, and therefore was forced to migrate with his family to New Zealand where he applied for refugee status after his visa expired in 2010.

conflicts between countries can have a direct impact on how much protection and support is given to CDPs and migrants, such as the tensions between Bangladesh, India, and the Rohingya people. Refugees in India, despite having a UNHCR refugee status, often face difficulties in enrolling in school, accessing the welfare system, and getting employment opportunities due to their lack of identification card in India (UNHCR, 2021). Even if access to schooling is available, international CDPs may encounter language and cultural barriers to adapting to the new learning environment. Moreover, selection criteria of visa programmes may disadvantage certain types of households, such as those headed by grandparents, less educated individuals, or low-income families and further create barriers for some households to migrate and access education. In addition, harsh immigration laws may actively discourage accessing education and training opportunities, or indeed migrating at all, even when legal means are available.

5.4.3 Policy recommendations

- Establish the concept of 'climate refugees' or an equivalent concept and a legally binding policy to ensure CDPs' access to education on equal footing with other refugees;

- Pursue bilateral agreements for migration with aid partner countries based on the principles of equitable responsibility and burden sharing through, for example, granting the right to education for both children and adults on equal footing with nationals;

- Ensure any bilateral agreements do not have strict quotas or language/education restrictions inadvertently preventing the most vulnerable from migrating;

- Place CDPs' identity and cultural heritage at heart when handling issues related to climate migration; and

- Enhance people's climate change literacy among displaced and host populations taking into account cultural context to enable engagement with climate action.

5.4.4 Examples of promising practices

New Zealand's Pacific Access programme: Considering that an impending mass migration due to the effects of climate change may be imminent in the Pacific region, New Zealand has begun implementing a multilateral, regional cooperation scheme in the form of the Pacific Access Category visa. Launched in 2002, this programme provides the opportunity for indefinite, permanent migration to New Zealand to work, live, and study for residents of the countries of Kiribati, Tuvalu, Tonga, and Fiji - some of the Pacific Island countries most vulnerable to climate change hazards. However, there are quantitative and qualitative limitations on who can migrate via this visa. For example, only seventy-five Tuvaluans are accepted each year and they must be able to read, write, and speak English, and have a job offer with sufficient remuneration in New Zealand (Immigration New Zealand, 2021).

'Education for refugees' programmes offered by UNHCR and NGOs: The programme was developed for the general refugees, asylum seekers and international migrants, but can be applied for the cross-border CDPs. NGOs such as Jesuit Refugee Service (JRS) India offer service to refugees in Delhi who drop out of formal education and need language support at work. UNHCR also has established a partnership agreement with eight national NGOs to support international refugees. These include Bosco Organisation for Social Concern and Operation

(BOSCO), Socio-Legal Information Centre (SLIC), Bal Raksha Bharat (Save the Children), Fair Trade Forum India (FTF-I), Development and Justice Initiative (DAJI), Gandhi National Memorial Society (GNMS), ActionAid (AA) and Commonwealth Human Rights Initiative (CHRI) (UNHCR, 2021).

Children at Fun Caring Play Centre for Tuvaluans in New Zealand: Children at Fun Caring Play Centre is a kindergarten for Tuvaluan children in Auckland, New Zealand. It was established against the backdrop that there are as many as 4,000 Tuvaluans living in New Zealand, which is a massive proportion of Tuvalu's population of 12,000. Due to the rising sea level, erosion, and extreme weather events, the island nation is shrinking and may eventually disappear. Many have already migrated to neighbouring Pacific nations. The Centre was started with the aim of teaching New Zealand-born Tuvaluan children their native language and culture.

5.5 Trapped populations and their right to education

Key points	▪ Trapped populations are those vulnerable people who wish to escape their environmental stress but lack the capacity to do so; ▪ Conventional ways of identifying vulnerable groups do not necessarily predict the characteristics of trapped populations; ▪ Psycho-social processes (e.g. identity and honour loss, place attachment, anxiety, and trauma) can generate or reinforce someone's subjective immobility; ▪ As more CDPs are migrating to cities, urban immobility deserves more attention and research; and ▪ When considering the rights of trapped populations and their options of migrating/relocating as an adaptive policy solution, it is important to ask who the solution is for, and by whom is it raised. This is not only a matter of scholarly discussion, but also a matter of climate and global justice.
Barriers to education	▪ Pre-existing inequalities exacerbated by climate change impacts;
Policy recommendations	▪ Use schools as a starting point to create social protection networks for children and develop community resilience through education and training; ▪ Develop social safety net programmes and cash transfer programmes for trapped populations who are continually financially disadvantaged after multiple disasters in order to prevent school drop-out; ▪ Increase the awareness of vulnerable populations about their legal rights; ▪ Continue efforts of 'Education for All' and SDG4; and ▪ Focus on capacity building and lifelong learning that help secure people's livelihoods, which in turn may increase the likelihood of their children's enrolment in school.

Life in disaster-prone areas can fall into a vicious cycle where displacement among highly exposed and vulnerable populations becomes chronic or prolonged, but where CDPs lack the adaptive capacities and social capital to leave their homes (Cundill, et al. 2021). The concept of 'being trapped' is often used to portray this climate-induced immobility.[10] **Trapped populations refer to vulnerable populations who wish to escape the environmental stress but lack the capacity to do so** (Foresight, 2011; Black, et al. 2011). The reasons may be lacking resources, legal protocols, border situations, and social barriers including gender norms and financial dependency (Black and Collyer, 2014; Ayeb-Karlsson, et al. 2018). Children and women who are trapped in these conditions are at risk of being victims of violence, abuse, and/or human traffickers. Sundarbans – a collection of densely populated islands in India that are so remote that a boat is the only transportation to leave the community – is an example of how a disaster can put those left behind in tremendous danger. After Cyclone Aila slammed the Sundarbans in May of 2009 and displaced more than a million people, the rate of human trafficking and number of missing women began to rise (Abdullah, et al. 2016; Rana and Roy, 2021).

However, **conventional ways of identifying vulnerable groups do not necessarily predict the characteristics of trapped populations**. A case in Semarang city, the capital of Central Java in Indonesia, shows that (im)mobility decision-making is highly complex, and is less like a rational and linear process based around a combination of push and pull factors. About 80 per cent of the residents in Semarang share that they would choose to stay in the city despite the environmental threats (Buchori, et al. 2018). The reasons for staying include emotional bonds and sense of belonging to the community (41%), proximity to work (34%) and values of inherited property (10%). Interestingly, results of a follow-up survey reveal that, compared to the respondents who would stay, those in favour of relocating tend to be less educated, own no property or vehicle, have lived in the area for a shorter period, and have experienced intense floods during their residence (Buchori, et al. 2021). This case counters the common assumption that more educated people with better financial capacity are more likely to migrate under the pressure of climate change. It also has critical implications for the current Jakarta relocation plan, as that plan prioritizes government officials and economic elites.

While considering the rights of trapped populations and their options of migrating/ relocating as an adaptive policy solution, it is important to ask who the solution is for, and by whom is it raised (Black and Collyer, 2014; Ayeb-Karlsson, et al. 2018). This is not only a matter of scholarly discussion, but also a matter of climate and global justice. Indeed, studies have shown that Tuvaluans prefer remaining on their island homes for as long as possible and tend to return after receiving education or training elsewhere (McMichael, 2021). Most Tuvaluans do not wish to leave their homelands or adapt to another culture, despite being well-aware of the climate risks that living in their homeland carries (Oakes, 2019). Nevertheless, Tuvaluans, as well as other Pacific Islanders, continue to be portrayed as 'climate refugees' who fled (or will need to flee) sinking islands in the pursuit of safety, livelihoods, and access to education without regard for their cultural context and agency with migration being a long part of their history. The COP26 statement given by Tuvalu's foreign affairs, Simon Kofe, in 2021 (see Figure 7) is a sharp reminder to the world that the ultimate solution should not be asking people to abandon (part of) their identity and integrate elsewhere while the rest of the world continues to destroy

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10 Diverse terms can also be used to describe this immobility, including involuntary immobility, stayers, non-migrants, staying put, and left behind (Carling, 2002; Toyota, et al. 2007; Gray, 2011; Hjälm, 2014; Mata-Codesal, 2018).

their homelands. Rather, reducing greenhouse gas emissions, especially in developed countries, is the way to avoid climate catastrophes and other issues like trapped populations and climate refugees.

5.5.1 General profile of CDPs at risk of becoming trapped population

Literature on trapped populations mostly covers rural people trapped in environmentally high-risk areas due to economic constraints. This is in keeping with the case analysis in India and Viet Nam. Those living in remote, disaster-prone areas, ethnic minorities, less educated women, less skilled agricultural laborers, and households with many dependents or who are exposed to high climate-sensitive health risks are more likely to end up trapped or immobile. For example, those who are left behind after recurrent and life-threatening disasters in Uttarakhand, India, including soil erosion, landslides, and the 2013 and 2021 catastrophic floods, can be considered as being trapped. A large number of out-migrants led to the breakdown of the social and community structures. The remaining residents are largely women, young children, and the elderly. Among those, women are responsible for taking care of the dependents with limited resources and support while coping with the challenges brought about by climate change (Blocher, et al. 2021). In a similar vein, the aggregate effects of income, spatial, and ethnic inequalities in Viet Nam are rendering these households even more vulnerable to the adverse impacts of climate change (Islam and Winkel, 2017). Studies show that most low-income households in Viet Nam are ethnic minorities (73%) or those who live in remote areas (95%) (Pimhidzai, 2018). At the same time, ethnic minorities are notable for far lower migration rates than the majority Kinh or Hoa groups, despite many years of government programmes directed at bringing minority groups into the mainstream of economic life (Coxhead, et al. 2015).

CDPs in informal settlements can be trapped due to existing vulnerabilities as well as psycho-social processes (such as identity loss, place attachment, and mental well-being). In Bangladesh, for example, people who migrated from Bhola Island to an informal settlement in Dhaka after the devastating 1970 Bhola cyclone have stayed and named the settlement Bhola Slum after their home. Although most participants in the study expressed a desire to leave Bhola Slum, they tend to find themselves 'trapped' after having been mobile – unable to move back home, and unable to move to other parts of Dhaka, or beyond (Ayeb-Karlsson, et al. 2020). The case of Bhola Slum also sheds light on the role of CDPs' emotion and psycho-social states in their decision-making processes. While residents' reasons for 'being' trapped are different, they share a common sense of 'feeling' trapped, that includes losing their identity and honour, attaching too strongly to the place, fearing the risk of eviction, or suffering traumatic experiences such as discrimination and abuse (Ayeb-Karlsson, et al. 2020). These psycho-social processes can generate or reinforce people's subjective immobility. It is also worth noting that as the number of CDPs migrating to cities is on the rise (as discussed in Section 5.2) urban immobility deserves more attention and research.

5.5.2 Main barriers to education

Pre-existing inequalities are exacerbated by climate change. In many rural and remote under-served areas, vulnerability to economic and climatic shocks compound each other, locking the communities into a spatial poverty trap of permanent disruption, economic precarity and slow productivity growth. Yet, protecting the right to education of people in these areas is challenging. As evident in the case of Indonesia, being a vast multi-island state results in unequal population distribution, with most teachers concentrated in cities and large islands.

Many field studies in different parts of the world indicate a household's poverty is the greatest factor in determining whether children of school age are sent to work, and how these children's income contribution is important for a household's basic food security (Thorsen, 2012). The example of India shows that especially migrant children are increasingly trapped in hazardous forms of labour because their families flee from environmental stress (i.e., droughts) in their home districts, such as in the state of Odhisa. Climate change has led to crop failure, a decrease in grazing land, a decline in income and employment opportunities, an escalation of food prices, hunger and malnutrition. This, combined with limited alternative sources of income, has pushed families with small land holdings or working as daily wage laborers to migrate to more urban areas, such as Andhra Pradesh, in search of better livelihood opportunities. Moreover, the Terre des Hommes (2017) report shows that this group of migrants is hardly reached by development and government programmes. Although the area generally shows a positive development with a decrease of child labour, these migrants are largely left behind.

5.5.3 Policy recommendations

- Use schools as a starting point to create social protection networks for children, and develop community resilience through education and training;

- Develop social safety net programmes and cash transfer programmes for the trapped populations, namely those that are continually financially disadvantaged after multiple disasters, in order to prevent an increase in school drop-outs;

- Increase the awareness of vulnerable populations about their legal rights;

- Continue efforts of 'Education for All' and SDG4; and

- Focus on capacity-building and lifelong learning that helps secure people's livelihoods, which in turn may increase the likelihood of their children's enrolment in school.

5.5.4 Examples of promising practices

Tuvalu Survival Fund (TSF): Recurring hazards and major disasters contribute to persisting funding gaps for recovery and reconstruction in many areas. In 2015, Tuvalu was hit by Tropical Cyclone Pam (a category 5 cyclone) and lost over a third of the country's GDP at the time (Tuvalu Coastal Adaptation Project, n.d.). In response, the Tuvaluan government established the Tuvalu Survival Fund (TSF) in 2016 to specifically finance climate change programmes and to respond quickly to climate-related disasters such as tropical cyclones (IMF, 2018). This can be an example for other disaster-prone areas to prepare to support trapped populations in their recovery.

A children's group in Sundarbans, India: Save the Children India and local partners work to support drop-out children in an area that has been targeted by human traffickers. The group also provides lessons on how to keep an eye out for human traffickers. If an unknown person enters the village, they confront him to find out why he's there. And if he seems out of place, they report him to their teacher, who contacts authorities. Collectively the children serve as a kind of vigilante group for their peers, checking in with kids' families when they don't show up for school and looking out for children talking to strangers or leaving their homes wearing new clothes, something they wouldn't do unless they were leaving town, possibly with a trafficker. In the 80+ villages where the programme now operates, trafficking rates have dropped nearly to zero.

➲ Dholkhali childrens group teacher, Mithu Mondal, says she can empower her students through education, but not financially since there's no vocational training at the school.
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Chapter 6

Conclusion

Climate change affects policy on several fronts: economics, health, and national security. Extreme weather events displace millions of people and generate increased needs for humanitarian assistance and disaster response. In 2019 alone, 24.9 million people were displaced due to climate events, almost three times larger than those displaced by violent conflicts (IDMC, 2020). While it is difficult to project the number of people to be displaced by climate change or weather-related disasters, climate displacement is soon to be the predominant factor affecting human mobility, especially for those who have limited resources to adequately respond to such crises.

A stunning fact about displaced people is not just the steep number but the causes that forced them to flee from their homes. According to UNHCR, the biggest cause of people becoming displaced is not war or violent conflicts, but acute food shortage and malnutrition (UNHCR, 2020). In fact, as many as 80 per cent of those refugees, migrants, and internally displaced persons are due to food insecurity, which is largely linked to climate change and weather extremes, such as drought, floods, and desertification. These movements can generate a shift in geopolitical stability that in turn impacts food security, water scarcity, economic displacement, and migration, putting a strain on both the physical infrastructure and the social systems in destination areas.

The region of Asia and the Pacific is one of the most vulnerable to natural disasters, with millions of displacements recorded every year (du Parc, 2020). Population growth and rapid urbanization are furthering environmental stresses, placing more people in situations where they will be vulnerable to climate shocks. However, the issues of climate displacement and migration remain under-represented in international discourse, advocacy, and research. Extensive systematic research into the displaced populations is lacking and most national and local policies do not reflect international guidelines on protection in the context of climate-induced displacement and migration (Orendain and Djalante, 2021). Displaced persons thus lack assistance and support, and their rights are at risk.

Internationally, despite evident urgency in climate displacement, the laws and conventions to protect the rights of climate-displaced persons remain heavily focused on the cross-border migrants and conflict-induced refugees (UNESCO, 2020). As a result, policies, strategies and measures to ensure the right of climate-displaced persons to access basic services such as education and health care in their new homes have not been given necessary attention. Learning disruption, whether for a short or long period of time, hampers the progress of recovery and/or integration of the already vulnerable displaced in the long run.

In this regional synthesis we discuss prevalent scenarios where people's right to education is threatened as a result of climate-induced migration and/or displacement. Each displacement scenario entails different barriers to education, with lacking financial resources as the key factor across all scenarios, hindering access to quality education during and after displacement. The loss of property and assets due to weather-related disasters and displacement can take years for families to recover from or receive support for their losses. Many families are thus forced to prioritize economic security over their children's education. Perhaps the most evident scenario is the learning disruption due to sudden-onset disasters. As weather-related disasters are becoming unprecedentedly severe, more pupils are kept out of the classroom while waiting for emergency aid at settlements or their homes. Climate change and climate displacement

exacerbate existing educational inequalities and barriers to education and more adversely affects the financially disadvantaged, girls and women, rural communities, those with pre-existing health risks, and the disabled. Moreover, for those facing forced migration – within and cross-border, administrative barriers, lack of documentation, residency requirements, and language barriers impede full access to quality education.

Protecting their right to education requires strong leadership in the education sector in the current disaster risk reduction efforts. In disaster-prone areas, for example, emergency response training must include teachers and educators based on the reality of specific needs of their schools and regions because simply offering learning materials is not a long-term solution to ensure the continuity of quality education for displaced students.

The other four displacement scenarios, albeit subtle, also illustrate the ways in which climate change impacts have already undermined people's right to accessing quality education and lifelong learning opportunities. Children and youth who experience displacement and frequent migration, for example, are often denied access to school due to such reasons as missing required documents that were lost when fleeing their homes, difficulties in changing residency between states, or lacking social and financial support in continuing education.

As floods, storms, droughts, and other climate-related extremes are expected to be more extreme and frequent, permanent migration and planned relocation projects have both been considered as plausible solutions to mitigating climate risks. However, social, psychological, economic, and political effects of these large-scale movements require more attention and research in order for long-term adaptation, resilience, and social cohesion to be the result. The country cases studied for this regional synthesis have shed light on some of the challenges to come: voluntary versus involuntary relocation, comparing issues of climate justice, the rights of undocumented displaced persons at a foreign border, their children's right to quality education, and exacerbated vulnerabilities of those left behind, to name a few.

As a step forward, some overarching recommendations are provided here to highlight the policy and data gaps of this issue. Specifically:

On policy and governance:

- Leverage existing legal frameworks to include policy provisions to protect the right to education for all from a lifelong learning perspective, notably placing the rights of CDPs at the forefront of transforming education efforts through both formal, informal, and non-formal education;

- Ensure that climate displaced persons have access to high quality education through mainstreaming Education for Sustainable Development including climate change education in order to raise knowledge, awareness and action on the scientific and structural causes of these climate induced disasters so as to empower learners to become an active part of solutions, as well as through targeted teacher training on hybrid learning pedagogies, teaching at the right levels, assessment of learning losses, and more;

- Mainstream climate resilience and adaptation into policy and planning for education and development, including investing in contingency planning, with a specific focus on contingency planning at the school level, informed by thorough risks analysis at the local level;

- Coordinate policy and action between education and DRR sectors through, for example, establishing legal and policy frameworks built on the wholesale inclusion of CDPs in education, and implementing the UNDRR's Comprehensive School Safety Framework (CSSF) to ensure that education is an integral part in DRR policy response. This should include identifying joint financing for retro-fitting all schools in disaster-prone areas, or establishing a coordinated funding mechanism between the respective education and DRR bodies, while leveraging development aid and private partnerships, to ensure policies have the resources to be translated into action within a specified timeframe; and

- Support internal and international migrants and their children's education through for example, flexible administrative procedures in school registration and transfer, teacher transfer programmes to accompany linguistic minorities during seasonal migration, and social safety net programmes in between seasons of migration.

- Develop a regional coordination mechanism to help ensure the right to education of the growing internationally displaced population to mobilize the international community.

On data and information management:

- Encourage data sharing between relevant data systems/sources (e.g. EMIS) while ensuring data security;

- Improve the current collection of national- and school-level data sets to account for both migration and education to allow for continued and targeted monitoring while protecting individuals' privacy and digital rights; and

- Reconcile between climate change data and education data so that ministries of education can undertake informed planning decisions, such as safe school locations, zoning policies for new schools, infrastructure and maintenance, and development of contingency plans.

With these in mind, what will be a key general policy recommendation, for all countries and all displacement scenarios identified, is enlarging the identification of duty-bearers and, similarly to the analysis of causes of educational barriers, go beyond the education sector. All structures, institutions, and organizations at all levels, with responsibilities for addressing or influencing the removal of barriers to access to education in the above mentioned situations resulting from climate change, need to be identified and invited to participate in this regional dialogue in order to engage a broader group of duty-bearers.

Another key consideration is to bring together right-holders and duty-bearers with the aim of identifying optimal ways for tackling problems related to access to education. This could be achieved through the creation of spaces of dialogue and meaningful engagement throughout the process, paying particular attention to the views of persons and groups in situations of higher vulnerability.

Protecting the education rights of climate-displaced persons and climate migrants requires both humanitarian and development efforts. While there are already some achievements on the Education for All front in Asia and the Pacific, effective action must be taken to ensure that education systems are able to withstand the pressures of displacement and heightened mobility resulting from climate change. Irreversible damage will be inflicted if the right to education is not upheld in all displacement settings. Thus, international organizations, policy-makers, civil society and all stakeholders must work together.

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Annexes

Annex A: The 4As framework for the right to education

AVAILABLE

- Establish, develop, and manage an education system with schools in all locations and in sufficient quantity.
- Safe school buildings (classrooms, library buildings, sanitation systems, computer and IT facilities, playgrounds).
- Quality teaching (education and training, recruitment, labour rights, trade union freedoms).
- Freedom of non-state actors to establish private educational institutions.
- Resource allocations matching human rights obligations.
- Learning materials and other equipment necessary for teaching and learning.

ACCESSIBLE

- Non-discrimination at all levels of and types of education.
- Elimination of legal and administrative barriers.
- Elimination of financial barriers, such as user fees.
- Provision of free and compulsory primary and secondary education and progressively free education at all other levels and types of education.
- Elimination of practices keeping children and adolescents out of school, for example, child marriage and child labour.
- Schools must be within a safe and reachable distance.
  - Provision of school transportation, where necessary.
  - Measures to prevent drop-outs and to identify out of school children and get them back into the education system.

ACCEPTABLE

- Quality education in public and private schools (curriculum, pedagogy, trained teachers).
- Must meet the aims of education.
- Must recognize that children are rights-holders.
- Culturally appropriate and relevant education.
- Free from any form of violence, including gender-based violence against women and girls and corporal punishment.
- Parental freedom to send their children to private schools offering education in line with their religious, moral, or philosophical beliefs (or to have their beliefs respected in public schools through neutral and objective religious and ethical instruction).
- Alternative schools offering alternative pedagogies or languages of instruction must not be closed or prevented from opening .
- All forms of private education must meet minimum educational standards as set by the state.

ADAPTABLE

- Meets the unique needs of students, for example, children with disabilities, minorities, LGBTQI students, indigenous peoples, working children, children in rural areas, children in detention, and children in conflict-affected areas and emergency situations.
- Respond to the changing needs of society.
- Respond to local needs and context.

Source: UNESCO (2018), p.76

Annex B: Households' access to technology in Indonesia

Source: World Bank (2020), pp. 15–16

This figure summarizes households' access to technology for the poorest (Quantile 1) and richest (Quantile 5), and urban and rural households. Most households have a mobile phone/ smartphone, but internet connectivity figures are very low for both rural and urban households (5%). While 15 per cent of the richest households have access to internet and a cell phone, only 1 per cent of poorest households have such devices.

Annex C: Full description of dataset

Bangladesh

Regions	Disaster contexts	Districts	Number of questionnaire survey to be administered
1. Northeastern parts (Haor regions)	Flash floods	Sunamgonj	170
2. Northwestern parts (Teesta floodplains)	Regular river floods (monsoon flood), flash floods (resulting from torrential rainfall) and river bank erosion	Kurigram or Jamalpur	170
3. River islands (charlands)	River bank erosion, flooding, extremely high temperatures, thunderstorms	Sirajgonj or Shariatpur	170
4. Hills	Landslides, flash floods due to heavy rainfall	Rangamati	170
5. Barind tract	High temperature, drought conditions, heat waves, strong winds specially during tornados/nor 'westers	Naogaon or Rajshahi	170
6. Deltaic coastal areas (deltaic regions)	Salinity (surface water, ground water, soil), waterlogging, cyclone and associated strong winds, water surges, tidal floods/coastal inundation in case of embankment breach, sea level rise in the context of climate change.	Satkhira or Khulna	170

India

The conceptual framework, which was based on a solid understanding of the current displacement scenarios through desk review, provided the ground upon which the data collection and analytical strategy were designed. Survey and interview questions were prepared for and distributed to the education ministries, state and local governments, school leaders and NGOs/International organizations in Bihar, Karnataka and West Bengal based on the consultation with the UNU-IAS research team and country-based research team. The survey participants and interviewees were selected based on existing networks of the country-based researchers' organization, Centre for Environment Education (CEE), India.

Semi-structured interviews were conducted individually with eight key informants. Survey forms were distributed to the following organizations:

(i)   Ministry of Education, Government of India, via Indian National Commission for Cooperation with UNESCO (1 distributed, no response);

(ii)   School principals/leaders (30 distributed, 4 responses);

(iii) Local governments (13 distributed, 6 responses); and,

(iv)   NGOs/international organizations (20 distributed, 5 responses)

Tuvalu

Types of documents	Number	Methodology	Remarks
National policy documents	41	Desk review and Snowballing	Governmental and UN reports on Tuvalu's education system, climate change policy, and domestic and international migration schemes Research on Tuvalu and peer-reviewed journals only
Journal articles	25		
Implementation reports and national trend analyses	5	Snowballing from references within the peer-reviewed and grey literature	Reported events or topics relevant to better understanding of issue

Indonesia

1) Reviewed documents (Refer to the full reference list for further details)

Types of documents	Number	Methodology	Remarks
National policy documents	15	Local researchers' consultation and snowballing	Including education policies, laws and disaster management policies
Journal articles	17	Snowballing	Research on Indonesia and peer-reviewed journals only
Implementation reports and national trend analyses	23	Consultation with UN agencies, snowballing	By international organizations and development aid

2) Supplementary data

Areas	Types of data collection	Number of participants	Organizations	Remark
Jakarta	Focus group interview	3	BAPPENAS/Directorate of Religion, Education, and Culture; Directorate of Environment; Directorate of Local Development	Involved in the planning process of the New Capital City, especially in education, environment and city planning aspects
East Kalimantan Province	Focus group interview	3	BAPPEDA/Regional Development Planning Agency	Two officials from Samarinda and Balikpapan cities (supporting cities for the new capital)
Central Sulawesi Province	Online questionnaire	15	CCDPs	From Palu and Sigi, the most affected areas by the 2018 Sulawesi earthquake
		6	School leaders	

Areas	Types of data collection	Number of participants	Organizations	Remark
Semarang city	Online questionnaire	19	CCDPs	From rob (flooding caused by sea water overflow) affected areas
		1	School leaders	
East Kalimantan	Expert meeting	2	University of Jember, professors in education and climate science.	To verify the findings and gather expert feedback to enhance the initial analysis

Viet Nam

Method	Number	Inclusion criteria or rationale	Research focus
Desk review	29 journal articles; 24 reports; 15 media release	Keywords search and snowballing	Synthesizing the-state-of-art knowledge of the topic in Viet Nam
Policy analysis	27 official documents	Keywords search and snowballing	Understanding the policy environment for CCDPs
One-on-one interviews	3	Identified through desk review; Interviewees have direct working experience with CCDPs in Viet Nam	Validating the results from the desk review
Online survey	3 provincial government officials; 25 teachers	Areas highly affected by climate change; Personal networks; Respondents were available despite the negative effects of the COVID-19 pandemic on schools.	Understanding the policy environment, institutional capacity, and challenges faced by CCDPs
Peer review session	1	Personal networks	Enhancing credibility of the study findings

Annex D

Summary report of Bangladesh case study

This country case report aims to determine the state of the right to education of the students in Bangladesh as it pertains to climate change-induced human displacements and other challenges. The objectives of the research were to 1) identify the characteristics and profiles of climate displaced persons, 2) identify the barriers and/or advantages to education as a result of climate change and/or climate displacement, 3) investigate whether national policies, strategies, actions or measures already exist for climate displaced persons in the field of education, and 4) develop policy recommendations to enhance the quality and inclusiveness of national education systems and to optimize education opportunities for climate displaced persons.

A literature review was conducted focusing on the policies of three sectors, namely education, disaster management and climate change. Institutional assessments of different government and donor aided education programmes were reviewed to gain an understanding of the country setting regarding the right to education in the context of human displacements and migration as a result of climate change. The study administered 1,100 household-level questionnaire surveys in six different climate hot spots of Bangladesh to understand the factors and processes of disruptions in education that are results of climate change induced displacements. The study also conducted Key Informant Interviews (KII) and Focus Group Discussions with thirty people. In addition, a geospatial assessment was carried out using data collected from BANBEIS (Bangladesh Bureau of Education Information and Statistics) to gain a deeper understanding of the impacts of climate change as they affect the students, teachers and other education staff. The state of the parents of the students experiencing climate changing conditions, including their displacement issues, were examined to learn how their (economic-social) conditions sometimes cause education disruptions and can gradually lead to irregular attendance at first, and later to permanent drop-out status.

Natural disasters in Bangladesh are locally contextualized and impact patterns are varied based on types of hazards. For example, more than ten types of disasters occur in Bangladesh in different geographical locations and they impact differently on people as per the differences in their economic, social and ethnic backgrounds. For this reason, the patterns of difficulties including displacements are widely varied and include temporary/seasonal, permanent, internal, and international. These can create different forms of discrimination and barriers for students to gain access to education until finally the right to education becomes restrained. Sometimes, impacts of multiple disasters such as floods (two floods happened in 2020) or cyclones (cyclone Amphan also happened in 2020) imposed over pre-existing vulnerable conditions of the communities, make the situations more complicated and worse. In recent times, the COVID-19 impacts have created complicated displacement situations and have threatened the right to education of the students. The closure of educational institutions for about two years due to COVID-19 caused an increase in the number of student drop-outs (especially among girls), a loss of income for parents and an associated migration of people to offset the economic loss. Taken together the result was a huge disruption in the country's education system. The Government of Bangladesh is currently trying to devise strategies to bring back the students to the education process. In addition, about a million Rohingya nationals came from a neighbouring state in Myanmar to Bangladesh, half of whom are under the age of eighteen years and have been out of school for years.

Education in Bangladesh and key issues

Education in Bangladesh has three major stages: primary, secondary and higher education. Primary education is a five-year cycle, while secondary education is a seven-year cycle with three sub-stages: three years of junior secondary (VI, VII, and VIII), two years of secondary (IX, X) and two years of higher secondary (XI, XII). The primary, secondary and higher secondary stages of education are designed for age groups 11–13, 14–15 and 16–17 years, respectively. Higher secondary education is followed by graduate level education in general, and technical, engineering, agriculture, business studies, and medical streams requiring five to six years to obtain a Master's degree. Secondary level education is provided by three major institutional streams: general, technical-vocational and madrasha (educational institutions based on Islamic vision). At present, about 21.55 million students (51% girls) are enrolled in 133,002 primary level educational institutions and 19.97 million students (51.2% female) are enrolled in 41,981 secondary and tertiary level higher educational institutions. This suggests that from primary to higher education a total of 41.52 million students (24.94% of the whole population) are engaged in the education processes in Bangladesh. The education system in Bangladesh is administered by two Ministries – one is responsible for secondary and higher education (i.e. the Ministry of Education, MoE) and the other, the Ministry of Primary and Mass Education (MoPME) supervises primary and pre-primary education. A total of fourteen education agencies work under these two Ministries to achieve the education related goals of the government and also global goals such as SDG 4.

Table 1: Education Ministries in Bangladesh and their subsidiary agencies

Ministry of Education (MoE)	Ministry of Primary and Mass Education (MoPME)
The MoE aims to administer post-primary level education related issues in Bangladesh that include tertiary level higher education and vocational training. Two divisions, namely, Secondary and Higher Education, and Technical and Madrasha have been created under the Ministry of Education. This Secondary and Higher Education Division is concerned with policy formulation, planning, monitoring, evaluation and execution of plans and programmes related to post primary secondary and higher education. The vision of MoE is 'quality education for all' with a mission to create human resources with well-educated, skilled and advanced morals by combining general, science and technology-based education and training. The departments working under MoE are listed below.	The MoPME aims to establish a knowledge-based and technologically-oriented competent society to ensure that every school-age child has access to primary level institutions that provide all necessary facilities, continue in school to receive and achieve quality education, and provide opportunities to pre-school children, young persons and adults to meet their learning needs in a competitive world. A number of departments working under the umbrella of MoPME are listed below.

Ministry of Education (MoE)	Ministry of Primary and Mass Education (MoPME)
▪ Directorate of Secondary and Higher Education (DSHE) ▪ Directorate of Madrasha Education (DME) ▪ Bangladesh National Commission for UNESCO (BNCU) ▪ National Academy for Educational Management (NAEM) ▪ National Curriculum and Textbook Board (NCTB) ▪ Bangladesh Bureau of Educational Information and Statistics (BANBEIS) ▪ Directorate of Inspection and Audit (DIA) ▪ University Grants Commission (UGC) ▪ Education Boards ▪ Non-Governmental Teachers' Registration & Certification Authority (NTRCA)	▪ Directorate of Primary Education (DPE) ▪ Bureau of Non-formal Education (BNFE) ▪ National Academy for Primary Education (NAPE) ▪ Shishu kollyan Trust (Children Welfare Trust)

Generation of education statistics in Bangladesh and dissemination

Bangladesh Bureau of Educational Information and Statistics (BANBEIS) works under MoE and is responsible for collection, compilation and dissemination of educational information and statistics. The Bureau started its functions in 1996 as an attached department of the Ministry of Education. This bureau is playing important roles in spreading ICT training and ICT education as well. BANBEIS collects data from schools, colleges, madrashas and universities, and also focuses on identifying disaster and climate change impacts on the institutional infrastructure and other facilities. In addition, the DPE (Directorate of Primary Education), works under MoPME, collecting information through annual primary school census which includes information on school address, number of teachers, students and staff, exposure to disasters and climate impact, requirements for the special-needs children, physical condition of school buildings, land areas and number of classrooms available, safe WASH (water sanitation and hygiene) block and drinking water facilities, school furniture, multimedia and ICT instruments, disaggregated data on the number of students and percentage of attendance according to gender and the level of classes from pre-primary to 8th grade. The agency also collects disaggregated data on the number of students in consecutive years to track drop-outs, gather information on the number students passed and failed, and information on the number of tribal students according to gender etc.

It is important to note that a majority of the educational institutions in Bangladesh are located in areas that are exposed to a range of climate change induced hazards such as river bank erosion, flooding and cyclones, and many institutions are located in areas that are home to high temperatures and drought conditions (e.g. Barind Tract areas in north-western parts of Bangladesh). The impacts of the disasters cause huge damage to educational institutions[11] and also incur loss to the families of the students by causing damage to the agricultural crops, disrupting income generation processes. The families of the students are sometimes compelled to migrate to other places to cope with their situation. As a result, the drop-out rate of students from educational institutions seems very high in Bangladesh. BANBEIS[12] reported that the drop-out rate in the secondary cycle (Grade VI to X) is 46.73 per cent for boys and 56.43 per cent

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11 Please see CCESD (2015, BANBEIS/UNESCO) report for more information in this regard.
12 Pocket Book on Bangladesh Education Statistics 2012, published by BANBEIS.

for girls', or 53.28 per cent for both together. This rate at higher secondary level is 36.50 per cent for boys and 37.80 per cent for girls', or 37.13 per cent for both. The Government of Bangladesh has been trying to address this challenge, but progress in this regard is not very promising because education agencies generally use the longstanding, business as usual policies, and education sector interventions are not effectively aligned with disaster management, climate change policies and programmes. Efforts to date seem to be insufficient to sensitize and develop the capacity of education sector stakeholders to reduce student drop-outs and address the challenges faced by displaced persons. Efforts are also absent for efficient articulation of school safety/improvement plans to ensure the right to education to those students who are displaced due to the impacts of climate change.

Climate risks and displacement in Bangladesh

Bangladesh is identified as one of the world's hot spots for natural hazards, owing to the frequency of various hydro-meteorological and other types of disasters (Mottaleb, et al. 2013; Ishtiaque, et al. 2019). The presence of the Himalayan Mountain range in the north, that discharges each year more than one trillion cubic meters of water[13] with about 1.2 billion tons of sediment[14] across the low-lying topographical settings to the Bay of Bengal in the south, makes Bangladesh highly vulnerable to natural disasters. Disasters including floods, with high waves making river crossings dangerous, river bank erosion due to strong currents, and extremely wide rivers (5–7 kilometers wide) like the Brahmaputra-Jamuna, the Ganges-Padma and the Meghna as well as 415 other rivers[15] are common phenomenon of Bangladesh. The southern coastal frontiers are subject to cyclonic disturbances including strong winds, tidal surges, river and sea erosion, and high waves in the river estuarine mouths.

Educational processes, namely teaching, learning and extra-curricular activities happen within these regular disaster contexts. Climate change is an extra threat added to the existing set of disaster induced challenges. The climate variables such as temperature, precipitation, seasonal wind directions and wind pressure are showing significant changes compared to past trends. As a result, the longstanding disaster contexts are becoming more perilous and unpredictable. Even new challenges under the influence of climate change such as an increase in the mean sea level, higher degrees of salinity intrusion in the soil, water and air, increased frequency of lightning and thunderstorms, and sometimes drought conditions due to a shortage of rainfall and high temperatures have made the disaster induced challenges in Bangladesh extremely complicated. Of the total of 174,983 educational institutions and 41.52 million students, many are situated in disaster affected areas. Thus, disturbances in the learning process of students are inevitable in Bangladesh.

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13 Annual Report 2020–2021. Bangladesh Water Development Board.
14 Ibid.
15 Bangladesh River Survey 2011. Bangladesh Water Development Board.

The disturbances happen in two different ways. First, there is direct impact on students, teachers teaching support staff and infrastructure of the educational institutions. Second, there are impacts on the living arrangements of the students at home such as insecurity caused by loss of income generation of the parents, situations where students become homeless due to houses being swallowed by rivers, students who must engage in agricultural production and other income generating activities to help support their families. In Bangladesh, about ten million people live on river islands. These lands are highly fertile for agricultural productivity but are unstable because of erosion and accretion processes of the rivers. People in these areas often have to engage in temporary or permanent migration for survival, so education of the children does not get priority. This heavy dependence of people on natural resources which are sensitive to change in the disaster and climate affected areas can, in a combined fashion, trigger many forms of direct and indirect impacts on education. Such people mostly migrate to big cities, especially Dhaka and Chittagong, which are already congested and overcrowded by displaced people. In such conditions, educational facilities become overburdened and most of the migrated students remain unadmitted to educational institutions, adding to school drop-out rates. The COVID-19 related economic setback, with lockdown situations and school closures, made these situations even worse.

The education sector data published by BANBEIS (BANBEIS, 2018) shows that educational institutions in Bangladesh are affected by a number of climate induced hazards like floods, cyclones, droughts, water logging, tidal surges and river erosion, all of which pose a serious threat to the students and their learning environment (Paci-Green, et al. 2020). The data shows that of all the educational institutions affected by natural hazards, more than one-third (38%) of the institutions are affected by flood, 11 per cent are affected by cyclones, 9 per cent are affected by water inundations, and 5 per cent are affected by tidal surges and droughts. These disasters cause physical damage to the infrastructure, disrupt accessibility and result in loss of learning days, creating social and economic challenges.

BANBEIS conducted another study supported by UNESCO (BANBEIS, 2015) focusing on twelve natural hazard affected areas to generate disaster education data and information that sheds light on aspects which may be helpful for the policy-makers in their planning processes. These disaster affected areas covered central coastal areas, river adjoining areas and river island areas, floodplain areas, wetlands regions and table land (i.e. Barind Tract). The data showed that about 57 per cent of the education institutions in the affected areas were non-concrete and fragile with around 47 per cent of the classrooms being unsuitable for use. The study further showed that around 73 per cent of the institutions in the coastal region are vulnerable to high tides.

Alam and Streatfield (2015) showed that men in Bangladesh migrate (77% cases) for economic reasons, and the women and children migrate (72% cases) to join the husband/father at their workplace. They inferred that although this migration may bring some economic benefits, it does not turn out to be beneficial for the children's education. Every year almost half a million people migrate from rural areas to urban cities in Bangladesh, all victims of different natural disasters. They all have lost their jobs and lands and most often have had to drop their children out of formal education as they are forced to migrate before the end of the school year (ILO 2019).

It is imperative to mention here that several major cyclones in Bangladesh over the past years have inflicted significant damage to the school infrastructures and amenities, increasing the school drop-out rates of the country (Akter, 2019). The two main barriers that are keeping Bangladesh from achieving completion of universal primary education by 2021 are firstly, the high rate of repetition and secondly, the significant rate of school drop-outs. Reports have showed only a 55 per cent education continuity rate at the primary school level, which means 45 per cent of the students enrolled in grade 1 fail to complete a five-year cycle of primary schooling (Sabates, et al. 2010).

There are multiple variables that contribute to the student drop-out rate in Bangladesh, namely regions of residence (i.e. urban/rural and accessibility to educational institutions), wealth of the family, family demographics, and the education levels of parents (Farah and Upadhyay, 2017). Absence of family members at home increases the labour burden of the household and often creates a household environment unfavourable for the children to attend schools. Frequent migration has a direct correlation with school drop-outs, ineffective learning and poor academic performance (Islam Sarker, et al. 2019). Moreover, access of both students and teachers to educational institutions in disaster affected areas is a major challenge for ensuring effective learning (BANBEIS, 2015).

Relevant policies and national measures

Access to education is a basic human right as recognized in the Constitution of Bangladesh. The Bangladesh government has adopted a number of policies in line with the Constitution where both the national priorities and the international binding goals such as SDG 4 and SDG 13 have been combined. It should be noted here that the Education Sector Plan of Bangladesh (2020) mentioned that capacity-building of institutions/stakeholders on emergency preparedness and response management planning will ensure resilience in the education sector and at the same time it will contribute in reducing unwanted (temporary, long term or permanent) displacement risks of communities. The strategies mentioned for achieving 'preparedness for and provision of education in emergenc[ies]' include the following four crucial elements.

- Collaborating with government, a forum of education stakeholders and other education clusters to coordinate activities related to the education sector's preparedness and response to disaster emergencies;

- Integrating disaster emergency response contingency plans into sub-sector projects and plans;

- Integrating disaster emergency preparedness and responses into school curriculum and into teacher training programmes to spread awareness on appropriate emergency responses and recovery processes; and

- Following the SDG 4 strategic framework for Bangladesh emphasizes coordinating response and management of education in an emergency through building capacity on disaster risk reduction, crisis-sensitive planning and management.

The major policies in regards to education, and disaster and climate change resilience in Bangladesh include the National Education Policy (2010) that aims to stimulate the intellectual and practical qualities of learners to build a nation with moral, human, scientific, cultural and social values. The policy also aspires to build students as skilled human resources to fight the challenges created by climate change and other natural disasters. The Perspective Plan 2021–2041 is the development vision of the government with strategic goals and objectives along with a road map for its implementation. It aims to end absolute poverty and to graduate as a nation to become a higher middle-income country by 2031, and finally becoming a developed nation by 2041. The government has recognized the significance of human resource development through education and training and the harnessing of the demographic dividend needed to become a developed nation. The government aims to achieve 100 per cent net primary enrolment and 95 per cent net secondary enrolment with zero drop-outs by 2041. Sustainable environmental management and climate change resilience have also been emphasized with necessary weight in this Perspective Plan 2021–2041. In addition, the Government of Bangladesh published the BCCSAP, (Bangladesh Climate Change Strategy and Action Plan, which is currently under a review and updating process), in 2009 which is based on six pillars: food security, social protection and health, comprehensive disaster management, infrastructure, research and knowledge management, mitigation and low carbon development and capacity-building and institutional strengthening (MoEF, 2009).

It can be noted that the major education sector programme of Bangladesh, namely the Primary Education Development Programme, Phase IV (PEDP) has been initiated by the Directorate of Primary Education (DPE) under the MoPME and will run from July 2018 to June 2023. The PEDP – Phase IV has three components and twenty-one sub-components. The three main components are quality and access, participation and management, and governance and finance. The right to education for climate displaced children is implicitly addressed in the sub-components of the access and participation component; a few related components are highlighted below.

⮎ Sub-component 2.5: Out-of-school children

The objective of this sub-component is to reduce the number of children aged 8–14 years who have never enrolled or who have dropped out from school. The right to education of climate displaced children is considered under this objective. Under this the government has set some targets which include providing second chance education (SCE) to 1,000,000 out-of-school children (never enrolled or drop-outs) aged 8–14 years; engaging Implementation Support Agencies (ISA) for opening learning centres and operating the SCE in all sixty-four districts of Bangladesh (one agency for each district); engaging a Support Agency (SA) to assist BNFE (Bureau of Non-Formal Education) for monitoring and supervising learning centres established by SA; and providing stipends to 1,000,000 learners.

⮎ Sub-component 2.7: Education-in-Emergencies (EiE)

The objective of this sub-component is to enhance disaster resilience, ensure disaster preparedness of the primary education sector and promote school safety to help manage emergencies. Achieving this objective will greatly contribute to the continuation of education of children living in disaster prone and climate change affected areas. Targets under this objective include updating of the EiE guidelines based on BNBC (Bangladesh National Building Code);

planning and management of school facilities and incorporating awareness of all hazards and risk reduction elements (enforcement of building codes); arranging 65,000 sets of protective equipment to manage emergencies (one set for each school); and organizing a needs-based rehabilitation programme for after natural disaster/calamities.

Despite having these policies in hand, the Government of Bangladesh still considers that the rights and entitlement issues of displaced people are not adequately accommodated in the National Adaptation Plan of Action (NAPA 2005), Disaster Management Act (2012) and Standing Orders on Disasters (SOD, 2019). In this backdrop, the government has developed a strategy entitled 'National Strategy on the Management of Disaster and Climate Induced Internal Displacement, NSMDCIID, 2015' to set out a comprehensive and realistic rights-based framework that respects, protects and ensures the rights of climate-induced internally displaced persons (CIIDPs) in different stages of displacement. The strategy focuses solely on internal displacements caused by climate-related disasters and not cross-border displacement issues. The document has articulated a comprehensive strategy covering all three phases of displacements, such as 1) pre-displacement, 2) during displacement and 3) post-displacement phases.

Results from field investigations

The literature review shows that Bangladesh has gained strengths in some areas of education promotion and some areas still remain weak. The areas of strengths include a good policy base, presence of an institutional framework, good partnership experiences with external agencies and good experiences to run social safety net programmes, many of which have an education component. The areas of weakness include non-harmonization of education, disaster management and climate change policies, less-prioritization of the right to education issues in the government action plans and less-effective, time bound project design and implementation (i.e. less mainstreaming efforts of these components into regular education sector programmes).

To validate the findings of the literature review, a survey was administered to 1,100 households with the aim of empirically identifying the characteristics of persons displaced by climate change, obtaining information on their perceived reasons for displacement, and collecting data on any barriers to education created by climate change or climate displacement. The empirical findings of this research indicate that the situation is more complex than the literature review implies. According to the field data, this study revealed that drop-outs from the educational institutions happen due to a bundle of social, economic and climate change and disaster related reasons. About 5.4 per cent of respondents indicated that their children have already abandoned schools due to issues related to climate change or climate displacement. It is important to note that education statistics from BANBEIS was used in this research – data that was collected from 5,930 post-primary educational institutions located in climate hot-spots (i.e. the study locations of this research), distributed in thirty-one districts. A buffer area of five kilometers (on both the sides) of major rivers was generated and a buffer polygon was used as a cutter to clip an institutional database. This subset data provided information about a range of attributes of educational institutions including students and teachers who are vulnerable to a number of climate change induced disasters such as floods of various kinds (e.g. regular seasonal floods, abnormal big floods, flash floods etc.), river bank erosion, etc. The subset data indicated

that about 1.23 million male and female students are currently studying in 2,265 educational institutions distributed in those thirty-one districts within the five kilometer buffer-areas noted above. Among the students, 54 per cent are female and 46 per cent are male. However, if a 5.4 per cent drop-out rate is taken into consideration, then it would give an estimate of 66,540 numbers of students who are at risk of dropping out from the educational institutions, and if a drop-out rate of 10 per cent is taken, as an example of the climate situation continuing to worsen, then the number would stand at 123,224 students. According to BANBEIS, the total number of post-primary students in the country is about 19.97 million and if the drop-out rate of 5.4 per cent is applied on this figure then the likely total of drop-outs would be 1 million (and two million if a 10 per cent drop-out rate is considered) as results of disaster and climate change induced impacts including related displacement factors.

The major field study-based findings are given in the sections below, which also highlight the characteristics of the persons likely to be most affected by climate change and displacement (those residing in disaster hot-spots), as well as those residing in areas where climate-displaced persons often migrate to (notably Dhaka).

Major field-based findings from disaster hot-spots

- Chronic poverty and illiteracy in the family history was reported;

- Landlessness, lack of assets and high dependency on climate sensitive primary production processes characterize the families;

- People living on borrowed money and the sale of assets/produce;

- Three reasons that influence people making migration decisions, namely disaster/climate change impacts, COVID-19, and pre-existing poor health conditions that make the families weak/vulnerable and psychologically upset/unsettled;

- People engage children in income generating activities to offset the family's income gaps;

- Non-climate risks along with climate change and disaster related impacts create situations that are complicated for the students and parents to get access to educational institutions;

- People have limited access to technologies and the internet to access education remotely;

- Attendance of students was irregular in the educational institutions in climate hot-spot areas.

- Government financial support (stipend) was not enough to keep students in the education process;

- Study findings revealed that the climate change displacement related drop-out rate is 5.4 per cent;

- Female students are most at risk of dropping out – 437,872 post-primary female students are currently at acute risk of dropping out due to climate change in the locations where they live and study;

- People become familiar with migration before they move to major urban places due to adversities by first relocating to nearby places, and then to cities when opportunities become available;

- Family history of poverty, disaster impacts and current poverty conditions are the major reasons for displacements in climate change affected areas;

- People know that their future is unpromising, it will be challenging and eventually they will have to move from rural settings;

- People will send their children to educational institutions in new/relocated places if opportunities match their needs and expectations; and

- Income/livelihood security of the households is the key to protect students from becoming drop-outs.

Field based findings (from receiving areas of the displaced population, Dhaka city)

- Parents reported their poor educational backgrounds and mentioned that they migrated to the city long ago;

- Repeated disaster impacts (both major and minor) in the place of origin (rural areas), along with poverty conditions, were found to be the push factors of displacement;

- Both the parents earn for the family in the migrated places, but only the male person/father was found to be the earning member in rural settings;

- Health challenges coupled with COVID-19 impacts created pressure on the families as they could not generate income and they were forced to spend money on health issues;

- People reported that they borrow money in urban settings when there is a need in displaced locations (rural areas);

- People live on a limited asset base;

- Education of the children was not a priority when they migrated here (urban area) in the past and for this reason they did not send their children to schools; they preferred to send the children to earn money in the informal sectors (as transport workers, restaurant service, factory work and market places, etc.);

- Disrupted education of the children is a commonplace phenomenon for the new migrants;

- People rely on destiny based on religious beliefs about future challenges and hope that God will save them, therefore they prepare less for forthcoming disasters/challenges;

- People have limited access to information and therefore they cannot make good, timely and effective decisions;

- Displacement was found to be familiar to people even before they move to city areas;

- People mentioned that they might join a non-formal education process if it is aligned with their skills-gap; and

- Many people indicated that the education of their children will be taken care of once their income security is ensured.

Barriers to education in the context of climate displacement

The study revealed that poor educational attainment was attributed to a number of things, such as poor school facilities, difficulties in access to schools by both teachers and students after disasters, poor economic backgrounds of the households, and displacement and migration of families due to both slow-onset and rapid-strong disaster impacts. The literature review suggests that knowledge and understanding about the state of education and related factors are largely known in Bangladesh, and the government, with support from international agencies, has implemented a good number of projects to improve conditions. The study findings indicated that school drop-out rates and upholding the right to education are not only education issues. The factors leading to them are quite diverse and have developed over a span of long period. While the impacts/outcomes of disasters, climate change (like drop-outs) can be seen, the root causes and genesis of the problems that lead to create final impact conditions largely remain unnoticed. The dropping out of students from education is generally seen in isolation in Bangladesh (as a disconnected phenomenon with climate change and disaster impacts). However, it is rather a complicated social-economic-climatological process which needs to be accepted first and then a systematic assessment can be conducted to dive deep into the issues. Proper understanding is lacking concerning the climate and non-climate reasons, education and non-education factors, problems associated with stakeholders of the education sector (i.e. parents, students, teachers and school staff, education administrators). In other words, a good understanding may help to design target oriented, accountable education sector programming. This may also help to defend the right to education of the students in changing climate conditions where displacement is an inevitable phenomenon. Such a target oriented programme may also help to prevent drop-outs of students from educational institutions.

To summarize, the major barriers identified in this study are listed below.

The practical barriers

⮑ Direct damage to schools, educational materials, and infrastructure

As was already mentioned, a large number of schools in Bangladesh lie in climate change hot spots and are prone to flooding, river bank erosion, cyclones, storm surges, and landslides – all of which directly damage or destroy schools themselves, along with materials such as books, desks, computers, etc. As a result, education is significantly disrupted for a prolonged period of time.

⮑ Climate-driven loss of livelihood, poverty, and drop-outs

What becomes clear throughout this report, and present in both the literature review and the field study results, is that one of the most major climate-driven barriers to education is climate's impact on families' income, and therefore their ability and willingness to continue with their children's education. Even before displacement, the field results showed that families often engage their children in income-generating activities as opposed to schooling, and the need for income increases as climate change destroys rural livelihoods. After climate displacement occurs, and upon arrival (usually) in Dhaka, families still often prioritize income generating activity over education.

The policy barriers

➲ Displacement and migration issues are not integrated into climate change action plans and education is not a priority

Migration and displacement issues in Bangladesh are very complicated in nature (Lein, 2014) due to the involvement of a wide range of factors. Displacements happen as result of both slow-onset disasters, and strong and rapid disasters. Sometimes migration is temporary and seasonal, sometimes permanent. Neither BANBEIS nor BBS (Bangladesh Bureau of Statistics) have gathered comprehensive data on displacement and migration (or the mobility of people), and they also have no data related to the impacts of displacement on students. Therefore, no specific, long-term, target oriented, appropriate and data-driven programmes have been developed in Bangladesh that could address educational challenges induced from disaster and climate change threats. Up to now, displacement/migration issues in Bangladesh are generally perceived from an 'economic poverty' lens, not from a comprehensive disruptions point of view ('other-than-economic factors' point of view) where disasters and climate change are major factors. Table 2 shows that none of the climate change approaches, adaptation or mitigation, consider education as a priority (MoEF, 2015). Even the disaster impact reduction actions in the country are still conceptualized from an emergency-management standpoint and managed solely by distributing relief items to the affected people; long-term comprehensive recovery of impacts (or people in transition) are missing in the concepts and operational directives and that is why residual impacts remain in the families. These factors and processes finally impact the right to education of the students in Bangladesh.

Table 2: Major climate change impact areas and adaptation priorities in Bangladesh where priorities for education, especially the right to education are missing

Key Areas to address adverse impacts of climate change	Adaptation priorities for Bangladesh	Mitigation priorities for Bangladesh
1. Food security, livelihood and health protection (incl. water security)	1. Improved early warning system for tropical cyclones, floods, flash floods and drought	1. Improved energy efficiency in production and consumption of energy
2. Comprehensive disaster management	2. Disaster preparedness and construction of flood and cyclone shelters	2. Gas exploration and reservoir management
3. Coastal Zone Management including salinity Intrusion control	3. Tropical cyclones and storm surge protection	3. Development of coal mines and coal fired power station(s)
4. Flood control and erosion protection	4. Inland monsoon flood proofing and protection	4. Renewable energy development
5. Building climate resilient infrastructure	5. Climate resilient infrastructure and communication	5. Lower emissions from agricultural land
6. Increased rural electrification	6. Climate resilient housing	6. Management of urban waste
7. Enhanced urban resilience	7. Improvement of urban resilience through improvement of drainage system to address urban flooding	7. Afforestation and reforestation programme
8. Ecosystem based adaptation (including forestry co-management)	8. River training and dredging (including excavation of water bodies, canals and drains)	
9. Community-based conservation of wetlands and coastal areas	9. Stress tolerant (salinity, drought and flood) variety improvement and cultivation (including livestock and fisheries)	
10. Policy and institutional capacity-building	10. Research and knowledge management	
	11. Adaptation on local level perspectives, etc.	
	12. Adaptation to climate change impacts on health	
	13. Biodiversity and ecosystem conservation	
	14. Capacity-building at individual and institutional level to plan and implement adaptation programmes and projects in the country	

Source: Adapted from MoEF (2009 and 2015)

It is important to note here that the policies in Bangladesh are sector specific. These policies rarely take into consideration aspects that remain in the domains of other sectors. These conditions do not allow for addressing many challenges together by designing and implementing comprehensive and targeted actions. Sometimes even actions performed under specific policy directives cause problems in areas of other sectors.

⮩ Time-bound project implementation is less effective

Different agencies have different projects that run for a specific period of time or only while the project funding and other provisions remain available. Once a project is over the actions disappear and leave the beneficiaries suddenly unattended. This withdrawal does not allow for reaping bigger benefits expected from the project.

Barriers to education in the context of climate displacement

Recommendations

Based on the findings, the country case report made five overarching recommendations towards protecting the right to education of the students who already have been displaced or in the process of displacement.

⮩ Recommendation 1: Prior identification of the families who might be displaced

Prior identification of the families might help government agencies and NGOs provide necessary assistance so that those who might experience unwanted migration due to push factors could be helped so they can stay in their known environments and enjoy their education rights. Table 3 mentions a number of criteria based on which families could be identified beforehand and actions could be taken to fulfill their needs.

Table 3: Attributes of displaced communities for prior identification and protecting the right to education in Bangladesh

1. Phase I uncertainty	2. Phase II uncertainty	3. Phase III uncertainty
People living in disaster hotspots (Pre-migration conditions; or small-scale migration takes place at local levels)	Temporary dislocation due to disaster onslaughts (like river bank erosion, destruction due to floods, cyclones, landslides due to heavy rains) (During Emergencies)	Disaster affected families displaced from comparatively known rural-based challenged conditions to completely new urban environment with less information and professional skills (Post-migration conditions)
People who are likely to be displaced but are still staying in the places of normal living (either rural or urban)	People in transition, staying in makeshift conditions and shelters	Displaced communities resettled in urban slums or city outskirt industrial areas
Key attributes for identifying communities		
▪ People generally are poor (also rural rich may be included) living in river-nearby areas (either river islands or bank of rivers) affected from river bank erosion or face repeated disaster impacts. People living within 5 kilometers of the rivers may be affected. ▪ Families whose earlier generations were illiterate are likely to fall into the trap. ▪ People who are mainly dependent on agricultural activities for food and livelihood security ▪ Women who head households with young children at home ▪ Children of those families who are already irregular in attending classes ▪ Families that have got major disaster histories such as father died or children died of drowning, etc. ▪ Families that have histories of relocations due to disaster impacts ▪ Access to school is difficult for both students and teachers ▪ In addition to agriculture-based activities, people are engaged in informal economic activities of various kinds for ensuring livelihoods ▪ Households that are receiving social safety net benefits	▪ Educational institutions are not prepared to accommodate the students in their regular schooling activities. Some NGOs run EiE (Education in Emergencies) programmes in some places, but that is highly inadequate compared to the need. ▪ Parents also are not willing to send their children to school during the transitional times ▪ Books and other learning materials are not properly kept by the students (including school uniform) or their parents so that parents could help learning processes during the transitional times ▪ Food and nutrition, water and sanitation turn into a miserable condition, and those situations do not allow the students or their parents to focus on education ▪ Government generally gives food and cash support for a few months under social safety net programmes to the people who stay in government shelters or waste lands (e.g. backyard of a market place or a school, etc.).	▪ People generally living in slums in cities and industry-based growth centres/corridors located in city slums or city outskirts ▪ Schools cannot accommodate new students since they are already full to their capacity. ▪ The parents are generally illiterate (and unaware) and that is why the arrangement of educational provisions for children in newly settled places does not get priority. Neither government agencies nor NGOs pay proper attention in this regard. ▪ In recent times, migration of girls (15 to 20 years) from rural to urban areas has become a key feature. These girls leave education and often join the garments industry as laborers. It is a common tendency that the female workers do over-time work for additional income (which is tiring as well) and therefore cannot find any time to participate in formal or informal education processes. ▪ People engage in informal activities because they do not have technical or vocational skills so that they can find decent jobs.

⮕ Recommendation 2: Harmonized cross sector policy formulation

There is a timely need to ensure consistency among various policies, especially education, disaster management and climate change policies. The major policies like the Education Policy (2010), BCCSAP (2009) and NPDM (2020–2025) do not properly address cross-sector issues. Improvements in these areas are necessary. There is a need to draw a road map and develop an efficient management plan to minimize student drop-outs due to climate induced displacements. Even efficient management of existing resources would help to improve conditions. Making provisions for effective monitoring of actions/processes also may yield good results.

⮕ Recommendation 3: A comprehensive pilot project to address the right to education relating to climate change induced displacements

This country case study is proposing a comprehensive pilot project that may address the issues related to the protection of the right to education in Bangladesh. A scaling up of the interventions can be done if the pilot project is successful. The outcomes and related outputs and activities are illustrated in Table 4.

Table 4: Proposed outcomes, outputs and activities of project

Outcomes	Outputs	Activities
Outcome 1: Improved capacity for promoting 'right to education' relating to climate change induced displaced students/persons	Output 1.1: Capacity improvement to recognize the students early on who might be displaced and develop the capacity to protect them	Activity 1: Generation of a database of the families so that the profile of the people/families is known and support can be provided Activity 2: Aligning Social Safety Net Programmes (SSNPs) so that families with potentiality to be displaced can better be targeted and protected through support provisions Activity 3: Provisions for student identification numbers and development of digital database (age-sex-disability disaggregated and capacity development in this regard) so that 'right to education' of the displaced students is better protected. This component has already been initiated by the MOE through BANBEIS.
	Output 1.2: Progress towards the understanding of 'right to education' and capacity enhancement to protect the education rights of students	Activity 1: Promoting the actions of Parent Teacher Association (PTA) to develop awareness among the people about climate change impacts and the outcomes of school drop-outs and the students''right to education' Activity 2: Improvement of knowledge of the education stakeholders about climate change, displacement and 'right to education' of the students Activity 3: Improve the state of displaced girls to uphold 'right to education'

Outcomes	Outputs	Activities
Outcome 2: Removal of the barriers and taking advantages (if any exist) of education for the person displaced due to climate change induced hazards	**Output 2.1:** Identification of location-specific challenges/ barriers for different disaster contexts that are spawned from changing climatic conditions	**Activity 1:** Identification of location specific barriers to protect the 'rights to education' and regular reporting (maybe yearly) by BANBEIS aiming to make the knowledge/information available in the public domain and to create appeal in this regard **Activity 2:** Promote counselling of students and awareness development of the parents about the 'right to education' and about potential resources available and motivate them to continue education
	Output 2.2: Segregation of roles and responsibilities to reduce human displacements and thus decrease school drop-outs	**Activity 1:** Improve the allocation of business of the agencies and educational institutions to protect and promote the 'right to education' of the students displaced. **Activity 2:** If inevitable, ensure human mobility is safe acknowledging the need to keep the learning materials of the students protected so they could be used while awaiting readmission in new locations.
Outcome 3: Policy improvements and advocacy campaigns to protect the 'right to education' of displaced persons	**Output 3.1:** Improvement of policy coherence towards protecting the 'right to education' of the climate change displaced persons	**Activity 1:** Current gaps, strengths and constraints for climate change induced disaster preparedness in Standing Orders on Disaster (SOD), DM Act 2012, NPDM 2020-2015, BCCSAP 2009, NAP 2019 etc. and identification of areas of needed improvements **Activity 2:** Develop national consensus about the issues and promote advocacy campaigns to improve the conditions.
	Output 3.2: Converging development actions towards protecting potentially displaced persons/families and supporting climate vulnerable students	**Activity 1:** Provisions for aligning the annual development plans and works of Department of Education Engineering, LGED, the local government development planning and DRR projects of MoDMR with the 'right to education' of the students who are vulnerable from climate change threats. **Activity 2:** Provision for special lessons for targeted displaced students to recover the loss of learning through government projects such as PEDP IV, SESIP, SEQAEP.

⮑ Recommendation 4: Assigning unique identification numbers to students

The Government of Bangladesh is currently working on developing a unique student identification number (BANBEIS project under the Ministry of Education) where the information about parents, students, education history of the students and other related information will be retained. The project should be implemented soon since any delay may cause millions of students to drop out of the educational institutions permanently and become a burden on the nation. It is imperative to mention that migration is considered negatively in Bangladesh. This needs to change since human migration has been a part of the human story and people have the right to move to new places for convenience or security. The government needs to facilitate processes in appropriate cases, provide basic services, offer security and necessary information, create a seat for the new/migrated students in the educational institutions in the receiving areas, provide skills development trainings towards income security, provide access to resources when necessary to address unwanted situations and provide opportunities for healthcare. These are

some of the expectations of parents who indicated that these will help to uphold their right to education both in the places of origin and in the new migrated areas.

➲ Recommendation 5: Create facilities for geospatial data development, storing, analysis and reporting for critical information/knowledge generation towards effective decision-making

The facilities for geospatial data development/management by the agencies of Bangladesh are poor (Matin and Islam, 2021). Therefore the use of geospatial data and methods for decision-making are limited. At the time of this writing, there is no single, comprehensive and updated geospatial education sector database managed by any agency from where researchers and planners can retrieve data for filling knowledge and data gaps and to generate results that can create appeal for actions. Currently, BANBEIS, under the Ministry of Education, manages a geospatial database of 20,465 educational institutions at post-primary levels, whereas the Ministry of Primary and Mass Education (MoPME) manages data for 134,147 primary schools. These two datasets exist separately with different data structure attributes (e.g. in terms of projection parameters, scale of data, thematic definitions etc.). In addition, the Bangladesh Bureau of Statistics (BBS) gathers information on a number of education related variables in their data generation/management processes. BBS is doing that under the scope of the Bangladesh Statistics Act (2013, notified in September 2020). The use of all these datasets in a comprehensive, coordinated manner for decision-making is unfeasible. This results in limited understanding about the current education sector situation and also limits the ability to make projections about future scenarios. The Government of Bangladesh and related partner agencies should work in this area and improve these conditions.

Conclusion

Bangladesh is one of the greatest climate change hot spots in the world – experiencing a range of natural disasters and climatic effects which are only becoming more intense and frequent. These include powerful cyclones, storm surges, flooding, river bank erosion, sea level rise, salinization, droughts, and landslides. While climate displacement and the overall impacts of climate change on human mobility in Bangladesh have been widely studied, the impact of climate change and climate displacement in Bangladesh on the right to education has never been explicitly linked and addressed.

This survey developed and distributed as part of this overall country case study is the first of its kind globally, and for the first time has shed light on the real barriers and the policy barriers to education resulting from climate change. What is clear is that the situation in Bangladesh is highly complex, with a mix of climatic, economic, and social factors all leading to temporary and permanent displacement, and the same factors equally affecting the right to education in mixed ways. However, identifying persons at risk of climate displacement before mobility occurs, creating a unique identification number for each student in Bangladesh, ensuring that policies are coordinated and harmonized; and elaborating a pilot project recommended above are concrete steps that can help ensure the right to education for all, and notably for those affected by climate change.

Author: Sheikh Tawhidul Islam
Contributors: Nandini Sanyal, Aniruddha Dey, Shabista Yildiz

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Annex E

Summary report of India case study

In 2019, India ranked as the 7th country in the world most affected by climate change (Germanwatch, 2021). Drought, flooding, cyclones, and sea-level rise – this vast land has been experiencing all types of climate change-related disasters and their impact has been intensifying and increasing recently. Those climate change-related disasters resulted in 3.85 million climate displacement people (CDPs) within India in 2020 (IDMC, 2021). As those disasters also hit the wider area beyond the country's border, it is possible that cross-border migrants from neighbouring countries may include people whose reasons for migration include climate change-related disasters, in addition to socio-economic, cultural and political pressures.

As a part of UNESCO's global initiative on 'Climate Change, Displacement and the Right to Education', this Indian country study aims to conduct a preliminary field-based investigation on the impact of climate change-related displacement on the right to life-long learning and education by exploring the following questions:

1. What are the characteristics and profiles of CDPs?

2. What barriers or obstacles to education and lifelong learning exist?

3. Do national education policies, strategies, actions, or measures already exist?

4. What are the shared roles to be taken, and by whom, to fill the gaps in educational access?

Data was collected from Bihar, Karnataka, West Bengal and Tamil Nadu – identified as risk states from a desk review, with mixed methods, which included surveys, semi-structured interviews and participant observation. Semi-structured interviews were conducted individually with eight key informants. Survey forms were distributed to diverse sectors with four responses received from school leaders, six responses from local governments, and five responses from NGOs.

This report begins with 'Contextual background and trends of CDPs' in India, which discusses the key issues obtained from the desk review. The following two parts, 'Barriers to Education Climate Change Displacement' and 'Relevant Policies and National Measures – Success and remaining challenges', were developed based on the key findings from data collection and policy reviews. The discussions from the desk review and data analyses are synthesised and developed into the final part of this report, 'Outstanding issues and six policy recommendations'.

Contextual background and trends of CDPs overview of education system

The Constitution of India, through amendments in 2002, mandates to provide free and compulsory education to all children between ages six and fourteen as a fundamental right. The education system has four stages: foundation (preparatory and primary school: ages 2–8), preparatory (primary: ages 8–11), middle (upper primary and middle school: ages 11–14) and secondary (secondary and higher secondary school: 14–18). The Right to Education (RTE) Act, implemented since 2009, ensures the right to free and compulsory education for all children between the ages of six and fourteen, regardless of their legal citizenship status, language barriers and discrimination.

Table 1: Enrolment rates of general education in India (Net Enrolment Rate)

School Year	ECCE		Primary		Secondary	
	2011	2020	2011	2020	2013	2020
Total (%)	n.a.	61.1	90.4	88.9	61.6	66
Female (%)	n.a.	61.3	92	89.9	62.4	75.28
Male (%)	n.a.	60.9	88.9	88	60.9	64.6

Data source: UNESCO UIS. India: Education and Literacy.

⮌ Issues in national education

Female education participation has been higher than male participation in recent years, despite the overall gender inequality issues. In 2019, the primary enrolment rate for females was 97.81 per cent versus 95.94 per cent for males, 75.54 per cent for the female secondary school enrolment rate versus 73.14 per cent for males, and 30.2 per cent for the female tertiary education rate versus 27.1 per cent for males (IBRD, 2021). On the other hand, gaps in overall education participation rates between urban and rural areas have been widening. This year (2022) 5.3 per cent of rural children aged 6-10 years have not enrolled in school, compared to 1.8 per cent in 2018 (Menon, 2020). Climate change-related disasters have negatively affected states such as Bihar, Uttar Pradesh, Rajasthan and Madhya Pradesh, which already have a low education participation rate under K8 and a high absolute poverty rate (NITI Aayog, 2021).

Climate change-induced disasters

⮌ Floods

India ranks first for flood risk among countries in the world (CGIAR, 2012). The frequency and number of districts affected by floods have been on the rise since 2005 (Mohanty, 2020). The main factors involve the prolonging and increase of rainfall in the monsoon season, frequent cyclones on coastal areas and glacier ice melting in the Himalayan Mountain range. Flood hotspot zones are formed along the Indo-Gangetic Plains and Brahmaputra Valley around the border areas of India, Nepal, Bhutan, Pakistan and Afghanistan, where there are about 15,000 glaciers (Harper, 2021).

⮌ Droughts

India has a long history of droughts. The recent droughts have been triggered by urban heat island effects and changes in precipitation levels due to climate change (Anwar, 2018). Although the number of drought events has increased to eighty-five, the cases resulting in loss of life have been reduced to nearly zero during 2010-2019 (Mohanty, 2020). Rather, droughts have resulted in a longer and slower impact on food production. Due to unstable rainfall, about 180 million people are already living in chronic (year-round) and severe water scarcity conditions (IBRDa, 2021). With about 60 per cent of the cultivated areas being rain-fed agriculture, production is strongly influenced by climate change (ibid.).

➲ Cyclones

An increase in the coastal surface temperature leads to a faster cyclogenesis process over the Bay of Bengal, the Arabian Sea and the Indian Ocean. More rapid, intense and frequent cyclones have been witnessed in the coastal districts since 2015 (Mohanty, 2020; Vallangi, 2021). More cyclones have hit the east coast than the west coast (Mohanty, 2020). For example, Cyclone Amphan in May 2020 made landfall and resulted in more than 2.4 million evacuations in West Bengal and Odisha (IDMC, 2021). Only two weeks later, Cyclone Nisarga hit Maharashtra and Gujarat resulting in 170,000 evacuations (ibid.).

➲ Sea-level rise

Sea-level rise in the Indian Ocean is non-uniform, and the rate of north Indian Ocean rise was 1.06–1.75mm/year from 1874 to 2004. This rate increased to 3.3mm/year in recent decades (1993–2015), which is comparable to the current rate of Global Mean Sea Level (GMSL) (Swapna, et al. 2020). However, mainly by the thermal expansion of the Indian Ocean, it is highly likely that the level and its impact will become more serious. Steric sea level along the Indian coast is likely to rise about 20–30cm by the end of the twenty-first century (ibid) and Kolkata, diamond harbour, Haldia in West Bengal and Kandla in Gujarat are predicted to be affected the most and lost in the future. For example, a video produced by BBC shows the ongoing critical impact of sea-level rise in Sundarbans, where the local community can no longer sustain its life and livelihood (BBC News Asia, 2021).

Trends of CDPs

Together with the climate change-related disaster impact, complex socio-economic factors influence decision-making regarding the way of survival of those affected by climate events, creating numerous displacement patterns. Some opt to migrate spontaneously, and others are forced to migrate. There are also those who are not able to move due to financial and social constraints. The state at highest risk of CDPs is Bihar, which has the lowest economic and educational status coupled with the largest numbers of seasonal interstate migrants, while receiving the most serious impacts of all types of climate change disasters. Uttar Pradesh, Tamil Nadu, West Bengal, Rajasthan and Karnataka follow. Climate change disasters impact a wider area beyond the country's borders. It is assumed that some of the risk states also have received cross-border CDPs from Bangladesh, Nepal, Pakistan and Sri Lanka, who are unidentified under the current global and national policy frameworks. Amongst the diverse types of migration patterns, three types of CDPs in the risk States are most vulnerable. They are (1) seasonal CDPs, (2) trapped populations, and (3) cross-border CDPs.

➲ Seasonal CDPs

Climate change events have seemed to increasingly drive the seasonal migrations in the areas where seasonal migration has been commonly practised due to few work opportunities. Studies conducted in Uttar Pradesh, Madhya Pradesh and Rajasthan show that both quick and slow-onset climate change events, including droughts, heatwaves, rising sea levels, prolonged monsoon rains, floods and cyclones, can add a devastating impact that drives more migration when combined with existing socio-economic factors (Bharadwaj, et al. 2021). Often small-scale farmers and fishing folks in rural parts of India are mostly affected, having to leave their

economic activities due to the interplay of climate variability, environmental change, rural debt, policy shifts, and loss and damage of lands and productivities (Singh and Basu, 2020).

➲ Trapped populations

The socio-economically vulnerable population is often forced to remain in their original community, or at most, to move within a very short distance (intra-migration around the original community). There is no official demographic data for such trapped populations, but the trapped populations often include those with low socio-economic backgrounds and, in particular, married women and small children (Cundill, et al. 2021). A case study in Uttarakhand illuminates the example of the most vulnerable parts of society having few options. They remain in the original community, even during life-threatening sudden onset disasters (Blocher, et al. 2021). Life in climate-change prone areas falls in a vicious cycle, where smaller populations have to deal with the socio-economic and climate change problems with minimal adaptive capacities and social capital (ibid.). In this situation, women often have no agency in decisions on financial resources. This makes their situation even more difficult.

➲ Cross-border CDPs

Climate change events, in particular cyclones and flooding have occurred in the border states which cover the Himalayan range and Bengal Delta. As discussed in the previous chapter, India has received many migrants from Sri Lanka, Tibet (China), Nepal and Bangladesh. Some of them may be able to obtain refugee and asylum seeker status, yet there is not sufficient data to recognise the CDPs out of those immigrants in current policy frameworks. Amongst them, the immigrants from Bangladesh have fewer opportunities to receive official support within the current national and international policies. They often have fewer educational and economic opportunities, and experience discrimination and difficulties in adjusting to a new culture. Amongst them, those without official status are highly likely to be the most disadvantaged.

Barriers to education and climate change displacement

The collected data through the interviews and survey responses for this research provide an insight into the challenges of the CDPs in the risk states, in particular, the seasonal CDPs and trapped populations and their children's participation in school education. Five challenges disrupt the education of children in CDP families, due to their lack of motivation for continuing or returning to school education after any gap due to climate change events.

1. Incapability in responding to diverse learning needs of CDPs

CDPs with diverse cultural and linguistic backgrounds have difficulties accessing the appropriate language medium schools. For example, West Bengal has received CDPs' children from Odisha, Bihar, Jharkhand and Tamil Nadu due to floods, cyclones and droughts. Despite the needs of Odia medium school, there is an insufficient number of schools in an accessible location. Some children have to choose to go to Bangla medium schools. This problem may hinder the CDP students to continue their education and result in learning difficulties. Language support, learning support, special teachers, as well as learning materials may be required to respond to the cultural and linguistic backgrounds of the CDP students. In addition to the cultural and

language support, the local NGO in West Bengal points out the necessity of support to respond to the diverse needs of CDP students. These include learning and life support for CDP students with disabilities and special learning programmes to support them through the traumatic experience of displacement, and to keep their motivation for learning and continuing education.

2. Housing instability and frequent relocation

Interviews with school leaders indicate that climate change-related disasters in West Bengal, Bihar and Karnataka, including both quick and slow onsets, significantly affect the family decision on migration (whether to move or not, and/or either entire family move, or just some family members move). In the case of quick onset disasters, families often have to go through repeated relocation in a short distance, within a short time. In the case where the head of family moves to inter- or big cities within a state for work, women and children under high school age are often left behind at home. In general, girls tend to drop out more frequently than boys owing to diverse factors related to economic, social, safety, household responsibilities, and structural issues. Safety issues and marriage were additional social barriers that kept girls from attending school. This indicates that migration puts a child, in particular, a female child, in a vulnerable position in terms of education participation.

3. Socio-economic pressure and dynamics

CDP families experience events that result in environments that interrupt the child's education. One of the major factors is instability in household income, mainly due to low agricultural productivity and loss/damage of farmlands in rural areas, which are influenced by events such as droughts, floods and soil erosion. This often forces the head of the family to migrate to an urbanised area, within the state or in another state, for work opportunities. Once a male child gets older, it becomes difficult for him to continue his education as he is expected to support the family by joining the head of the family to work in the urban area. Female children face a greater difficulty in continuing education for multiple reasons, such as looking after the younger siblings while the parents are away for their work, early marriage, or having to take care of the household chores. Furthermore, children from migrant families in distress situations can often be victims of human trafficking. Those children are often exploited for forced labour and/or forced marriage, or prostitution which results in their being victims of fraudulent employment and violence.

4. Inaccessibility to learning resources (digital/physical)

Despite local governments' readiness for the provision of learning materials, special teachers and capacity-building programmes for the teachers on CDPs, these resources seem not to be fully accessed by teachers. It is assumed that there could be multiple factors for this problem, including the challenge in disseminating the necessary information for teachers and schools from the local government in a timely manner. There is a necessity to enhance the coordination mechanisms by the local government to match available resources at the state and national government levels with local school needs. In addition, the government at the national and state levels have tried to cope with the COVID-19 pandemic by introducing a digital mode of learning and teaching for school children and colleges. Socio-economically vulnerable students and CDP students have been largely left out of these efforts due to the lack of ICT infrastructure and devices such as smartphones, or even just mobile phones, to attend the online classes.

5. Infrastructural destruction/disruption

Many schools and roads are destroyed due to climate change disasters which have resulted in educational interruptions for many children. For example, over 7,000 schools were damaged or destroyed and many of educational materials were lost by flooding in 2017 (Watt, 2017). This left children without access to education as well as the ability to study at home during the educational interruption. Assam – a region quite prone to flooding – contains 51,898 schools, 23,000 of which were affected by the 2017 monsoon flooding (Watt 2017). A year later, a monsoon deluge in 2018 left 1.4 million people homeless in Kerala state and affected 650 schooling institutions. In addition, schools in disaster-prone areas are often used as shelters during disasters. This also forces the closure of academic activities in the schools.

Relevant policies and national measures – success and remaining challenges

General policies related to CDPs

⮑ Disaster Management Act (DMA) (2005) and National Policy on Disaster Management (NPDM) (2009)

The Disaster Management Act (DMA) envisages institutional mechanisms to deal with an internal environmental disaster. The DMA prepares disaster plans, prevents or mitigates the effects of disasters, and coordinates and manages responses. This demonstrates the responsibility of the governments to potentially minimize the impact of internal migration in rebuilding ecologically volatile areas. The revised National Disaster Management Plan (2019) acknowledges displacement for the first time, which leaves room for the development of concrete implementation plans. Currently, these policies are generic in nature to immediately counter a natural disaster and do not address the protection of CDPs. The National Policy on Disaster Management highlights the need for structural as well as non-structural safety in schools and educational institutions.

⮑ National Disaster Management Authority (NDMA)

Following the DMA and National Policy on Disaster Management, the National Disaster Management Authority (NDMA) mandates each school to have a Disaster Management plan. This ensures the safety of school buildings and facilities, but does not address the protection of individuals using the facilities, including CDP students.

⮑ National Action Plan on Climate Change (2008)

Based upon the National Action Plan on Climate Change, each state has developed State Action Plans on Climate Change. The state action plan has served as the primary and substantial document to address vulnerabilities in relation to climate change and to advance necessary infrastructure projects and policies. Yet, very little focus has been given to displacement due to climate-related hazards in this document. Separate policies on coastal zone management exist at national and state levels, but they barely examine the human impacts of displacement and instead largely focus on the development of climate-resilient infrastructure and other measures.

➲ Inter-State Migrant Workmen Act (1979)

The Inter-State Migrant Workmen Act is to protect the rights of inter-state migrant workers under this law. This law protects the rights of full-time workers, including welfare benefits, payment and work regulations. Temporary and seasonal workers are excluded. It has neither a separate category for displaced people due to climate change hazards nor any amendments to deal with climate migrants.

➲ Policies related to proof of identification of CDPs

Every resident in India can apply for an Aadhar Card, which is proof of their residence in the country. The states can provide certification of domicile or residency in the state. People, including migrants, who have resided in the state for a certain number of years (varies from state to state) can apply for a domicile certificate. Citizens also get a ration card from the source state, as a part of the Public Distribution Scheme to provide essential commodities at subsidised rates. This can also be used as proof of identity. New migrants often find difficulties in making applications for changes in the domicile or residency and accessing the social services without these identification documents. Lack of recognition prevents them from accessing jobs, education, welfare entitlements, housing, health benefits and even voting in elections. Panchayats (local government) across India are expected to keep a record of people including their personal information, migrating from their village and provide a certificate of residence to the migrating families when requested so that they can continue to receive the social benefits provided by the government in the destination villages. However, the information is not maintained systematically in many of the Panchayats. Also, this registration process does not provide information on the educational status of children who migrate with their parents.

➲ The draft National Migrant Labour policy

The draft National Migrant Labour policy, which has been developed by the NITI Aayog (the public policy think tank of the Government of India) addresses for the first time seasonal and circular migration and may contain the complexity of situations of various kinds of migrants including CDPs.

➲ Mahatma Gandhi National Rural Employment Guarantee Act (2005)

As socio-economic conditions have worsened for agricultural workers over the past two decades, the government has witnessed a strong rural-to-urban migration pattern developing for those households desperate for economic activity following livelihood losses. Mahatma Gandhi National Rural Employment Guarantee Act (MGNREG) of 2005 is a policy that legally guarantees 100 days of paid, manual unskilled work for rural households with the goal of ensuring livelihood security for those in the rural and agricultural sectors (Government of Haryana 2017). Should a rural, agricultural household find itself with large livelihood losses due to the climate change impact on agriculture, this scheme guarantees a household to have 100 days of paid work - notably on manual projects that support sustainable development. While this policy might address only economic issues, it can be linked to CDPs.

Policies on education access

⮕ Right to Education Act (2009)

The Right of Children to Free and Compulsory Education (RTE) Act (2009) ensures the right to free and compulsory education for all children between the ages of 6 and 14. RTE makes it mandatory for all schools to admit children coming from other areas or states. However, the process of enrolling older migrant children in RTE mandated age-appropriate classes is hindered due to the huge learning gaps. It also ensures the school admission of all the children without submission of ID documents for six months, but this may not be uniformly followed at the local school level, some of which may refuse the admission of CDP children due to insufficient documents as shown in the interviews and the survey responses.

The National Education Policy (NEP) (2020)

The National Education Policy (NEP) identifies migrant communities as one of the socially and economically disadvantaged groups in terms of access to education. This policy ensures the education access of migrant children who are outside of the childcare and formal education systems and addresses their exploitative and hazardous work conditions. However, currently, it provides a generalised statement that does not consider the variety of migrants including CDPs and the different needs and experiences of those CDPs including children. The NEP 2020 promotes a three-language formula that encourages the study of Indian languages across the country, with a focus on the child's mother tongue or a regional language. CDPs may still continue to face the challenge of finding a school that uses the language they are familiar with. The introduction of an immersion programme for migrant children needs to be considered.

⮕ Relevant lifelong learning policies

NEP is the policy to support adult literacy education (Patel, 2009). In general, adult literacy education in India became inactive due to budget cuts as well as the improvement of adult literacy rates and due to improved school enrolment rates. Non-formal education activities to obtain the skills and knowledge to meet the needs of the growing market seem more popular in India (Mandal, 2019). Considering the learning needs of those CDPs with no education and no skills whom this research identified to gain new knowledge and skills, in order to recover from trauma and to maintain their cultural dignity, lifelong learning policy should include support for the CDPs access to education.

Interventions to fill the gaps

⮕ Sarva Shiksha Abhiyan (Education for All) (2001), Samagra Shiksha Abhiyan (2018), and Teacher Education (TE).

Three interventions related to Education for All can be utilized to overcome the linguistic and cultural challenges that CDPs face. Sarva Shiksha Abhiyan (2001) provides compulsory elementary education for all. Samagra Shiksha Abhiyan (2018) aims to improve equal opportunities for schooling and equitable learning outcomes for pre-school through to class 12. This scheme is integrated into Rashtriya Madhyamik Shiksha Abhiyan (RMSA) that provides

seasonal hostels in source villages and schools at destination sites in addition to exploring the possibility of involving teaching volunteers. Under this scheme, seasonal boarding schools have been established for migrant children, which can be used for CDPs. Sarva Shiksha Abhiyan provides teaching to volunteers who speak the mother tongues of the migrant children to counter the linguistic barriers (Yonetani, 2017). A Memorandum of Understanding between Odisha and Andhra Pradesh was concluded, based on these three interventions that called for the appointment of volunteers trained in Odiya to help bridge the language gap among children of workers in the informal sector in Andhra Pradesh. In Gujarat, Maharashtra Seasonal Boarding Schools accept migrant children, working with volunteers who provide after-school psycho-social support to left-behind children.

⮌ Migration Card Initiative (2001), Migration Monitoring Software, Tent Special Training Programmes

The Migration Card Initiative (2001) utilizes the Migration Monitoring Software which enables the state to track inter-state and intra-state migration of school-going children. During this process, intra-state migrant children are accommodated and educated in seasonal hostels at their domiciles while the inter-state migrant children are covered under Tent Special Training Programmes in temporary schools near their parents' worksites. Further, cards with data regarding the educational level of children and their respective grades enable them to sit for their exams at their source region or destination site, thus resolving certain issues children face during seasonal migration. The Migrant Monitoring Software was utilized to streamline real-time tracking and resolve issues of inaccuracy and specificity that arose due to the old manual system. The initiative resulted in a significant decrease in the overall drop-out rates for classes I to VII between 2004–05 (18.79%) and 2012–13 (7.08%) (Gujarat Council of Elementary Education, 2013).

⮌ Project Roshni and Project Changathi

Project Roshni is a state-level initiative in Ernakulum district implemented by the Kerala Government to support education for the diverse linguistic and cultural backgrounds of CDP children. In this programme, migrant children can learn Malayalam, English, and Hindi through code-switching as a learning tool in 90-minute morning classes before school. Project Changathi is also a state-level initiative implemented by the Kerala State Literacy Mission under the General Education Department, Government of Kerala. It is a literacy scheme targeted at migrant children to help them learn Malayalam. A special textbook called 'Hamari Malayalam" is published for these students and study centres at schools, libraries, workplaces, and shelters of migrant workers.

Policy frameworks for CDPs

⮌ Relevant policies for cross-border CDPs

India does not have any mechanism for providing short-term visas to those who are forced to migrate because of environmental factors. India has enacted the National Asylum Bill (2015), and the Protection of Refugees and Asylum Seekers Bill (2015), which do not include the climate displaced persons in the definition of refugees. The RTE can provide climate-displaced persons with the same rights as any other person in terms of education access. Their climate change-

related experiences are not asked in the current international refugee and asylum seeker application process. Refugee applications are processed based on the Convention Relating to the Status of Refugees and the Protocol Relating to the Status of Refugees. The applications can be made based on the incidence of persecution related to one of the five following reasons: race, religion, nationality, membership in a particular social group, or political opinion (UNHCR, 2019), and climate change events are not included.

It is assumed that the cross-border CDPs might try to fit into the current refugee criteria in the application process. UNHCR has been aware of the adverse interaction of climate change impact with socio-economic and political issues leading to displacement (UNHCR, 2021). UNHCR has engaged with the UNFCCC Task Force on Displacement, the Steering Group of the State-led Platform on Disaster Displacement and the UN Security Council's Climate and Security Mechanism to provide data, technical support and guidance to Member States to address the protection for international climate displaced persons (UNHCR, 2021). This initiative leaves room for integrating climate change displacement in the refugee/asylum seeker recognition process.

⮞ Natural disaster-related global policies

There are key international policy frameworks related to climate change and/or climate change and displacement; UN Guiding Principles on Internal Displacement (GPs), Sendai Framework for Disaster Risk Reduction 2015–2030 (SFDRR) and the Nansen Initiative (2015), UNFCCC Paris Agreement and UN Sustainable Development Goals (SDGs) (2015–2030). While recognizing the importance of these policy frameworks in positioning, defining and encouraging governments to provide the necessary support to climate change displaced persons, "none wholly captures the complex dynamics of climate-induced migration, and the different causes and motivations for leaving or staying" (Wilkinson, et al. 2016) internally and internationally.

⮞ Interventions made by NGOs and international organisations

The following interventions are for general refugees, asylum seekers and international migrants, but can be applied for cross-border CDPs. NGOs, such as Jesuit Refugee Service (JRS) India, serve refugees in informal settlement areas in Delhi, by providing support to those who dropped out of formal education and help to overcome the language barriers at school and in the workplace (JRS, 2020). Education for refugees is mostly delivered through the partnership of the Ministry of Home Affairs and Ministry of External Affairs, India, and UNHCR. UNHCR has also established a partnership agreement with eight national NGOs for the support of international refugees.

Outstanding issues and six policy recommendations

This Indian case study investigated the current situation and the challenges that CDPs face in terms of their rights to education in the selected CDP risk states, including Bihar, Karnataka, West Bengal and Tamil Nadu. Based on the desk review of existing literature and policy documents as well as data collected through interviews, survey and participant observations in these states, five recommendations have been developed. Due to the time constraints, these recommendations above are based on the analysis of a small number of survey responses and interviews against the size and magnitude of the impact of climate change disasters in India that

is assumed from the desk review. However, it should be re-emphasized that these reflect the real voices of those who are engaging with the CDPs and observing their situation at the local level. The outstanding issues and recommendations below give insights and a sense of the reality that the CDPs are currently facing, in particular, in terms of their access to education. These should be relevant to engaged stakeholders, including the national, state and local governments, schools, NGOs and international organisations in India. It can also provide a reference to other Member States, which may experience the same or similar climate change-related impacts, and similar socio-economic and educational challenges that are shown in this Indian case study.

Recommendations for policy responses

⮞ Establish a vertical and horizontal national coordination mechanism to link national, state and local level policies and practices for CDPs' access to education at all levels

⮞ Include provisions in policies to ensure CDPs' access to education and a safe environment for their educational access

CDPs need to be identified as a key vulnerable category and recognised in the policy. This research identified the gap between policy and practice regarding the support to the CDPs' access to education. It showed the challenges of schools in obtaining the necessary resources to respond to the diverse needs of CDPs and their parents/caretakers who prioritize the family survival, such as housing and livelihoods, over their child's education continuity, and who may struggle to get the appropriate information about the school enrolment information, such as supporting documents, available schools and support schemes. Vertical and horizontal coordination between various government departments, schools and local practitioners is needed. The vertical coordination can allow the local governments and schools to access the data and resources of national/state governments for the CDPs' education continuity, as well as enable the national and state governments to monitor and evaluate the effectiveness and relevance of the existing policies. Horizontal coordination is needed to connect the stakeholders at the local level to provide holistic support for all the CDPs.

⮞ Collect national-level data on the CDPs and their education participation; disaggregated data on CDPs and a system for enabling its application appropriately.

This research identified that there is no data collection and monitoring mechanism to identify the CDPs' children and the state of their education participation. Lack of data makes it difficult for the governments to prepare and allocate budgets for the CDPs' education as well as mobilise the resources, including teachers and trainers, learning materials and capacity-building programmes. Even this research team found it impossible for a single organisation to get an overview of the entire situation of CDPs' rights to education in India. Data collection has to be done through the close collaboration of the national, state, local governments and international organisations such as UNESCO, UNHCR, UNDP and UNU.

⮞ Establish bilateral or regional joint efforts between/amongst neighbouring countries to provide the necessary support for the CDPs to live and ensure their access to education

⮞ Establish the concept of 'climate refugee' or an equivalent concept and a legally binding policy to ensure access of CDPs to education and monitor/evaluate them at the international policy level

The study discussed the undocumented and unrecognised cross-border CDPs who migrate to India due to the combined socio-economic, political and climate change disaster-related reasons. Currently, there is no mechanism to identify and monitor the education participation of cross-border CDPs. Some of those CDPs may be recognised as refugee/asylum seeker status only if they fit into the current refugee recognition criteria. Even after the refugee status is granted, they may face social, economic, educational and cultural challenges. The situation is more severe for those cross-border CDPs who have no option except for living as illegal migrants, as it is assumed that the fear of deportation comes first before claiming their rights to a decent life and access to education, in addition to experiencing the conflict associated with the political tension in everyday life. A rights-based bilateral and regional cooperation needs to be established to monitor the demographic flow of cross-border CDPs and provide the necessary arrangement for them to live, including access to education. To support bilateral and regional cooperation, it is also required to conceptualise 'climate refugees' or equivalent terms within the international policy arena, and to develop concrete measures for the protection of CDPs within current international policy to ensure quality education for CDPs through a lifelong learning process.

Author: Fumiko Noguchi
Contributors (alphabetical order): Madhavi Joshi, Preeti R. Kanaujia, Rejini Simpson and Reema Banerjee, Centre for Environment Education (CEE), India

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Annex F

Summary report of Indonesia case study

Indonesia is the largest archipelago in the world with a population of 273.5 million spread over 17,500 islands between the Indian and Pacific Ocean. Like any other archipelagic countries, Indonesia is exposed to severe impacts from climate changes, including sea level rise, increasing frequency and intensity of cyclones, excessive rainfall and flooding. Such geographic and topologic vulnerability to climate change has been hampered further by anthropogenic factors, ranging from rapid urbanization to high population density in coastal cities and to strong dependency on and over-extraction of natural resources.

Extreme climate events aggravated by anthropogenic factors have displaced half a million people across Indonesia every year since 2018. With a number of national plans and measures to mitigate disastrous effects and adapt to climate change impact, the government plans to relocate the capital city of Jakarta to East Kalimantan in 2024. How has education been positioned in such national mitigation plans? Has inclusive and equal access to quality education and lifelong learning been considered as a fundamental right for climate change displaced persons (CDPs) in those national plans?

Against this backdrop, this study aims to provide evidence-based recommendations for national disaster management measures, legislation, and educational policy recommendations to ensure CDPs' rights to education and lifelong learning. Data were collected from multiple sources, including an extensive range of policy documents and literature, focus group discussions with government officials, survey responses of school leaders and CDPs, and consultation with national experts. The study consists of four parts: 1) a brief analysis of the national education system; 2) major trends and scenarios of climate displacements; 3) barriers and measures to respond to the CDPs' education needs; and 4) policy recommendations.

Education in Indonesia and key issues

The Indonesian education system is a 6-3-3-4 system from primary to lower and upper secondary and to tertiary education. Since the *Regulation on Universal Secondary Education* came into effect in 2013, all citizens must complete 12 years of compulsory education from age 7 to age 19. While most schools are governed by the Ministry of Education, Culture, Research and Technology (MoECRT), about 18 per cent of the primary and secondary schools of Indonesia are madrasah (Islamic religious schools), overseen by the Ministry of Religious Affairs (MoRA). MoECRT schools are directly managed by local governments which often create challenges in coordination and alignments between multiple actors at the central, provincial, district and school levels. Unlike MoECRT schools, madrasahs are governed by the centralized MoRA (The World Bank, 2020).

Indonesia has made great progress to improve access to education. The net enrolment rate of primary schools has improved from 93 per cent to 95.9 per cent between 2001 and 2018, while the net enrolment rate of secondary schools has increased from 49 per cent to 78.7 per cent for the same period (UIS, 2021). However, there are some critical issues remaining, especially vis-à-vis accommodating climate displaced children and ensuring their right to education.

First, the number of out-of-school children remains high, at around 6.5 per cent of the total population of children at primary school ages (two-thirds of them are girls) and 29 per cent for the upper secondary level (UIS, 2021).

Second, learning outcomes and performance of students is among the lowest in ASEAN, with striking regional disparities. In 2019, the national exam of Grade 12 students shows that only four out of thirty-four provinces achieved the minimum passing score (OECD, 2020), and most of those with the lower achievement numbers are located in economically marginalized and disaster-prone provinces, such as Sulawesi, Aceh, and Kalimantan.

Third, participation in upper secondary and post-secondary education is noticeably low, with the completion rate being only 10 per cent, one of the lowest among the ASEAN countries (UIS, 2021). Given that the economically marginalized populations are more vulnerable to climate change displacement and are less likely to enroll in secondary schools and above (Rush, 2018), they may face a double barrier in their new settlement area when displaced.

Fourth, the nation is home to 680 different ethnic languages while the official language Bahasa Indonesian is a primary language of only 20 per cent of the population (Translators without Borders, 2020). Therefore, there is a recognized strong need to reskill and upskill literacy and other job-related skills for the successful re-integration of interregional migrants for their better livelihoods.

Fifth, ICT infrastructure is limited in schools in Indonesia, along with digital contents and stable internet connectivity. MoRA schools are the least equipped and most marginalized (MOEC, 2019).[16]

Finally, government investment in education remains low. The education expenditure in Indonesia is 3.5 per cent of GDP, lower than other similar ASEAN countries, such as Thailand (4.1%), Malaysia (4.1%), and Viet Nam (5.6%). Given the current climate change impacts, the nation will need special budget allocations for the planned relocation of schools, teachers, and students, as well as for making the school resilient to climate crises.

Climate risks and displacement in Indonesia

Overview of climate change impacts

Indonesia is a tropical country with diverse topographical features, ranging from mega cities along the coastal lines, to the third largest rainforest in the world, and to peat swamps and volcanic mountains. The climate is strongly affected by El Nino and La Niña weather cycles: In the El Nino years, the weather is warmer and drier while in La Niña years, it is cooler and wetter. As such, its climate and geographic vulnerability put Indonesia as one of the countries in the world most prone to climate changes. In 2021 alone, the National Disaster Mitigation Agency (BNPB, 2021) reported a record high of 5,402 natural disasters across the country, with 87 per cent of them hydro-meteorological, causing such events as tornadoes, floods and landslides, followed by land and forest fires.

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16 Ministry of Education and Culture (MOEC) is the former MOECRT in Indonesia. The Ministry changed its title from MOEC to MOECRT in March 2021.

⮌ Excessive rain and floods

The impact of heavy rain and tropical cyclones are exacerbated by rapid urban expansion, inadequate drainage infrastructure and ecosystem degradation, especially in the lowlands in Java and Sumatra where more than half of the total population resides.

The frequency of the flood events in Indonesia has noticeably increased. For instance, in January and February 2016 alone, Indonesia experienced 103 flood events and the total number of floods in 2021 reached a record high of 1,794, making it almost 150 floods per month. The scale of the damages is also drastically heightened, up to 7.6 million people affected and displaced in 2021 (BNPB, 2021).

Heavy rainfalls have more severely affected the Greater Jakarta areas. For instance, a 2007 flood inundated 60 per cent of Jakarta, displaced half a million people, killed eighty people and caused a financial loss of 600 million USD (UNDRR, 2021). Most recently, a flood in January 2020 displaced 397,000 people, (IDMC, 2021) and affected 290 schools and 8,420 students in the Jakarta area (Simatupang, 2020).

These frequent floods in Greater Jakarta and Java Island are also closely interlinked with rising sea levels, which will be described in what follows.

⮌ Sea level rise and land subsidence

In Indonesia, around 18 per cent of the total population resides in the low-lying coastal areas, less than ten meters above sea level. These areas are concentrated on Java Island where the most densely populated cities such as Jakarta, Bekasi, Semarang and Surabaya are located. With the current population growth rate and development, the population of the coastal cities in Indonesia could increase to around 62 million by 2030 (Asian Development Bank and World Bank, 2021). The degree of urgency is evident in the rate of tidal inundation of North Jakarta, which has sunk 2.5m over the last 10 years and is still sinking 1–15cm per year (Lin and Hidayat, 2018). An estimate warns that 50cm of sea level rise, combined with land subsidence, could permanently inundate densely populated areas of Jakarta and Bekasi, home to over 270,000 people (The World Bank, 2021).

A slow onset of the climate change like sea level rise does not create sudden displacement of people as floods do. However, it gradually inundates the coastal areas, salinizing rice fields and subsiding infrastructure, like airports and harbours, permanently. According to the country risk profile report (The World Bank, 2021) without adaptation measures, the total population that will be affected by permanent flooding by the end of the century could be over four million people in Indonesia.

⮌ Drought and forest fire

Indonesia produces the third largest rice yields in Asia and the largest in Southeast Asia where rice is an important staple food (Meybeck, Lankoski and Redfern, 2012). Rice is sensitive to changes in temperature, and an increase of 1°C would reduce rice product by 10–25 per cent country-wide, threatening the food security in Indonesia and in the region.

Drought and excessive heat increases the frequency of wild and land fires, and it has become one of the most frequently reported natural disasters in Indonesia. In 2019, there were many wild

fires in the Sumatra and Kalimantan regions. They were mainly a result of the persistent drought during the dry season as well as anthropogenic causes, such as peatland fires set for palm tree plantation. Wild and peatland fires create significant impacts on various aspects of livelihood, ranging from hazardous air quality, endangering biodiversity and agricultural activities. The 2015 forest fires and subsequent haze caused more than 90,000 respiratory-related excessive deaths and cost 16 billion USD in lost productivity (Asian Development Bank and World Bank, 2021).

Agriculture accounted for 13.7 per cent of the national GDP of Indonesia in 2020, and with the current trend of climate change impacts, the agricultural production could be reduced by 10 per cent by 2050 (USAID, 2017).

Displacement scenarios and vulnerable groups

In 2020, the Internal Displacement Monitoring Centre (IDMC) recorded 705,000 new climate-induced displacements in Indonesia from January to December, with 161,000 IDPs still unable to return to their homes from the 2019 disasters. Flooding is estimated to be the largest cause of climate change displacement (CCDs) in Indonesia, followed by earthquakes and tsunami (IDMC, 2021). In this section, three major scenarios of CCDs are illustrated: 1) forced and temporary displacement by sudden onsets; 2) voluntary and planned migration by slow onset; and 3) government-led relocation of the capital city. The three scenarios are identified not only because they are a nationally urgent matter but also because they are regionally recurring trends of CCD in the Asia Pacific region and may be applicable to other neighbouring countries with concentrated coastal cities and urbanizations.

➲ Forced displacement by sudden onsets

The estimated average number of people who are at risk of being displaced due to sudden-onset hazards is as high as 378,000 annually. Floods account for the largest displacement in Indonesia, with 310,554 CCDs per year (IDMC, 2021).

The recent increasing number of CCDs can be attributed to frequent flooding and subsidence of Greater Jakarta. The catastrophic New Year's Day flooding in Jakarta in 2020, which displaced 397,000 people in the single event, was well recognized in the media for its massive school closures. The MOEC reported that as of 3 January 2020, 290 schools in Jakarta and the surrounding area were affected by the flooding, of which 201 of them were inundated, and 89 of them were completely inaccessible (ReliefWeb, 2021; UNESCO, 2021). Schools that were still accessible and less affected by the flooding in Jakarta were used as shelters for displaced persons, causing a massive disruption to education in those areas as well.

➲ Voluntary and planned migration by slow onsets

Unlike the disaster-induced or sudden-onset displacements, slow-onset migration is hard to trace. A growing body of research supports idea that temperature rise is the strongest factor explaining long-distance migration in Indonesia (Bohra-Mishra, Oppenheimer and Hsiang, 2014; Thiede and Gray, 2017), and is consistent with the global studies (Cai, et al. 2016; Cattaneo and Peri, 2016; Falco, Galeotti and Olper, 2019).

In the case of sea-level rise, studies on Semarang City, the capital of Central Java and one of the coastal cities, shed light on factors for people's adaptation to the environment and decisions

to move (Buchori, et al. 2018, 2021). Semarang City is one of the cities in Java most affected by chronic flooding and tidal inundations, locally known as *rob*. Many areas in the city are projected to be permanently inundated by 2031. A survey in 2017 (Buchori, et al. 2018) with the city residences who have experienced some forms of *rob* in their homes reveals that the overwhelming number of people are in favour of staying (81%) rather than moving out (19%) despite the environmental threats. A follow-up survey in 2018 shows that those who are in favour of moving are more likely to have experienced intense *robs* in their residence, are less educated, do not own a vehicle nor property and have lived in the areas for a shorter time period than their counterparts who decide to stay (Buchori, et al. 2021).

This seems to be contrary to the assumption that migrants who are more educated and have more economic power to afford moving are the ones who migrate. It may suggest that the climate-induced migrants are different in nature from the general migrants who voluntarily move out of their homes. Climate-induced migrants tend to stay until unbearably intensifying climate situations and damages are pushing them out of home and leaving them no choice but out to migrate despite their economic vulnerability. Children and adults alike from such households may not be able to prioritize identifying new schools to continue their education when basic safety needs are more pressing. Therefore, a comprehensive relocation plan for the high-risk slow-onset areas and beneficiary-centred policies to protect their right to education and lifelong learning are urgently needed.

➲ Government's planned relocation: Jakarta

Jakarta is home to ten million people with a population density of 14,500 per km². Jakarta generates nearly two-thirds of the nation's GDP and is home to the parliament and main government buildings. The presidential palace is located in the city, along with heavily concentrated financial and commercial districts. Such concentration of economic development has drawn a massive number of permanent and temporary migrants every year. And that has resulted in overexploitation of everything from natural resources like ground water, to inadequate infrastructure for public transportation, waste management and sewage systems, and unregulated construction (Van de Vuurst and Escobar, 2020). Partly due to its geographical nature being a coastal city and partly due to its over-urbanization and extreme population density, the megacity has been known as "the world fastest sinking city". It is also a city of health hazards due to severe air pollution caused by heavy traffic (motorcycles), waste burning and forest fires (Van de Vuurst and Escobar, 2020). Such increasing hazards and risks led the government to set up a plan for a massive relocation of the mega capital city to East Kalimantan, on Borneo Island in 2024 (Tan and Wijaya, 2019).

Due to increasing and multiple hardships in the city, the number of out-migrations has exceeded that of in-migrations since 1990s. School participation in the Greater Jakarta area shows similar trends of decreasing net migration to the city. The number of total students in Jakarta is steadily decreasing with a notable drop in 2020 after the pandemic. In fact, Jakarta is the worst pandemic-affected area in Indonesia and the national labour data indicates the skyrocketing number of PHK (Pemutusan Hubungan Kerja) or layoffs, is reaching half a million in Jakarta. This accounts for one-third of the total layoffs in the nation (Vicka, 2021). According to an analysis by the Ministry of Village, while 74 per cent of the post-pandemic drop-outs were attributed to

economic reasons, 12 per cent of students stayed out of school due to their decreased interest in schooling (Ministry of Village, 2021).

The potential site for the new capital is relatively underdeveloped with the population density of twenty-two per km^2 (compared to 14,500 per km2 in Jakarta). A massive construction effort for housing and buildings is foreseen to accommodate the relocated people This will inevitably cause the destruction of forests and natural habitats in Borneo that may lead to a major biodiversity catastrophe (Van de Vuurst and Escobar, 2020). Schools and educational facilities need to be built and a huge number of teachers and education personnel need to be relocated to ensure the same quality of education that the migrants used to have in Jakarta. The rights of the indigenous people who have lived in Borneo for generations should also be closely considered.

Relevant policies and national measures legal framework

➲ Right to education

Indonesia is known to be a nation with a strong commitment to ensuring the right to education for every citizen regardless of his/her circumstances. The 1945 Constitution of Indonesia underscores the right to education as 'Every citizen has the obligation to undertake basic education, and the government has the obligation to fund this' (*The 1945 Constitution of the Republic of* Indonesia, Article 31). Since 2013, the *Regulation on Universal Secondary Education* has enabled the compulsory education to expand to upper secondary for 'every citizen from [age] sixteen to eighteen to acquire secondary education'.

While no explicit emphasis on the right to education of the displaced persons was found in the reviewed legal documents and policies, the closest connotation is in the 1945 Constitution that states, 'Each person is free to worship and to practice the religion of his choice, to choose education and schooling, his occupation, his nationality, his residency in the territory of the country that he shall be able to leave and to which he shall have the right to return' (Article 28E).

➲ The zoning system

In 2017, the MOEC (the former MoECRT) implemented a new regulation called PPDP (Minister of Education Regulation No. 14 of 2018) to ensure students' right to quality education. Under this regulation, public schools are obliged to accept students from the zone radius, replacing the previous admission system where national exam scores were the main criteria for student selections. The purpose of the zoning system is to equalize the quality of public schools, reduce the transportation time and cost, and eliminate the dichotomy between desired schools and less preferred schools. Under this regulation, public schools are obliged to accept at least 90 per cent of the registrants from the zone radius, 5 per cent with academic and non-academic achievements and merits, and saving 5 per cent for prospective students who may be transferred during the school year due to household relocation or 'natural/social disaster' (Article 16). In addition, 20 per cent of the main quota (90%) is allocated for low-income families, certified by 'Relief Letter' (SKTM).

National measures for disaster management

⮱ Law Number 24 Concerning Disaster Management

The Government of Indonesia carried out a reform in response to the 2004 tsunami to establish holistic national measures for DRR beyond the response-oriented system (IFRC, 2017). The reform led to the development of *Law Number 24 Concerning Disaster Management* (BNPB, 2007) that governs the entire spectrum of disaster management including preparedness, prevention, mitigation, responses and recovery. *Law 24* instigated the establishment of the National Agency for Disaster Management (BNPB in Indonesian) which became the central governing and implementation body for all disaster management activities. Each province and district has the decentralized district agencies (BPBDs) which have their own responsibilities, budgets and policies. In the event of a disaster, the district agencies or BPBDs are the first responders as far as their capacity can cope with the scale of the disaster. MoECRT is not part of the nine Ministries that compose the Steering Committee of the disaster management (UNDRR, 2020).

⮱ National Disaster Management Plan 2010–2014

The *National Disaster Management Plan 2010–2014* (BNPB, 2010) is one of the most extensive national policies on disaster management. It contains guidelines for national education systems at the time of a crisis. For example, the 'Ministry of National Education (former MoECRT) plans and controls emergency education for disaster affected areas and recovery of education facilities and infrastructures, and coordinates disaster awareness education' (p. 78).

⮱ National Action Plan for Climate Change Adaptation 2013-2025

The *National Action Plan for Climate Change Adaptation 2013–2025* (BAPPENAS, 2014) is the most recent policy framework for climate change adaptation. Developed and implemented by the Ministry of National Development Planning/National Development Planning Agency (BAPPENAS) in 2014, the action plan lays out strategic objectives for five priority sectors: 1) economic resilience (food and energy security), 2) living system resilience (public health and housing security), 3) ecosystem resilience, 4) specific regional resilience (coastal, small islands and urban areas), and 5) supporting system resilience. However, the action plan does not identify any specific actions for education sectors or for climate change displacement.

⮱ National Plan for Jakarta Relocation

Despite extensive consultations with UNESCO Jakarta, expert groups and government officials, the current research was not able to locate an official national masterplan or framework for the capital relocation from Jakarta to East Kalimantan. A presentation by a representative from BAPPENAS during the FGDs suggested that the national priorities were currently for infrastructure development, such as roads and buildings, with no specific indication or budget allocation for the number of schools and teachers that will need to relocate at the time of the FGDs in October 2021. A representative from the regional board (BAPPEDA) from Balikpapan (a port city in East Kalimantan) highlighted that education would be a priority focus in the city governance in 2022–2026 in response to the capital relocation, and estimated the city's capacity will accommodate up to 1.5 million migrants or relocated people.

➲ Comprehensive Safe School Framework

According to BNPB, 70 per cent of schools in Indonesia (or 250,000 schools) are located in disaster-prone areas (BNPB, 2019). Starting in 2009, the Government piloted the "disaster-prepared school" where the facilities were maintained and monitored according to the Comprehensive Safe School Framework (CSSF) and the curriculum and learning activities integrated the DRR. Since 2015, this has been scaled up as "disaster-safe schools". By 2018, about 25,920 schools, or 10 per cent of the total number of schools in the disaster-prone areas had implemented DRR education.

➲ The Regulation of National Education Minister No. 24 of Year 2007 on School Facilities and Infrastructure Standards

The *Regulation of National Education Minister No. 24 of Year 2007 on School Facilities and Infrastructure Standards* explicates the requirements for a school building in preparation for any natural disaster, such as building safety requirements against earthquakes, fire and other hazards; ease of access by not exceeding three floors; equipment requirements for warning systems, emergency exits and evacuation paths; required distance from potential hazards; and compliance with the *Regional Land Use Plans* or other binding regulations and land use permits from the local government.

➲ Cash Assistance Programmes

The Ministry of Social Affairs (MoSA) is responsible for planning and distributing food, clothing and other basic needs for people displaced by disaster. The MoSA has implemented various cash assistance programmes including the Family Hope Programme (PKH), the Basic Food/Non-Cash Food Assistance (BPNT) programme and the Cash Social Assistance Programme (BST) (Ministry of Social Affairs, 2021). International organizations and aid agencies also offer emergency cash programmes under emergencies situations in coordination with MoSA. Research shows that while the recipients appreciate the support, a few challenges were commonly found, such as remittance modalities (as many of the locals do not have a bank account), unclear communication of the assistance eligibility and lower priority for households with children in secondary schools (Empatika, 2019; UNICEF, 2019; PLAN Indonesia, 2021).

➲ Learning from Home Programme

To prevent students from disengaging from their learning during the school closures due to the COVID-19 pandemic, the MoECRT together with MoRA launched the national remote learning programme in March 2020, called "Learning from Home", and targeted 68 million students across 12,000 islands to reach out to (UNICEF and UNESCO, 2021). To overcome the uneven development of ICT infrastructure, the government has made a great commitment to explore diverse channels and media to reach out to as many students as possible. For example, MoECRT moved quickly to provide educational TV (Belajar dari Rumah) in April 2020, as 95 per cent of the students have access to TV. In August 2020, MoECRT also provided options for schools to use a simplified emergency curriculum. Both MoRA and MoECRT provided e-learning platforms and training for teachers to use the platforms for teaching.

Barriers to education in the context of climate displacement

With a robust national disaster management mechanism and policies in place, Indonesia has made a remarkable progress in preparing, mitigating and responding to climate change induced disasters. This section analyses the barriers for CDPs to access education and lifelong learning at the policy, institutional and individual levels.

Policy barriers

- **Complex DRR governance and coordination:** Unclear coordination among multiple levels of government actors in disaster management, namely, the national agency for disaster management (BNPB), provincial and local agencies (BPBDs) and non-state actors such as international aid and civil societies

- **Absence of the measures for education provision in the national policy frameworks** for disaster management (e.g. MoECRT is excluded from the national disaster management steering committee)

- **Lack of disaggregated disaster displacement data:** Absence of indicators to trace the CDPs' profile and status (e.g. age, gender, return home or remain displaced) in the disaster management database, thereby creating difficulties in providing evidence-based policy measures for better assistance provision

- **Need for integrated approaches to DRR education and climate education:** Low student understanding and teachers' misperceptions on DRR; urgent needs for integrating climate literacy education in school curriculum and lifelong learning

- **The zoning system:** Cumbersome and delayed process of registering households to a new residence and transferring students to a new school; uneven distribution of schools in zones to meet the demands

- **Limited communication on the Jakarta relocation:** government priority given to road construction and infrastructure, resulting in unknown estimates of students, teachers and schools to relocate; significant shortage of school facilities in East Kalimantan to accommodate the relocated student population from Jakarta

Institutional barriers

- **Unclear accountability in school building maintenance:** School building safety measures are not duly reinforced at school level; unclear accountability and funding sources for the repair and renovation of damaged schools after a climate event

- **Inadequate shelter school environment,** overcrowded with limited learning materials

- **School facilities being an emergency shelter** for prolonged period, disrupting student learning

- **Uniform requirements** still effective under the emergency, preventing displaced learners from going back to school

- **Lack of readiness for remote learning** in terms of infrastructure, teacher capacity and learning resources

Perceived barriers for individuals

- **Lack of financial resources** to support learning continuity during and after a climate disaster

- **Insecure sense of safety** in travelling to school after a climate event and studying in a damaged school

- **Unfulfilled needs for academic and psychological support**

- **Limited support for older students** as assistance from the government and international aid prioritizes younger children, further jeopardizing the already low completion rates for secondary education

- **Aggravated risks for girls and women in an emergency** as indicated in recent evidence of the surge of child marriage under the COVID-19 pandemic and high drop-out rates among girls

Conclusion and recommendations

This study identified three nationally urgent and regionally applicable climate change displacement (CCD) scenarios, 1) Forced and sudden displacement by sudden-onsets or climate shocks, 2) voluntary migration or trapped population by slow onsets; and 3) government-led relocation (of the capital city). Taking the three scenarios as main angles, the summary of the analysis is shown in the table below.

Table 1: Summary of analysis

Types of displacement	Potential climate causes	National measures/ responses	Remaining barriers/challenges
Sudden/forced displacement	▪ Sudden onsets (floods, landslides, wildfires, earthquakes, etc.)	▪ Comprehensive national disaster management plan ▪ Emergency aid (Cash assistance, temporary shelter, food/water, etc.) ▪ Safe School Framework (school-based DRR) ▪ Remote learning provision	▪ Complex governance structure and unclear decentralization of roles and budget ▪ Mismatch of aid items with the actual needs of the displaced ▪ Prioritization of aid to younger students ▪ Lack of monitoring mechanism of school building safety ▪ Uneven access to the remote learning infrastructure ▪ Inadequate facilities for girls and female CDPs
Voluntary internal migration	▪ Slow onsets (SLR, robs, temperature rises) ▪ Repeated and chronic sudden onsets	▪ Constitution on the Right to Education ▪ Designated quota for migrants in the zone-based enrolment system	▪ Mismatch between supply and demand of schools in a zone ▪ Complex legislative requirements for student transfer ▪ Limited data on tracking internal migration caused by climate impacts

Types of displacement	Potential climate causes	National measures/ responses	Remaining barriers/challenges
Trapped population	■ Combination of chronic climate events and social/economic factors	■ DRR education in national curriculum and public awareness ■ Government mitigation effort in adapting public infrastructure (e.g. elevating roads and building structure)	■ Current national framework not integrating DRR education and climate education ■ Acute needs for DRR and climate education remain high among public
Government-led relocation (e.g. Jakarta relocation)	■ Combination of coastal inundation and rapid urbanization with extreme population density	■ Nation plan for the capital relocation by phase	■ Unclear plans on the phases of moving ■ Communication between national, local government and key stakeholders ■ National priority given to the infrastructure and less to education ■ Unclear target of numbers of students, teachers and school buildings needed for the relocated population

Synthesizing Indonesia's climate displacement trends, pertaining education issues and national measures and policies to address different CCD scenarios and challenges, the study provides the following policy recommendations:

1.1 Strengthen governance with clear communication and implementation guidelines to ensure timely local responses

A clearer governance system with detailed guidelines for inter-ministerial/inter-sectoral collaboration, local responsibilities, and external aid programmes will benefit the timely and effective implementation of disaster management measures. It will also help the timely disbursement of the emergency 'on-call' budget from central to local to village levels and between different responsible ministries which is a lifelong for many displaced families and children.

1.2 Collect and utilize disaggregated and longitudinal data to trace displacement and relocation trends for focused intervention

The existing databases (e.g. Indonesian Disaster Information Data (https://dibi.bnpb.go.id); BNPB e-portal (e-PPID BNPB); Geoportal Data Bencana Indonesia (https://gis.bnpb.go.id)) may benefit from adding indicators to trace periodic patterns of relocation or return of displaced households. In addition, it is recommended that the current national census includes the reasons for moving, disaggregated by ages and genders, to prepare for potential influx of climate migration induced by slow-onset climate impact, such as temperature rises, haze hazards, sea-level rise, and *robs*. Multi-disciplinary longitudinal studies are also encouraged to build a solid understanding on the complex formula between the impact of climate vulnerabilities, school drop-outs and student performance by region and by climate causes.

1.3 Pay extra attention to already vulnerable learners in the country, such as women, youth and language minority

The analysis showed that the effects of climate change and displacement can significantly affect the learning of vulnerable learners. The consequences from uneven support to these groups can be irreversible in a longer term, including the potential increase of girls' early marriages and the decrease of secondary and post-secondary skilled workforces, which have long been a social issue in Indonesia. A focused intervention, such as budget allocation for the vulnerable learner groups and a rigorous monitoring system of education attainment and performance, will provide balanced support towards inclusive education that leaves no one behind.

1.4 Include the relocation of education facilities and teachers in the relocation master plan – including universities

A glance at the general education data, such as the numbers of students, teachers, and schools, clearly shows a profound discrepancy in the education capacity between Jakarta and the new host cities. Relocation and/or recruitment of teachers and building more classrooms take time and careful planning. To ensure the right of both the relocated students and the native students to access quality education without any disruption, the education sector relocation plan should be an integral part of the government masterplan, inclusive of pre-primary to higher education, and non-formal education.

1.5 Engage local communities in policy and programme development

For an effective emergency assistance, it is vital to understand the actual needs and map out the emergency aid distribution strategy accordingly. A first step to do so is engaging local communities and stakeholders, both men and women, in planning and implementing an emergency response and recovery programme. Studies revealed that the relief aid items did not always match the actual needs of displaced children and families in both quantity and quality (e.g. shortage of learning materials and low quality food), impeding a conducive learning environment (Empatika, 2018).

1.6 Plan and implement holistic and inclusive remote learning

It is highly laudable that the MoECRT has shifted the COVID-19 crisis into an opportunity to roll out the national remote learning effort, the *Learning from Home* programme. In order to provide inclusive and stable connectivity and digital devices, coordination between different ministries and government authorities (e.g. MoECRT, BAPPENAS, local governments, school directorates, etc.) is essential. Similarly, further work on public-private partnerships on localized implementation of infrastructure for underserved areas will greatly benefit the inclusive remote learning in emergency and beyond. Teacher training for remote teaching and digital pedagogy, guidelines for school-based monitoring frameworks for digital teaching and learning, and measures to ensure student online safety will contribute to improving the current Learning from Home programme.

1.7 Support teachers

It should not be forgotten that teachers are also part of the affected community and they can be displaced too. Several reports have indicated that the late return of teachers to school has had negative impact on student learning. Just like prioritizing support for the medical staff during the COVID-19 pandemic, every teacher should be prioritized in getting emergency assistance and getting on his/her feet so that s/he can return to school and support the displaced children. Teachers will benefit from various awareness trainings, such as gender and cultural sensitivity of the displaced children, flexible school disciplines during the emergency (e.g. relaxing the uniform and school attire rules), and dedicated support for economically and socially vulnerable students.

1.8 Provide lifelong learning opportunities for youth and adults

The survey on the CDPs shows that the adult CDPs' needs for lifelong learning and skills development are high but the opportunities do not match, especially after the displacement. Considering the persisting rural-to-urban mobility in Indonesia as well as the foreseeable climate change impacts for the next decades which will shift the industrial trends of the nation, continuous opportunities for youth and adults to upskill and reskill their competencies are highly desired. Inclusive opportunities to access learning throughout one's life are a fundamental human right. Together with the industrial, agricultural, and financial sectors, designing a national roadmap for lifelong learning will empower the entire nation to be resilient to climate change and its impact on society.

Author: Jonghwi Park
Contributors (alphabetical order): Eko Ernada, Shengru Li, Honest Dody Molasy, Jaewook Sung, Oyun Tsogtsaikhan, and Regina Elisa Wijayanti

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Annex G

Summary report of Tuvalu case study

The concept of 'disappearing islands' or being 'swallowed up by the sea' has become an evocative image linked to the threat of climate change over the last three decades. The nation of Tuvalu, with its low-lying coral atolls and its remote locations from other landmasses, has found itself at the centre of this narrative, as what is framed by many other countries and cultures as a far-off future event becomes an impending daily reality for much of its population. At the 60th session of the UN General Assembly in 2005, Tuvalu's then Prime Minister Maatia Toafa stressed that climate change was a security issue for his nation, a notion that has become widely accepted in many countries around the world in the subsequent years (Toafa, 2005).

The meta-narrative around climate change for Tuvalu has become a narrative of displacement and migration as academic research and news media frame Tuvaluans as fleeing sinking islands in the pursuit of safety, livelihoods, and access to education. However, Tuvaluans have a long history of migration for many reasons, including the pursuit of education. Therefore, discussions of education within the context of climate displacement need to account for the numerous ways Tuvaluans already access education and training outside of their country in addition to new ways of accessing education and training within their country. Through review and analysis, this report offers recommendations and ways forward in addressing education needs in the context of climate change for Tuvalu and its people, both for those within the country and those living outside of it. Furthermore, the insights and recommendations drawn from this report on Tuvalu's experiences with climate change, displacement and the right to education may prove applicable to other small island states facing similar challenges.

Contextual background, climate change, and displacement in Tuvalu

Overview of education system

The formal education system within Tuvalu is divided into five sectors: (a) Early Childhood Care and Education (ECCE), which is open to all children ages three to five voluntarily; (b) primary education, which is compulsory for all children ages six to thirteen; (c) five years of secondary education for youth ages fourteen to eighteen, consisting of Years Nine-Thirteen; (d) post-secondary education for students who leave Year Ten for vocational training; and, (e) pre-tertiary programmes which are available for students who complete Year Twelve (Ministry of Education, Youth, and Sports – Tuvalu, 2021).

Tuvalu released the Tuvalu Education Sector Plan III in 2016 covering the period of 2016-2020 (Ministry of Education, Youth, and Sports – Tuvalu, 2015). Three continuing issues are identified as priorities under the Tuvalu Education Sector Plan III, as follows:

Access – includes both physical access and access to achievement in education. The report notes that physical access to schools has improved as is evident by the increasing enrolment numbers across all levels of schooling. The report also notes that while access to achievement has improved in recent years, limited access to achievement in schooling remains a pressing issue.

Relevancy – includes quality learning through curriculum and teaching, as well as quality in examination systems to assess student learning. The report notes that work remains to translate the curriculum policy framework laid out in the report into teaching guides, curriculum, and

student handbooks. There is also a need to review assessment within the national education system to improve student learning.

Sustainability – includes not only considering the impact of climate change on education systems, but also the need for education to prepare Tuvaluan students to contribute to global society. The report notes that education on climate change must shift from awareness to adaptation within the context of Tuvalu and that education systems must prepare Tuvaluan students to live comfortably elsewhere in the world.

As of 2019, the net enrolment rate of primary school students was 84.8 per cent, while the net enrolment rate of secondary school students was 39.7 per cent. Net enrolment rates for boys and girls were close in number for primary school students (83.5% for girls and 86.2% for boys). However, substantially more girls than boys were enrolled in secondary schools (45.9% for girls and 33.8% for boys) (UNESCO UIS, 2019). As of 2012, youth literacy was very high in Tuvalu with nearly universal literacy among this age cohort (Ministry of Education, Youth, and Sports – Tuvalu, 2015). Over 90 per cent of Tuvalu's primary school teachers are qualified with teaching licenses, however, less than one-fourth of secondary school teachers had such a qualification as of 2016 (Ministry of Education, Youth, and Sports – Tuvalu, 2016).

Currently, a portion of Tuvalu's education is being supported by TuLEP (Tuvalu Learning Project) funded by the World Bank. The project is aligned with the World Bank Pacific focus areas related to addressing education and skills gaps, gender inequality, gender-based violence and strengthening the education sector's resilience to natural disasters and climate change (Global Partnership for Education and Government of Tuvalu, 2020).

Overview of climate change impacts

⮩ Sea-level rise

With a mean elevation of fewer than two meters above sea level and the nations' highest point less than five meters above sea level, Tuvalu is especially vulnerable to sea-level rise brought on by climate change. The sea level around Tuvalu's islands has risen by approximately 5mm per year since 1993 and is predicted to rise between 7 and 13cm by the year 2030 (Saar, 2019). While the vast majority of the islands' populations and infrastructure lie along with coastal areas, the coastal retreat of populations and/or infrastructure is not a viable solution for the country due to the islands' small surface area (UNDP, 2020). To better model future climate scenarios as well as aid in development planning and design of coastal infrastructure, the Tuvalu Coastal Adaptation Project launched an airborne Light Detection and Ranging (LIDAR) technology that can rapidly collect information on both land surface height and seafloor depth. Analysis of the data from the LIDAR system has shown that at the highest measured sea levels 46 per cent of the built-up area of Fogafale – Funafuti atoll's largest and most developed islet – is already below sea level (UNDP, 2020).

While sea-level rise is the most well publicized threats facing Tuvalu, it is not the only climate hazard that the nation must contend with. Tuvalu remains prone to tropical storms and cyclones during its wet season. Tuvalu tends to experience fewer cyclones than other areas in the Asia-Pacific region, with an average of eight per decade passing within 400km of the capital, Funafuti,

the largest urban area of the country (Australian Bureau of Meteorology, 2011). However, as sea levels continue to rise and temperatures continue to increase, it is predicted that the intensity of cyclones will increase as well (UNICEF, 2017). A stark reminder of the dangers that more intense cyclones pose to the island nation occurred in March of 2015 when Tropical Cyclone Pam hit the northern and central islands of Tuvalu particularly hard. This category 5 cyclone generated strong winds and storm surges that caused extensive damage to crops, housing, and other vital infrastructure. In total, 4,600 people – nearly half of the country's entire population – were displaced by the cyclone and the government declared a state of emergency (World Bank Group, 2015). The subsequent economic loss from Tropical Cyclone Pam was 10.34 million USD – which was over a third of the country's GDP at the time (Tuvalu Coastal Adaptation Project). In response, the Tuvaluan government established the Tuvalu Survival Fund (TSF) in 2016 to specifically finance climate change programmes and respond quickly to climate-related disasters such as tropical cyclones (IMF, 2018).

➲ Coastal erosion

Coastal erosion is another climate hazard facing the islands, particularly on the western coasts of the islands. The nation's intensive urbanization, as well as the loss of coral reefs due to coral bleaching from warming ocean waters, compound this problem (Government of Tuvalu, 2015). Ongoing coastal erosion contributes to increasing levels of coastal flooding, which has, in turn, led to saltwater intrusion further and further inland throughout the islands. This continued saltwater intrusion has made groundwater within the islands no longer suitable for human consumption. Saltwater intrusion has also severely impacted the agricultural sector, not only through the salinization of aquifers but also through the salinization of soils (Tuvalu Coastal Adaptation Project). The ongoing salinization through saltwater intrusion is destroying many ground crops such as Pulaka (*Cyrtosperma merkusii*, or swamp taro) and decreasing yields from many different types of fruit trees (UNDP, 2021). Flooding and inundation will also provide a medium for disease vectors that will impact humans, livestock, and food crop health (Ministry of Natural Resources, Agriculture, and Lands - Tuvalu, 2007).

Characteristics of migration, mobility, and climate displacement

Both internal and international migration has been fairly common in Tuvalu throughout its history. While some contemporary migration is triggered by climate change, many other factors relating to social and economic motivations are also prevalent such as furthering education, better work opportunities and receiving medical treatment (Milan, 2016). While climate change may exacerbate the need to migrate, only 8 per cent of participants in a recent study of migrants from Tuvalu cited climate stressors as a reason for their migration (Oakes, 2017). Tuvaluans are well familiar with barriers and opportunities for accessing resources outside of Tuvalu, especially in neighbouring countries such as Fiji, Australia, and New Zealand. Internal displacement may put a strain on both the physical infrastructure and the social systems of schools in the city of Funafuti, as people from more remote outer islands with fewer resources to cope with the effects of climate change move to the capital. Additional urbanization of the capital will further environmental stresses (Milan, 2016). However, it is critical to note this is more associated with urbanization than displacement due to climate change per se.

Indeed, Farbotko and Lazrus (2012) caution that Tuvaluans are being appropriated by 'western' narratives of a 'climate change migration crisis' without regard for their cultural context and agency, with migration being a long part of their history. Pacific Island diplomatic missions and activists have long resisted the media labelling them 'climate refugees' as they do not wish to leave their home, they are asking developed countries to limit greenhouse gas emissions which are destroying their homelands. By labelling Pacific Islanders 'refugees' the prestige press in nations like Australia, the United Kingdom, and the United States subtly place the onus of imposition onto Pacific Islanders as opposed to the citizens of their own highly industrialized countries (McNamara, 2009). It is important here to disentangle moral panic from major media narratives about migration, immigration, and/or refugees with the very real threat of climate change faced by the people of Tuvalu and other Pacific Island nations. Burch (2021) challenges the notion that accurate profiles of Pacific Island migrants can be found at all in the Australian press, and notes more accurate information about the actual challenges facing citizens in Fiji and Tuvalu in regard to climate change can be found through analysis of these citizens' social media posts as opposed to foreign journalistic narratives. Indeed, it seems that much of the academic research and reporting in regard to climate change migration in the Pacific Island community is more accurately described as model-based and predictive than an actual stock-taking exercise.

While most Tuvaluan households have stated they were already experiencing the impacts of climate change, and the majority of Tuvaluan households say they will migrate internationally if climate impacts worsen to a significant degree, it should be stressed that this willingness to migrate and understanding of the situation does not mean there is currently an influx of Tuvaluans migrating due to climate change (Oakes, 2017). This situation is complicated by the fact that climate change can prompt mobility via slow onset or sudden disaster. For example, a household in Tuvalu may be willing to stay in its current location in the context of slow onset climate change such as sea level rise, but may have to rapidly rethink this option in the face of a sudden storm surge or severe damage from a typhoon (Marino, 2015). Oakes (2019) also highlights that culture, in particular how Islanders relate to land, can influence decision-making, which can, in turn, promote or hinder mobility.

Men and women appear to migrate out of Tuvalu in approximately equal numbers, but to different locations, with the majority of women migrating to Fiji while the majority of men to go other countries in the Asia-Pacific region, including Australia and New Zealand (Milan, et al. 2016). For international migration destinations, 63 per cent of migrants from Tuvalu go to Fiji, while 16 per cent go to New Zealand. The remaining 21 per cent migrate to other countries in the Asia-Pacific region (Oakes, 2017).

Migrant households (households where at least one family member is overseas) are actually less vulnerable to climate change than non-migrant households, likely due to remittances giving more resources for adaptation (Milan, 2016). While the concept of climate migrants or climate refugees is often linked narratively to Tuvalu, there appear to be few migrants from the nation claiming climate change is their primary purpose for migration. Very little demographic information seems to be available about Tuvalu's migrants in general or about migrants leaving the country due to climate change in particular – at least not directly. While climate change is a motivating factor for some migrants, it appears to be less so than migrating for education, work, medical care, or other reasons (Oakes, 2017). More research is needed to determine the characteristics and specific motivations for Tuvaluans migrating due to climate change.

When it comes to climate change displacement (CCD) within the context of Tuvalu, three scenarios are typically discussed in both the academic literature and the news media: 1) slow onset out-migration from Tuvalu due to sea-level rise, coastal erosion, and salinity intrusion into aquifers caused by climate change; 2) sudden out-migration from Tuvalu, due to rapid onset of climate change such as flooding, storm surges, and severe cyclones; and/or, 3) continued out-migration (both seasonal and permanent) from Tuvalu, but for reasons not directly related to climate change (including economic opportunities, education opportunities, better access to medical care, etc.). These three scenarios are relevant not only to Tuvalu but to many low-lying islands and coastal areas in the Asia-Pacific region where there are limited or no options for internal migration within a given country. If an island community decides displacement or evacuation is the best option, the timing of the migration is critical. While policy-makers often want migration to occur gradually with a long-term plan, it may be necessary (and easier to convince people) to evacuate after a major disaster. The major disadvantage to long-term planning in this scenario is that an extreme event could strike at any time (Kelman, 2008).

⮑ Internal migration and displacement: urbanization

The minuscule landmass of Tuvalu's nine islands makes internal migration away from coastal areas an unrealistic long-term option for the country's resident population in response to rising sea levels and coastal erosion. Nonetheless, internal migration remains common within Tuvalu due to urbanization, especially migration into the nation's already densely populated capital of Funafuti. It is expected that this high rate of internal migration into the capital will create additional challenges without significant economic development and associated employment opportunities for internal migrants (Curtain, 2019). Within the Pacific Island nation of Kiribati, some islands have already become overcrowded due to migration form outer islands, creating social tensions and health hazards (Salem, 2020). Tuvalu's urban population has grown from 15 per cent in 1960 to 63 per cent in 2019 (United Nations Population Division, 2019), and while this increasing rate of urbanization has brought greater access to services and infrastructure, it has not offered enough livelihood opportunities for the residents' population since the early 2000s, leaving many Tuvaluans to look for employment overseas (ADB, 2003).

⮑ Temporary and seasonal migration

While migration out of Tuvalu is often framed as permanent in contemporary narratives on climate change, many Tuvaluans continue to engage in temporary seasonal migration for economic and workforce training opportunities in other countries. Indeed, 15 per cent of adults in Tuvalu surveyed have worked internationally (Oakes, 2017). Many of these workers end up working on overseas fishing vessels or participating in programmes such as New Zealand's Recognized Seasonal Employer (RSE) scheme. Launched in 2007, the RSE permits workers from certain Pacific Island countries (including Tuvalu) to reside in New Zealand and work in the agricultural sector should there be a shortage of needed domestic workers. Current regulations stipulate that participants in the RSE scheme from Tuvalu may reside in New Zealand for up to nine months in a given eleven-month period (Immigration New Zealand, 2021).

Australia launched a similar Seasonal Worker Programme (SWP) in 2008 modelled after New Zealand's RSE scheme. Like their New Zealand counterparts, the Government of Australia implemented this programme to fill seasonal labour gaps in their agricultural industry by

providing workers from Pacific Island countries the opportunity to temporarily migrate, work, and send remittances back home. These remittances are often used to provide education for remaining family members, among other things, while the seasonal worker also gains valuable vocational skills (Pacific Labour Scheme, 2021). While New Zealand's RSE experienced widespread success and subsequent expansion over the last decade, Australia's SWP has had a slower start, and factors constraining demand for overseas labour had to be reassessed in 2015 (Doyle, 2015).

➲ International migration and displacement

As sea levels continue to rise and subsequently Tuvalu's islands continue to sink, many Tuvaluans are facing the prospect of permanent international migration to surrounding Pacific countries within their lifetimes. Currently, those people who are displaced internationally by climate change are not entitled to the same legal standing as refugees fleeing from conflict according to the United Nations, or any other regional or bilateral agreement. In 2014, New Zealand recognized a family from Tuvalu displaced by climate change as 'climate refugees' in a single court case. However, this single case has not prompted serious policy reform or the revising of migration quotas within New Zealand to create a formal migration pathway for people displaced by climate change (Stanley, 2021). Indeed, Wilcox (2021) notes that many scholars and activists examining migration issues appear rather ambivalent to those displaced by climate change, continuing to focus time, energy, and resources on those displaced by conflict.

Taking into account that an impending mass migration due to the effects of climate change may be imminent in the Pacific region, New Zealand has begun implementing a multilateral, regional cooperation scheme in the form of the Pacific Access Category visa. Launched in 2002, this visa programme provides the opportunity for indefinite, permanent migration to New Zealand to work, live, and study for residents of the countries of Kiribati, Tuvalu, Tonga, and Fiji – some of the Pacific Island countries most vulnerable to climate change hazards. However, there are quantitative and qualitative limitations on who can migrate via this visa: only seventy-five Tuvaluans are accepted each year; they must be able to read, write, and speak English; and they must have a job offer with sufficient remuneration in New Zealand (Immigration New Zealand, 2021).

Migration for any reason often requires substantial resources – often leaving those in the lowest socio-economic class and/or unskilled workers little chance to migrate, and therefore forcing them to remain a trapped or stranded population. While the demand to migrate internationally from Tuvalu may be rising, the opportunities to do so are not,, and migration is not viewed as aspirational or desirable by most of Tuvaluans. Data from one UN survey suggests that only one in four families see migration as a positive adaptation strategy in response to climate change (Curtain, 2019).

Another critical decision facing displaced island communities is where to go to create a new community. There are usually two options: abandon (part of) their identity and integrate elsewhere or re-create the existing community through resettlement. Countries that are usually suggested as resettlement options for low-lying Pacific islands countries include Australia, New Zealand, the Philippines, the Solomon Islands, Fiji, Vanuatu, the United States, and Japan. However, resettlement may require another country to cede territory and/or sovereignty. Issues to consider include joint access to an area's resources (such as in Svalbard), the level of autonomy

involving parallel and/or complementary legal and judicial systems (such as in Canada and New Zealand), and the level of autonomy involving parallel currency systems (Kelman, 2008).

Pacific Island states such as the Marshall Islands, Micronesia, and Palau have a Compact of Free Association with the United States which allows residency status in the United States to citizens of these nations and subsequently access to public school programmes. Tuvalu has no such agreement with any other country, only Pacific Season Worker Programmes in countries such as Australia, which facilitate temporary work permits for adults, but do not allow for access to public education and training within the country for visa holders and/or their families members (Constable, 2017).

Barriers to education and lifelong learning in the context of climate displacement

⮞ Policy and legislation barriers

While policy and/or legislation barriers impacting access to education and lifelong learning for persons internally displaced due to climate change within Tuvalu are negligible, the same cannot be said for international migrants. As stated in previous sections, the type of work visas afforded migrants from Tuvalu to neighbouring Pacific nations are strictly for working adults and in most cases do not allow access to a host nation's educational systems for either workers or their family members. While New Zealand's Pacific Access Category visa does allow for access to the country's education system for migrants from Tuvalu and their families, the visa's strict quota system and requirement for a pre-existing job offer makes accessing this visa and the right to education it entails difficult for many migrant families.

Additionally, laws and policies in destination countries that exclude non-citizens from accessing national education systems could potentially impact climate displaced persons who lack legal ways to migrate internationally, as they are not recognized as refugees under the 1951 Refugee Convention. Indeed, without the option for a regular legal status, international climate migrants may avoid enrolment in national education systems for fear of discovery and deportation (OHCHR, 2014), especially when immigration authorities use harsh enforcement practices such as detention centres. This may be true for any international climate migrants, not just those from small island states such as Tuvalu.

⮞ Institutional barriers

While Tuvalu's school system remains in operation across all of its districts, the increasing urbanization in Funafuti will continue to put a stress on the entire physical infrastructure within the capital, including school and other educational facilities. While previous sections highlighted that movement to the capital occurs for many reasons among internally displaced people, climate change is one of these factors. As Juswanto (2019) points out, rapid urbanization throughout Pacific Island countries will require massive investment to make infrastructure resilient to climate change, and educational infrastructure will be no exception to this. Indeed, the biggest institutional barrier for learners is more a result of urbanization than migration due to climate change, as there is simply not much land left in Funafuti under current zoning laws that allow for the creation of additional school buildings (Neaki, 2022).

Maintaining the quality and safety of school buildings in the face of climate change may present an institutional barrier as the impact of climate change continues to take its toll on the country, and donor priorities change in the aftermath of the COVID-19 pandemic. However, all school infrastructures across all of the islands has been recently upgraded so that school buildings within the country serve as evacuation centres during typhoons, flooding, and other emergencies. While this means that resiliency of existing infrastructure is already built to withstand the worst impacts of climate change, the fact that schools themselves serve as evacuation centres may be a barrier to education. This is because learners may be displaced during the aftermath of extreme weather events as the school building serves as a shelter for those in the surrounding community who have lost housing (Neaki, 2022).

In addition to building infrastructure, under-developed ICT infrastructure within many Pacific Island countries continues to greatly contribute to digital inequalities, which are translated into educational inequalities (Szoszkiewicz, 2020). While little research has been done to date on digital literacy in Pacific Island countries, some studies have shown its growing importance, especially in higher education within the region (Reddy, 2021). However, poor access to hardware and robust Wi-Fi networks within the region persists, and this may become a greater barrier to education and training as more and more content is moved to online facilitation following the COVID-19 pandemic. While Wi-Fi access in Tuvalu has improved due to interventions implemented during the COVID-19 pandemic, access to consistent Wi-Fi remains an ongoing challenge, especially for teachers who must remain connected throughout a school day, while students are often allowed periods of offline work (Neaki, 2022).

➲ Perceived barriers

As the vast majority of Tuvaluans are fluent in Tuvaluan and English, language barriers are not perceived as being a barrier for internally displaced people, or for those who may be internationally displaced and gain access to school systems in neighbouring Pacific countries such as Australia, Fiji, or New Zealand, where English is also spoken widely.

What is less apparent is how cultural attachments to land may interact with access to educational opportunities should any educational opportunities that are provided be far away and/or within a different cultural context. As stated previously, the majority of Tuvaluans do not wish leave their homelands or adapt to another culture. Indeed, most Tuvaluans appear to want to remain on their island homes for as long as possible, often planning to return after receiving education or training elsewhere (McMichael, 2021). Should education and training opportunities be made available domestically or internationally, this is not necessarily indicative that migration will be more attractive. Social and cultural attachment to place may present unanticipated barriers to accessing education.

➲ Interactions of multiple barriers

While the previously mentioned barriers may interact in a multitude of ways, several scenarios seem more likely to compound the impact of multiple barriers on the rights of Tuvaluans to education and lifelong learning. For example, if ICT infrastructure develops only in the capital region, as many physical infrastructure projects have, geographic barriers to education and training opportunities will likely increase for those citizens living in more rural areas and remote islands. While school buildings themselves are in good shape with regards to infrastructure for

remote island communities, if other physical infrastructure is not similarly improved, the lack of access to other necessities may cause a lack of access to education.

Visa programmes such as New Zealand's Pacific Access Category visa may interact with demographic and economic factors and may prove to be significant barriers for some households in both migration and accessing education, as the principal applicant for this visa must be between 18–45, and meet a minimum income requirement if they have dependents (Immigration New Zealand, 2021). These parameters may disadvantage certain types of households, such as those headed by grandparents or low-income families. Furthermore, strict visas that discourage family migration may limit on the job training opportunities available within destination countries for those who do not wish to be apart from families or loved ones. In addition, harsh immigration laws may actively discourage accessing education and training opportunities, or indeed migrating at all, even when legal means are available. In addition, mobility schemes that allow one family member to migrate may increase the childcare burden on remaining family members within Tuvalu, meaning access to education for both adults and children may be impacted (Neaki, 2022).

Policy responses and sectoral interventions

⮎ International level

Tuvalu has successfully built and maintained relationships with a number of international development partners to address the threats of climate change as well as continuing to improve the country's formal education system. Tuvalu continues to work closely with partner nations from the Tuvalu Trust Fund (TTF) on a number of initiatives relating to climate change as well as building the capacity of the education and training sector. Australia's development partnership with Tuvalu has allocated 8.4 million AUD for the 2021–2022 fiscal year. While much of this funding is allocated for human health and economic recovery in the context of the COVID-19 pandemic, 1.25 million AUD per year is targeted at the Building Education Support Programme, which focuses on training teachers, improving school management, and continuing to improve student literacy levels. This is an addition to the Funafuti Classroom Building Project which provided a 4.1 million AUD grant to expand and improve school building infrastructure in the capital, easing overcrowding and making the school buildings more resilient to cyclones. Australia has also provided funding for Tuvalu's Climate Change and Disaster Coordination Unit in the Office of the Prime Minister in order to better access global climate finance as well as to build capacity of the government to meet its commitments under the Paris Treaty (Department of Foreign Affairs and Trade – Australia, 2021b).

New Zealand has also committed to a development partnership with Tuvalu, with a greater focus on building resilience to the impacts of climate change, especially in regards to public utilities and services. Furthermore, New Zealand has committed to improving training for qualification standards and vocational pathways during 2019–2021 in the hopes this will lead to increased employment opportunities. However, there appears to be little overlap in the field of climate resilience and training among existing initiatives (Ministry of Foreign Affairs and Trade – New Zealand, 2018). Most of Japan's development aid to Tuvalu has been in the form of technology such as desalinization units. However, Japan's Ministry of Education, Culture, Sports, Science, and

Technology (MEXT) offers three forms of scholarships to students from Tuvalu – undergraduate, postgraduate, and specialized training programmes (Ministry of Education, Culture, Sports, Science, and Technology – Japan, 2021). Tuvalu maintains strong relations to Republic of Korea as well, with Republic of Korea historically providing disaster relief in the form of fresh water during prolonged droughts (Ministry of Foreign Affairs – Republic of Korea, 2011).

Continued cooperation with Australia and New Zealand has meant that Tuvalu's core educational competencies have been able to develop in parallel with those found in these nations, meaning that students in Tuvalu have the curricular building blocks to adapt to the schooling in other countries, though there is no clear legal immigration pathway for doing so in most cases. Parallel curricular competencies with Australia and New Zealand that allow for learner mobility, is the end goal for many of the Ministry of Education, Youth, and Sports' curricular reforms. While this has not yet been achieved yet, this is considered a top priority by the education sector (Neaki, 2022). Furthermore, higher education scholarships continue to be offered to Tuvaluans through programmes implemented by Australia, Japan, and New Zealand. Programmes like the Australian Awards Scholarship (AAS) have expanded the type of education Tuvaluans can access abroad (Department of Foreign Affairs and Trade – Australia, 2021a).

⮌ National level

On the national stage, Tuvalu's government has launched its Future Now Project as of October, 2021. This initiative by the country's Ministry of Justice, Communication, and Foreign Affairs is taking a proactive stance on what to do in a worst-case scenario under climate change – total submergence of the islands' land area by sea level rise. Under this initiative, Tuvalu has begun focusing on bilateral relations that recognize Tuvalu's statehood and maritime borders as permanent. Under this scheme, Tuvalu will be able to keep sovereignty over its governmental systems, including its education systems. To aid this effort, the project proposes building a digital nation so that administrative functions of the state can be carried out if the government has to move to another location, be it temporary or permanent (Kofe, 2021). This may mean virtual classrooms for students in Tuvalu's education system in such a scenario, in addition to public awareness and communications initiatives relying on access to Wi-Fi and smart devices.

⮌ Institutional level

While sustainability, and consequently climate change, will likely remain a priority area in education planning and policy with Tuvalu moving forward, how this will manifest itself at the institutional level in Tuvalu's Education Department remains unclear. The Education Sector Plan III ended at the end of 2020, and with the advent of the COVID-19 pandemic and most time and resources focused on transitioning to online and distance learning, new long-term policies and plans within education have been temporarily put on hold. However, contingency plans for education have been laid out in Tuvalu's Talaaliki Plan, which outlines the nation's national emergency measures in response to COVID-19 and other disruptions. Under the Talaaliki Plan, in a state of prolonged emergency, responsibility for education is broadened beyond the Ministry of Education, and partially devolved to families and island communities. This contingency plan has ignited renewed interest in indigenous knowledge among youth, especially in relation to food production techniques (Kitara, 2020). This renewed attention to indigenous knowledge and resilient agricultural practices may help inform new long term education plans, not only for youth, but for adult community members as well.

➲ Classroom level

Detailed information on how individual classrooms engage with access to education in the context of climate change remains limited. While Funafuti classrooms have been overcrowded in recent years, to what degree urbanization within the country is due to climate change as compared to other factors remains ambiguous. The Funafuti Classroom Building Project has sought to make classroom infrastructures able to accommodate more students in addition to offering more protection in the case of extreme weather events (Department of Foreign Affairs and Trade – Australia, 2021b). As mentioned in previous sections, capacity-building for classroom teachers remains a high priority for development partners, though to what extent that will engage with training on how to work with climate change displaced students and other climate curricula content remains to be seen.

➲ Community level

Australian NGO Live & Learn: Environmental Education have used learning as a component of community development projects in relation to food security approaches, agricultural knowledge and technology, ecosystem protection, and adaptation planning. While teaching and learning on climate change has been a predominant theme in many of these projects, no clear project or platform is currently being implemented that targets climate change displaced persons in particular (Live & Learn: Environmental Education, 2021). While Tuvalu did have community training centres patterned after those found in Japan and Republic of Korea, these proved unpopular with the populace and all closed down by the early 1990s (Rowe, 1994). Since that time, education initiatives – including those implemented with international partners – have largely focused on formal education systems, including vocational training as elaborated on in previous sections. This means that there may not be a platform for reaching those persons displaced from climate change if they are not enrolled in some formal education programme within the country.

Conclusion and policy recommendations

Tuvalu has continuously worked to respond to climate change and grow the inclusivity of its education sector during the last several decades of its development initiatives. The question the nation now faces is can these two issues be addressed in tandem, so that future education policy and planning does not just address climate change, but the people who may be displaced because of it as well? A fundamental reality that Tuvalu and its development partners must contend with is that there is no clear line between what climate change displacement is and what is simply human mobility that has long characterized the people of the Pacific. However, while this line may remain blurry, especially in the media narratives of other countries, Tuvalu can be advised to take the following recommendations into consideration to ensure that its educational systems remain accessible and intact in the face of climate change.

While the majority of Tuvaluans do not wish to permanently relocate, the following recommendations can help facilitate continued access to education in the face of either temporary or permanent displacement due to climate change. By taking proactive measures now, the government of Tuvalu and its development partners can work to ensure education

systems and opportunities will continue with minimal disruption, even in a worst-case scenario. Maintaining sovereignty in the face of sinking or even submerged islands will necessitate an education system that can remain accessible and relevant for a population that already has a long history of migration and mobility.

⮩ Recommendation 1: Ensure that the Future Now project explicitly addresses the continuation of and access to the nation's education system as the state seeks to maintain sovereignty in the event of temporary or permanent displacement from its island territories

While early discussion of this initiative has focused on how Tuvalu can operate as a digital state for administrative functions such as pension payment and voting, priority should also be given to the smooth functioning of the nation's formal education system, including early childhood education, primary, secondary, vocational, and higher education tracts. While the design of curriculum to parallel competencies found in Australian and New Zealand school systems can continue for temporary and/or emergency migration scenarios for learners, Tuvalu should seek to maintain sovereignty over its own education system. In such a digital state scenario, it should be noted that while online tools can complement learning strategies in this contingency, no plan should ever completely replace in person and/or classroom learning, even in the event of displacement.

⮩ Recommendation 2: Introduce education and training programmes into development project implementation with international development partners (including Tuvalu Trust Fund participants such as Australia, Japan, New Zealand, and Republic of Korea)

Infrastructure projects for buildings, utilities, and sea walls should include training domestic workforces on building, maintenance, and adaptation of infrastructure under specific sea level rise, increased storm intensity, and drought scenarios. This should be made a special priority for infrastructure projects in the capital of Funa'futi, where principles of sustainable urban design and operation should be taught to both policy-makers, construction teams, and the general public through a mixture of formal and non-formal education programmes as the population continues to urbanize and urban density increases.

⮩ Recommendation 3: Explicitly include provisions for education and training opportunities for Tuvaluans and their family members within destination countries for any bilateral or multilateral arrangements that allow for mobility and migration – be it temporary or permanent

By accessing the education and training programmes in countries where many Tuvaluans are already working, Tuvaluan households can build capacity for resilience and learn critical skills needed in the event of displacement due to climate change – whether temporary or permanent. By expanding education access to workers' family members, families can remain together if they so choose with little burden placed on the school systems and training programmes of destination counties. While Tuvalu should seek to maintain sovereignty over its educational system, harmonization with Australia and New Zealand's school curriculums should continue in the event that international migration (temporary or permanent) becomes necessary for some learners.

⮐ Recommendation 4: Continue to develop teaching materials and pedagogies within the country's education system that can be employed during times of disruption, while ensuring learners' socialization needs are met in the case of online or distance learning

The COVID-19 pandemic has created the necessity for new learning modalities, and Tuvalu's education system has responded well with the Talaaliki Plan. Contingency plans for delegating education to communities and holding classes outside have been effective and engaging in the short term. Attention should now turn to how educational materials and interaction within education could be developed in the case of long-term disruption, paying attention to the needs of learners to interact with each other and their instructors outside of online platforms.

Author: Philip Vaughter
Contributors (alphabetical order): Neaki Letia, Robert Oakes, Bernadettah Zimba

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Annex H

Summary report of Viet Nam case study

Viet Nam is one of the most disaster-prone countries in the world, with about 71 per cent of the population and 59 per cent of the land area are exposed to natural hazards. Floods and storms are the most destructive occurrences, causing the highest number of fatalities and new displacements each year. As the effects of global climate change are expected to be more frequent and intense, the forms and scales of climate-induced migration and disaster displacements are likely to increase dramatically. Setting out policies and mechanism to protect the rights of climate migrants and displaced persons is thus an urgent and vital task.

As a part of UNESCO's global initiative on 'Climate Change, Displacement and the Right to Education', this country case focuses on the learning barriers vis-à-vis displacement in Viet Nam. The goal is to improve the preparedness of Member States to ensure the inclusion of all displaced persons in quality education. To this end, this study seeks to address the question: To what extent does climate change, particularly climate displacement, threaten the right to education in Viet Nam, and how to overcome existing barriers? Data were collected from multiple sources: (1) an extensive review of journal articles and published reports; (2) an analysis of policy documents; (3) survey responses from twenty-five teachers across four provinces in the Mekong Delta River region; and (4) three key informant interviews.

This report is composed of four parts. It begins with an overview of climate change impacts and displacement scenarios in Viet Nam. The subsequent section presents the main findings across the scenarios where existing barriers to education in the context of climate displacement are identified. The discussion is then turned to policy frameworks and action relevant to the right to education, disaster risk reduction, and climate change adaptation, as we found no measures directly designed to address the right to education for 'climate displaced persons (CDPs)'[17] to date. Drawing on these, evidence-informed recommendations are outlined for future policy, education, research, and advocacy endeavors.

Contextual background, climate risks, and displacement in Viet Nam

Overview of education system

➲ The universalization of compulsory primary education

In Viet Nam, the State guarantees free and compulsory primary education, and aims to gradually universalize secondary education. Its education system is divided into five levels: (1) early childhood care and education, (2) primary education for children from age six to ten, (3) lower secondary for grades six to nine and upper secondary level, (4) tertiary education, and (5) continuing education and lifelong learning programmes for working adults and out-of-school children aged eleven to twenty-one. Over the past two decades, Viet Nam has advanced considerably in education, with almost full enrolment rates at the primary level and the lower secondary level (UNESCO, 2017). The universalization of compulsory primary education contributed to growing literacy rates – 95 per cent for adults older than fifteen in 2018 (World Bank, 2021).

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17 The study adopts UNESCO's (2020) framing of climate displacement which 'covers all forms of human movement', whether temporary or permanent, whether internal or cross-border, and whether voluntary to some extent, or forced. Based on this concept, the term 'climate displaced persons (CDPs)' is used to refer to those "who move for reasons relating to climate change" (ibid.).

Table 1: Enrolment rates of general education in Viet Nam

School Year	ECCE (Gross Enrolment Rate)[a]		Primary (Net Enrolment Rate)[b]		Lower secondary (Net Enrolment Rate)[b]	
	2009	2019	2009	2019	2009	2019
Total (%)	69.4	95.9	95.5	98.0	82.6	89.2
Female (%)	68.7	97.1	95.4	98.1	83.9	90.2
Male (%)	70.0	94.8	95.5	97.0	81.4	88.2

Data sources: [a]World Bank, n.d. Accessed August 2021. [b]The 2009 Population and Housing Census of Viet Nam and the 2019 Population and Housing Census of Viet Nam

⊃ Gender equality in education

Viet Nam's achievement of advancing gender equity in education is worth noting. Although female students used to have lower participation rates than those of their male counterparts at all education levels, reverse gender gaps have become more noticeable in the past few years. The gap in literacy rates between males and females has narrowed, representing 2.4 percentage points in 2019 which is down by seven percentage points in 1999. From 2004 onward, the number of female students enrolled in upper secondary level has caught up with and exceeded the number of male students (Dang and Glewwe, 2018). Girls also demonstrate greater academic aspirations and performance, as well as higher completion rates and transition rates to higher education (Mergoupis, et al.; Rolleston and Iyer, 2019).

⊃ Remaining challenges in education

Despite the government's concerted efforts to provide inclusive and equitable education for all, ethnic minorities, children with disabilities, and students reside in rural areas continue to face very specific obstacles. While ethnic, socio-economic, and urban-rural disparities persist at all education level, regional gaps tend to be the largest across various assessments (GSO, 2019). The Red River Delta region generally enjoys better performance than other regions, including the highest literacy rate (98.9%), the highest secondary enrolment rates, the lowest drop-out rate at primary and secondary levels, as well as having more students meeting the national academic standards. The Mekong River Delta region, on the other hand, tends to display the lowest gross enrolment rate and the highest drop-out rate in both primary and secondary education (Kataoka, et al. 2020). The lower value placed on education, coupled with higher opportunity costs caused by the availability of work even for young children, are also factors causing low enrolment in the region. As the impacts of climate change and climate-related hazards are affecting each region differently, investments and interventions that consider the unique education needs of pupils and adults from different communities in specific regions can help policymakers and national authorities to decrease vulnerability and thus properly address the right to education for all.

Overview of climate change impacts

⮞ Floods

Viet Nam is highly exposed to flooding risks, ranked first with Bangladesh. About 95 per cent of the new displacements each year (about one million people) are related to flooding (IDMC, 2021). Floods occur mostly close to the main rivers and deltas (i.e. Mekong River Delta and Red River Delta regions) where population density is very high. Although many households have learned to live with the flood, the sharp increase in the frequency of severe floods over the past decades has extremely negative consequences. Flooding causes substantial and often repeated damage to housing, infrastructure, agriculture, and fisheries, and hinders CDPs' capacity to develop and move beyond poverty (Entzinger and Scholten, 2015).

⮞ Tropical storms and typhoons

Due to its long coastline and location in the tropical monsoon belt of South-East Asia, Viet Nam is one of the countries most affected by tropical storms and typhoons. In 2020, for example, the central region was hit by seven consecutive tropical storms and cyclones within over a period of six weeks. They brought sustained heavy rain resulting in devastating landslides and cascading floods. In all, 243 people were reported dead or missing, 7.7 million people were affected including 2.5 million children, and 862 schools were damaged (UNICEF Viet Nam, 2021). Climate change is expected to interact with cyclone hazard in complex ways. Not only do typhoons induce storm surges, strong winds and waves, and even tornadoes, they also lead to the collapse of sea dikes, and hence often resulting in saltwater intrusion, the contamination of freshwater aquifers near the coast and the destruction of crops fields, making farmland unusable (Thao, et al. 2014). Thus, the consequences of tropical storms and cyclones can be truly devastating.

⮞ Extreme drought

Extreme drought is a recurrent hazard affecting all parts of Viet Nam and is projected to take place more often and for longer periods under all emissions pathways (UNDRR and ADPC, 2020). Droughts have also been linked to malnutrition and stunting of children, as well as to lack of or unsafe drinking water, with longer-term impacts on health, hygiene, and sanitation (UNESCAP and ASEAN, 2019). The impact of drought is particularly acute for farmers. During the most severe drought in ninety years in 2016, about two million people were affected to varying degrees (UNCT Viet Nam, 2016). One of the hardest hit regions was the Central Highlands, which is already the lowest income area in the country. The drought caused a loss of 60 per cent of crop production for every farmer that year. This is an example of how existing inequality can cause the disadvantaged groups to suffer disproportionately from the adverse effects of climate change, resulting in greater subsequent inequality within the country (Islam and Winkel, 2017).

⮞ Sea-level rise

A study by the ADB (2013) predicted that, by 2030, rising sea levels in Viet Nam's delta regions would expose 45 per cent of the land to high salinity levels and crop damage, with rice productivity falling by 9 per cent. For these reasons, climate change is estimated to reduce Viet Nam's national income by up to 3.5 per cent by 2050 (Arndt, et al. 2015). These events may either serve to exacerbate existing climate risks and/or generate new ones, which are likely to result in more population displacement and negatively affect people's rights and well-being in the coming years.

Displacement scenarios and vulnerable groups

⮑ Seasonal migration

Seasonal migrants are those who leave temporarily to seek alternative livelihoods during periods of slow agricultural production, while still being a household member and registered as the resident of the originating commune. Seasonal migration from rural to urban areas is a common strategy to improve the living standards of households relying on agricultural livelihoods in Viet Nam (Anh, et al. 2016; Huy and Khoi, 2011; Phan, 2012). Data from the 1990's survey show that seasonal migrants were largely young, well-educated men and migrated away for about 4.6 months out of the year (de Brauw and Harigaya, 2007). Over one-third of seasonal migrants in the 1998 survey reported going to either Hanoi or Ho Chi Minh City (de Brauw and Harigaya, 2007). While more recent country-wide statistics are needed to understand the characteristics and living conditions of seasonal migrants, climatic shocks are shifting internal migration in the Mekong Delta from a seasonal occurrence to a more permanent phenomenon.

⮑ Spontaneous migration with regards to urbanization

Spontaneous migration refers to individuals or households who make the choice to permanently leave their originating communes, as opposed to migrating as part of government's planned resettlement. Recent studies show a growing number of internal migrants resettle due to climate change – either directly by destroying one's home and rendering the area uninhabitable, or indirectly by destroying agricultural land and one's access to its economic opportunities (Nguyen and Grote, 2015; Kim and Minh, 2017; UNICEF, 2021). In the Greater Mekong Sub-region, the degradation of water and soil quality is found to be a push factor (ADB, 2013). Extreme hot weather and desertification damaged plants and crops and negatively affected people's health. These slow-onset processes, coupled with recurring floods in the Mekong Delta, are driving more CDPs towards Ho Chi Minh City to look for work each year (Entzinger and Scholten, 2015). Recurring hazards and major disasters can drive CDPs' decision to migrate and, in some cases, even force CDPs to give up on their home and resettle somewhere else. Many of them choose a migrant route to urban areas in a hope for better economic opportunity. However, migrants with lower socio-economic status, limited family network, and/or lower education levels often find themselves in sprawling slums or city outskirt industrial areas with little access to public services, safe housing, electricity, food, and freshwater.

⮑ Government's planned relocation

Migration can be an adaptation strategy, particularly if it is supported by policy action (IOM, 2017). In Viet Nam, government-planned resettlement programmes have been instrumental in decreasing the exposure and vulnerability of populations at risk. Relocated persons are entitled to a certificate that guarantees their access to land and loans to rebuild their lives. Living conditions in resettled areas are often reported to be better with more accessible public services, such as clean water, electricity, healthcare, and education (Collins, et al. 2017). However, studies show that the education rights of girls and women tend to be overlooked in the relocated communities. The 2020 household surveys on the resettled population in Ca Mau and Kien Giang provinces revealed that women are generally less educated than men. Given that men are better educated, they tend to be the main source of income for families, resulting in a high economic dependency of women on men and low capacities to cope with climate-related risks. Moreover,

women have less opportunity to access information and extension services compared to men. Community meetings and participation in the local People's Council are mostly male dominated, except for those organized by Women's Union, because attending public meetings is seen as a man's task. This means that women's perspectives can be easily overlooked in policy-making.

⮕ Disaster displacement

Rapid-onset events such as tropical cyclones, storms, and floods tend to result in temporary displacement. IDMC estimated a total of 1,267,000 people living in internal displacement due to weather-related disasters in Viet Nam in 2020. The consecutive tropical storms and cyclones that hit Viet Nam between 6 October to 17 November in 2020 forced 1.3 million people to flee their homes, which is one of the highest figures that IDMC has recorded for Viet Nam since 2008 (Benet, 2021). Local and central governments mostly have the capacity to respond in a timely manner to the disaster by providing direct support and relief, search, and rescue (UN in Viet Nam, 2014). Displaced persons reside in shelters for the time necessary. However, reconstruction is largely undertaken by local people, with the support of NGOs and international organizations. Many schools and households rely on international donations to recover their lost and reconstruct necessary facilities for students to return to school safely. As a result, students' learning is often disrupted for weeks because learning materials, classroom, and/or infrastructure (e.g. roads, electricity) are destroyed. The subsequent section will elaborate on this finding.

Barriers to education in the context of climate displacement

Policy barriers

⮕ Residential status

The *ho khau* system (household registration system) is intended to be tied to place of residence and to provide access to social services such as housing, schooling and health care in that location. Although the rules of the system have been relaxed significantly since the 1990s, their impacts on CDPs remain poorly understood. For example, Kataoka and colleagues (2020) found that, due to their residential situation, migrant children are 1.3 times more likely to be out of school at age five, 1.8 times more at primary school age, and 2.4 times more at lower secondary age when compared with non-migrant children. Prime Minister Nguyễn Xuân Phúc thus called on Ministry of Education and Training (MOET) to ensure migrants' access to general education as well as advanced job training (*Viet Nam News*, April, 2021).

⮕ Education-related expenses

Although free tuition is guaranteed for primary education in Viet Nam, the costs of transport, uniforms, textbooks, and learning materials can be too much to bear for low-income and/or migrant families. Studies on the resettlement programmes show that many households still need to borrow money because government's subsidization was not enough to help them stabilize their lives in the new place, such as housing completion costs and livelihood investment. These costs often compete with their children's education-related expenses. As a result, many children are kept out of the classroom or even drop out to start earning an income for the family (IOM, 2017; Nguyen, 2020; UN in Viet Nam, 2014).

Structural barriers

⮑ Spatial poverty traps and ethnicity

In Viet Nam, most low-income households are ethnic minorities (73%) or live in remote areas (95%) (Pimhidzai, 2018). This is despite years of government interventions (Coxhead, et al. 2015). The Mekong River Delta region tends to display the lowest gross enrolment rate and the highest drop-out rate in primary and secondary education. Reasons for the low enrolment rate in the Mekong River Delta region include geographical challenges such as difficult transport conditions, long distances between school and home, and internal migration (Kataoka, et al. 2020). The aggregate effects of income, spatial, and ethnic inequalities are rendering these households even more vulnerable to the adverse impacts of climate change (Islam and Winkel, 2017; Tung, 2018). With climate change being projected to push 400,000 to more than a million people into poverty in Viet Nam by 2030 (Rozenberg and Hallegatte, 2016), poverty is likely be a major barrier that obstructs people's right to education.

⮑ Gender-related risks

Social constructs continue to shape the gender roles in society and can negatively impact girls and women in disadvantaged socio-economic circumstances. Household surveys on the resettled population in Ca Mau and Kien Giang provinces reveal that women shoulder most of the housework (e.g. cleaning, cooking, cleaning houses), and are mainly tasked with supervising the children's education and caring for sick family members. As a result, men have more opportunities to go to school compared to women, and the drop-out rate among women is higher than men among the relocated populations. Moreover, women farmers tend to attend far fewer classes (annual average of 25.8 classes for men versus 3 classes for women) because they are busy with housework.

⮑ Climate-sensitive health risks

Climate change is already impacting people's health in a myriad of ways in Viet Nam, including the disruption of food systems, increases in zoonosis and food-, water- and vector-borne diseases (e.g. malaria, diarrhoea, heat stress), and mental health issues (Bach and Pham, 2017; Nguyen and Le, 2021; Pham and Pham, 2017). The climate-sensitive health risks are disproportionately felt by CDPs and those with underlying health conditions. The household surveys for the Ca Mau Resettlement Action Plan (2019) reveal that the heads of economically deprived families are typically characterized as having a few years of schooling (4.4 years) and 75 per cent of them had health problems.

Institutional barriers

⮑ School closures

Damaged facilities or disrupted access to school can obstruct learning activities. Many schools also serve as emergency shelters, so students' learning may be interrupted. Rentschler and colleagues (2020) estimated that 11–22 per cent of schools in coastal provinces are exposed to intense flooding. However, given the incompleteness of the data source, this result should be interpreted as indicative.

⮱ Schools lacking resources and/or capacity

Spontaneous migration is increasing pressure on the public education system in urban areas, and facilities and teachers are not equipped to deal with the rapid changes that urbanization has brought (van Anh, 2018; Nhựt, 2020). A high proportion of migrant children (36%) are enrolled in private schools that require migrant families to pay out-of-pocket fees for their children's education (Kataoka, et al. 2020), as the public schools in the destination areas do not have sufficient capacity to accept more students.

Perceived barriers for individuals

⮱ Missing learning materials

Our survey results showed that that 'lacking basic study materials such as textbooks and stationery' is the primary reason for the learning disruption. As the Minister of Education and Training Phung Xuan Nha described, 'it takes a long time to repair these damages. But right here, students need books to go to school, facilities need to be fixed soon to facilitate teaching and learning' (Nhat Nam, 2020). Emergency responses are thus vital in supplying students with basic learning materials, such as pencils and notebooks.

⮱ Trauma and psychosocial distress

Displacement or disruption of home, school or normal routines can have severe and long-lasting impacts on educational attainments, such as being disengaged, having difficulties completing certain tasks, being withdrawn, and being not motivated to learn (UNICEF, 2021). Indeed, our survey results reveal that most teachers (79%) identify 'having difficulties of moving on from traumatic experience' as the main barrier to learning for CDPs in their schools.

⮱ Language barrier

Language barriers have been constantly reported as a main challenge for ethnic minorities in accessing health care, education, and social services when they migrant to urban areas (UN in Viet Nam, 2014). Pentlow (2020) also reports that many migrants have little knowledge of their rights because much of the information around climate change, human rights, and gender equality exists primarily in English.

Relevant policies and national measures

Legal framework

⮱ Right to education

In Viet Nam, people's right to education is protected by the Constitution. The feature of accessibility is particularly noticeable in its inclusive education policies. According to the *Education Law* of 2019, 'Studying is a citizen's right and obligation. All citizens regardless of ethnicity, religion, creed, gender, personal characteristics, family origin, social status, economic status are equal in terms of learning opportunities' (National Assembly of Viet Nam, 2019).

⊃ 'Education for All' and SDGs

Viet Nam's *National Action Plan for the Implementation of the 2030 Sustainable Development Agenda* (Prime Minister of Viet Nam, 2017) set out a target to 'build and upgrade education facilities that are child-, disability- and gender-sensitive and provide a safe, non-violent, inclusive and effective learning environment for all' (Target 4.8). This paves a pathway to promote the right to education for CDPs although there is currently limited policy focusing on this issue.

Policy gaps and best practices at the sectoral level

⊃ The implications of the COVID-19 pandemic

The ways that MOET responded to the COVID-19 pandemic can serve as an example of how CDPs' right to education can be protected legally. The measure allows students to attend schools without the need to return to their registered residence. Remotely learning programmes via television, radio, and internet have been popularized among students who are absent from school due to the COVID-19 pandemic since 2019. MOET also issued a measure on online teaching to expand educational access opportunities for students, creating conditions for students to learn anytime, anywhere.

⊃ Key directions of the law on children's right

Children's rights are protected by several policies and official programmes in Viet Nam. One flagship document is the *Law on Children* (National Assembly of Viet Nam, 2016). Article 31, for example, states the rights of children to be protected from natural disasters, calamities, and environmental pollution, as well as their duties to protect the environment. Similarly, in the *National Action Programme for Children 2021–2030*, the government is committed to offering 'relief and timely support' for all the children experiencing natural hazards (Prime Minister of Viet Nam, 2021). However, it is currently unclear what mechanisms are developed and how they might impact the right to education for CDPs because the *National Action Programme for Children 2021–2030* only establishes a broad direction forward.

⊃ Law on natural disaster prevention and control

Viet Nam is active in developing and implementing policies and measures on disaster risk reduction (DRR). For example, the *Law on Natural Disaster Prevention and Control* (National Assembly of Viet Nam, 2013), regulates natural disaster prevention, rights and obligations of agencies, organizations, households, individuals engaged in prevention activities, disaster prevention, State management and disaster preparedness measures. Emergency support policies are specified in government decrees and plans of ministries. Depending on the degree of damages caused by natural hazards, emergency funding is allocated annually from the national budget to provinces to help stabilize people's lives, such as repairing schools. However, the involvement of education sector in these DRR efforts seems to be limited.

⊃ National strategy on climate change and adaptation plan

The Government of Viet Nam is active in developing climate change policies in accordance with several international agreements. One milestone document is the *National Strategy on Climate Change* (NSCC) that was issued in 2011. The Strategy provides the overall direction

and measures for adaptation and mitigation in Viet Nam. However, policy strategies, action, or measure to ensure the right to education for CDPs are overlooked in this key document, and the participation of education sector is marginal. The only mention of education in the NSCC is the emphasis on 'improving people's awareness, education and training on climate change' (Prime Minister of Viet Nam, 2011). Involving educational sectors in the adaptation efforts is important because the educational needs for CDPs should be placed at the centre of these planning and policy implementations.

⇨ The ASEAN Safe Schools Initiative

Since 2017, the Government of Viet Nam has adopted the *Comprehensive Safe School Framework* (CSSF) as part of the *ASEAN Safe Schools Initiative* (ASSI). The goal of ASSI is to provide direct capacity and financial support to schools in preparing for extreme weather events and becoming more resilient to the effects of climate change. A wide range of activities include constructing a safe learning environment for students, training for teachers and education staff, and raising awareness and building capacity for children on disaster risk reduction and climate change adaptation.

⇨ Other support and scholarship programmes

Viet Nam Assistance for the Handicapped (VNAH) has a 'Building Schools for Rural and Ethnic Minority Children' programme funded by USAid, Nippon Foundation (Japan), and the Government of Viet Nam. Since 2006, the programme has constructed about 140 primary schools for children in the remote, mountainous regions. Many are boarding schools with dormitories where students can receive education without the need to travel for a long distance every day. Moreover, Viet Nam Association for Promoting Education (VAPE) and provincial VAPE branches both award scholarships to students with difficult circumstances and affected by disasters every year. Some schools also offer scholarships or tuition waivers for CDPs from disaster-affected areas. Scaling up these programmes helps to protect the right to education for all CDPs.

Conclusion and recommendations

This country study focuses on the right to education of climate migrants and displaced persons in Viet Nam. Drawing on a number of data sources, four displacement scenarios are identified, namely (1) seasonal migration, (2) spontaneous migration with regards to urbanization, (3) government's planned relocation, and (4) sudden climate-induced displacement. An analysis of all the scenarios shows that climate change threatens to exacerbate the existing trends of economic migration (e.g. Hallegatte and Rozenberg, 2017). This finding underscores the vital role of education in determining one's capacity to migrate, adapt to the new conditions, and cope with increasing climate shocks.

The analysis also reveals that the impact of extreme weather on low-income, migrant households is more devastating than previously understood. Financial difficulties are found to be the primary barrier to schooling for CDPs, including those under government's resettlement programmes. Although primary and lower secondary education is tuition free in Viet Nam, many low-income, migrant families struggle with the additional expenses required for their children to attend school, such as the costs of transportation, uniforms, textbooks, learning materials, and

additional school hours. Some households are even forced to send their children to private schools, as public schools in the receiving areas lack the resources and capacity to accommodate displaced persons after sudden-onset disasters or to meet the rising demands due to the continued migration flows. This finding highlights the need to strengthen the adaptive capacity of the Vietnamese education system in response to climate change. Other challenges, such as access to transport or being linguistic minorities at school, are also reported as barriers to learning, although we note that these barriers are not exclusively encountered by CDPs, but marginalized groups in general. Drawing on these findings, several recommendations are offered for further action.

Recommendations for policy responses

⮿ Leverage existing legal frameworks to protect the education right for all

As discussed earlier, there are already some achievements on the climate change front in Viet Nam, from policy dialogues and adaptation planning across different sectors involving multi-stakeholders. These present opportunities for the Government of Viet Nam and international organizations to collaborate on improving policy as a basis for action. For example, the *Law on Children* also serves as a legal basis to ensure the access and continuity of learning for CDPs. These policies might serve as the legal basis for establishing a tracking and monitoring mechanism (e.g. an official geocoded dataset of schools) to better understand and predict the movement of CDPs in high-risk areas, allowing for early preparedness, efficient resource allocation, and effective coordination and communication across sectors and scales. Post-emergency cash transfer programmes could also be benefit trapped and temporarily displaced populations, given that climate-driven financial losses are one of the major barriers to education.

⮿ Involve the education sector in the disaster risk reduction (DRR) and climate change adaptation (CCA) efforts

Thus far, the role of education sector in Vietnamese DRR and CCA efforts is mainly restricted to curriculum development for formal education. Integrating the expertise and network of the education sector is key in moving forward on protecting the right to education for all in Viet Nam. For example, if a school is turned into a temporary shelter when a community is affected by severe weather events, how to ensure the right to education for students requires inputs from education professions. In disaster-prone areas, emergency response training must include teachers and educators based on the reality of specific needs of their school and regions because simply offering learning materials is not a long-term solution to ensure the continuity of quality education for CDPs. Involving the education sector in the *National Adaptation Plan* can thus ensure that the educational needs for vulnerable groups and trapped populations are met and the education system is adapting to withstand the rapid changes caused by climate change.

⮿ Harmonize and integrate diverse efforts to create synergies and scale up actions

In Viet Nam, it is common for multiple organizations to work with the same communities and beneficiaries on the ground, sometimes even providing similar support. Therefore, to protect the education rights for CDPs, there is scope to work closely with diverse local and international actors, especially those already active in DRR and children's issues in Viet Nam. The education

division within UNICEF Viet Nam, for example, is working on the next phase of the education plan for the country programme and building on curriculum development, teacher training, safe schools, climate-smart schools, green habits, and solar panels in schools. Harmonizing these diverse efforts helps to reduce confusion and increase efficiency for CDPs to receive timely relief and learning support when facing extreme weather events. There are also opportunities for knowledge sharing and collaboration with organizations that work exclusively on gender transformation, such as local gender-focussed Women's Union, NGOs, Plan International and UN Women, to promote the education rights for migrant girls and women.

Recommendations for educational practice

⮥ Attend to the mental well-being of CDPs

The challenges CDPs face are not limited to basic needs such as housing and employment. Rather, as the teacher respondents in our survey pointed out, being displaced by climate change could create trauma negatively impacting mental health. The impact of migration on children can be more significant as they face fragmentation of their families, interruption of their education and disruption of social networks (UN in Viet Nam, 2014). It is thus imperative that decision-makers and educators consider these mental health needs when devising climate change–related policies and recovery plans.

⮥ Create locally relevant curriculum on climate change

Developing relevant and culturally appropriate curricula and teaching methods is an essential feature to ensuring people's education rights. Another feature is to ensure that education institutions and programmes adapt to the changing needs of societies and communities. Moreover, education can enhance people's capacity to adapt to the harsh impacts of climate change by building important knowledge and skills. Developing curriculum that connect locally relevant issues and incorporate CDPs' diverse learning needs (e.g. multiple languages, life skills such as swimming) is an important step forward.

⮥ Develop women's and youth's capacity to participate in decision-making and policy dialogue

The importance of engaging in socially just adaptation strategies has been widely documented in the academic and policy literature. Our study shows that there remain gender differences in the education levels among CDPs. Not taking this into account risks producing climate solutions and adaptation plans that preference one gender or one generation or one occupation – over the others, thereby contributing to inequality. Adopting a justice lens increases the likelihood of developing climate action that can equitably benefits people regardless of their gender, age, and ability. To ensure this takes place, the education sector plays an essential role in building the capacity of the vulnerable groups to express themselves, understand the issues that affect them, and participate in decision-making processes to ensure that their voices and perspectives are included in the future initiatives.

Recommendations for future research

⮑ Consider using a knowledge co-production approach to better understand CDPs' lived experience and needs

Identifying CDPs is challenging, especially for those experiencing slow-onset climate events. Most government officials and survey participants in our study could not differentiate between migration and climate-induced migration. Not only can a co-production approach help to resolve these challenges, but it would also allow participants to learn about these issues and contribute to intervention development. Co-production is an iterative and collaborative process involving diverse types of expertise, knowledge and actors to produce context-specific knowledge and action forward (Schneider, et al. 2021).

⮑ Generate evidence-informed policy and action through better research frameworks

Our study has established a clear need to support CDPs in the long-term development. More research and data collection are thus necessary to develop evidence-informed policy addressing the impact of climate change on children's learning and the national education system's role in that learning. To this end, more appropriate research and operational frameworks is required to future this area of research.

⮑ Partner with diverse actors to support policy advocacy

To protect the education rights for CDPs, there is scope to work more closely with governments, NGOs and civil society in Viet Nam, especially those already active in DRR, climate change, and issues of children's right. For example, in the past few years there have been several youth-led movements, for example, Let's do it! Viet Nam, Saigon Compass, and a climate strike in Ho Chi Minh City, because of the rise of environmental awareness. Connecting with these initiatives and diverse actors helps to leverage existing networks to advocate the right to education for CDPs. This also allows integrated efforts to develop research activities, monitor and evaluate impact of the research.

Recommendations for civic society

⮑ Advocate for more funding and resources for CDPs

Over the past three decades, Viet Nam has suffered an average annual loss of 1–1.5% of the GDP due to impacts of disasters (UNDRR and ADPC, 2020). Recurring hazards and major disasters contribute to persisting funding gaps for recovery and reconstruction. While climate change is estimated to reduce Viet Nam's national income by up to 3.5 per cent by 2050 (Arndt, et al. 2015), demands for funds and resources to support CDPs and affected communities will continue to increase. Given that international discussion about climate financing under the UNFCCC is on the rise, advocacy and public support play a vital role in drawing decision-makers' attention to the issues of climate-related displacement and migration, as well as the challenges that CDPs and trapped populations have faced.

➲ Raise awareness through multilingual platforms

Information spread helps to increase people's understanding of the issues and challenges faced by CDPs. Internationally and locally, there is no lack of information about the climate crisis. Youth engagement in related issues is also emphasized in Viet Nam policy discourse (UNESCO and UNICEF, 2021). However, given that ethnic and language diversity is a prominent feature of the Vietnamese population, there is a need to attend to the language needs of individuals and communities not fluent in Viet and English. Additionally, there is growing evidence that climate change is causing anxiety and negative emotions in children and young people worldwide. It is thus important to create advocacy messages that give individuals a sense of empowerment and ownership of their future.

➲ Call for long-term financing for climate action and adaptation measures

Despite Viet Nam's remarkable development since 1986, the occurrence of natural hazards and slow-onset processes will have several adverse impacts on livelihoods and poverty reduction. Thus, ongoing funding and financing of climate change mitigation and adaptation need to be a policy priority. This includes immediate actions to ensure the learning continuity of CDPs (e.g. constructing safe schools, supporting boarding schools in remote areas) as well as long-term initiatives to further mainstream issues of climate migration and displacement into government planning, budget cycle, and research investment, in order to better formulate policy, strengthen institutions, and coordinate implementation towards the country's inclusive, resilient and sustainable future.

Author: Ying-Syuan (Elaine) Huang
Contributors (alphabetical order): Nhat Truong Hoang, Nguyen Thuy Van Le, Ngoc Dan Thuy Nguyen, Van Minh Nguyen, Nam Anh Tran, Thi Ngoc Diep Tran, Thanh Phong Tran

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Stay in touch

✉ **UNESCO**
7, place de Fontenoy - 75352 Paris 07 SP France
righttoeducation@unesco.org

🌐 https://www.unesco.org/en/right-education

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UNESCO Multisectoral Regional Office in Bangkok
Section for Inclusive Quality Education (IQE)
Mom Luang Pin Malakul Centenary Building
920 Sukhumvit Rd., Phrakhanong, Khlongtoei,
Bangkok 10110, Thailand

✉ iqe.bgk@unesco.org
📞 +66 2 391 0577
🌐 https://bangkok.unesco.org
📘🐦📷 @unescobangkok

**United Nations University Institute for
the Advanced Study of Sustainability
(UNU-IAS)**
5 Chome-53-70 Jingumae, Shibuya City,
Tokyo 150-8925, Japan

✉ IAScomms@unu.edu
📞 +81 3 5467 1212
🌐 https://ias.unu.edu/en
📘🐦📷 @UNU.IAS

Asia-Pacific regional synthesis

Climate change, displacement and the right to education

In 2020, 30.7 million people were displaced by natural disasters. In Asia and the Pacific alone, 21.3 million people were displaced, making it the region the most impacted by national disasters and climate change in the world. Therefore, country case studies were carried out in Bangladesh, India, Indonesia, Tuvalu, and Viet Nam to examine not only specific vulnerabilities to climate change and related mobility, but also the impacts of climate change on the right to education in Asia and the Pacific. These case studies show that climate change directly threatens education.

This regional synthesis report aims to guide policy-makers through providing operational policy recommendations on how to ensure education is protected in Asia and the Pacific in the face of climate change and displacement from a human rights-based approach. The report is one of four being developed and will contribute to the global initiative on climate change and displacement and the right to education – launched by UNESCO in 2020 – by informing the development of a Global Report with global policy recommendations.