

COSTS OF CLIMATE INACTION: DISPLACEMENT AND DISTRESS MIGRATION



Authors:

Harjeet Singh, Jessica Faleiro, Teresa Anderson and Sanjay Vashist

Climate modelling research:

Bryan Jones - Assistant Professor,
Marx School of Public and International Affairs,
Baruch College, New York

Contributors:

Harpreet Kaur Paul - Independent expert
Daniel Macmillen Voskoboynik - Independent expert
Santosh Patnaik – Climate Action Network South Asia (CANSAs)
Shailendra Yashwant – Climate Action Network South Asia (CANSAs)
Rushati Das – Climate Action Network South Asia (CANSAs)

Contributing organizations:

Center for Participatory Research and Development – Bangladesh
Janathakshan GTE Ltd – Sri Lanka
Local Initiatives for Biodiversity, Research and Development – Nepal
Sustainable Development Policy Institute – Pakistan
Watershed Organisation Trust – India

Design and Layout:

Reginald Goveas (Palebluedotgoa)

December 2020

Cover photo: Flash flood in Sunamgonj, Bangladesh, submerging roads and fields

Photo credit: Md. Mosleh Uddin Lasker



Flooding in Bangladesh. Photo credit: Md. Sariful Islam - ActionAid

1. Executive summary

Migration has been a historic, beneficial and important feature of all communities across South Asia. However, when migration is forced and migrants are asset-less, they are often seen as ‘encroachers’ or ‘outsiders’, then it’s a matter of humanitarian crisis. Of late, climate change has deepened the severity and frequency of climate related hazards, pushing people to migrate at any cost, and subjecting them to health, housing, education, poverty, gender inequality and other crises.

This report delves into how these issues intersect with displacement and distress migration, drawing from participatory research undertaken in five South Asian countries (Bangladesh, India, Nepal, Pakistan and Sri Lanka) as part of a joint project led by Climate Action Network South Asia (in collaboration with its members) and ActionAid. This project is funded by Bread for the World, a development

organization based in Germany that advocates for policy changes to end hunger.

Our country-level research in these five countries shows that climate change is either directly displacing people or accentuating hardship resulting in distress migration. Rivers eroding banks in Bangladesh, flooding in Pakistan and India, melting glaciers in Nepal, rising seas in India and Bangladesh, periods of unusually dry months followed by heavier than normal rains on rice and tea estates in Sri Lanka, or cyclones and inhospitable temperatures across all countries are contributing to climate-induced migration.

Homes, assets and businesses suddenly sink into rivers or are devastated during strong storms displacing whole communities, while deepening hardship, due to lack of access to water, crop failure and reduced fish stocks,

drives distress migration. South Asia is already experiencing some of the highest fatalities due to extreme weather conditions. Future projections see South Asia as an epicenter of extreme weather, afflicted by a combination of ‘unsurvivable heatwaves’, chronic droughts, rising sea levels, and intensified cyclones.

ActionAid and Climate Action Network South Asia commissioned Assistant Professor Bryan Jones¹ to model climate change projections related to estimated internal movement within the five South Asian countries analyzed for this report. The approach used is a modified version of the gravity-based spatial allocation model applied in the World Bank’s 2018 ‘Groundswell: Preparing for Internal Climate Migration’ report.² It focuses on migration linked to slow-onset impacts, namely sea-level rise, water stress, crop yield reductions, ecosystem loss,³ and drought.

The modelling (please see annex) finds that even if the global community acts on their greenhouse gas (GHG) mitigation pledges and targets, about 37.4 million people will still be displaced by 2030 and an estimated 62.9 million by 2050. Current global pledges and targets see us on track for between 2.1°C and 3.3°C.⁴

Undertaking more ambitious action for meeting the Paris Agreement goals of ‘limiting global warming to between 1.5°C and 2°C warming’, however, will restrict the number of people displaced or driven to move in these five countries, at approximately 22.5 million by 2030 and roughly 34.4 million by 2050 and prevent at least 44.5 million people having to flee their homes by 2050. The alternative is more than three-fold increase in movement by 2050.

Please refer to the table below.

Migration linked to slow-onset impacts of sea-level rise, water stress, crop yield reductions, ecosystem loss, and drought					
	2020	2030		2050	
Country	Mean of Temp. range (≤2.2°C &)	Paris Agreement (≤2.2°C)	Pledges & Targets (3.2°C)	Paris Agreement (≤2.2°C)	Pledges & Targets (3.2°C)
Bangladesh	455,491	900,452	2,025,159	1,496,207	3,301,205
India	14,047,875	17,283,213	27,485,098	26,069,365	45,487,710
Nepal	345,018	314,573	470,551	341,538	550,171
Pakistan	682,132	631,752	1,275,718	915,507	1,967,857
Sri Lanka	2,849,936	3,414,329	3,414,329	34,425,981	11,594,722
Total: India, Nepal, Bangladesh, Sri Lanka & Pakistan	18,380,451	22,544,318	37,419,007	34,425,981	62,901,664

1. Bryan Jones is an Assistant Professor in the Marx School of Public and International Affairs at Baruch College, and affiliated to the City University of New York Institute for Demographic Research.

2. Rigaud et al. World Bank (2018). The model projects future changes in the spatial distribution of the population, from which estimates of climate-induced migration are drawn. For the purposes of this research, we enhance the temporal and spatial resolution of the World Bank’s original approach, and add to the potential drivers of climate-induced migration by including updated projections of sea-level rise, drought, and ecosystem productivity.

3. Ecosystem loss is understood as ‘ecosystem productivity loss’ in the quantitative methodology of this report; this is a scientific term given to describe the consequences for people as biodiversity loss accelerates.

4. Climate Action Tracker, Global Update – Paris Agreement Turning Point.

These numbers do not include counting of those who are likely to be displaced by sudden onset climate disasters such as flooding and cyclones, to which South Asia is particularly vulnerable. These numbers also assume that countries will start taking action towards meeting their pledges and targets.

According to the 2020 study by McKinsey Global Institute, ‘without strong mitigation and adaptation measures, slow-onset climate impacts could cause countries in South Asia to lose nearly 2% of their GDP by 2050, rising to a loss of nearly 9% by 2100, without counting for losses due to extreme weather events. Other estimates acknowledge that people living in poverty will be hardest hit by climate hazards, and countries in South Asia could see 7 to 13% of their GDP at risk every year by 2050’.⁵ Strong mitigation actions combined with increased resilience through decent green work, social protection and disaster risk reduction can reduce the numbers.

These numbers do no justice to the individual stories of loss and devastation that follow displacement and distress migration. Millions of people will continue to be displaced regardless of climate action, and this requires strong social policies to protect the right to move with dignity.

These movements have largely taken place without targeted support, which must also be redressed. Millions of people will continue to be displaced regardless of climate action, and this requires strong social policies to protect the right to move with dignity.

Key Recommendations:

- **The human costs of inaction are too high** and are outweighed by the abundant possibilities to

possibilities to increase well-being for all in response to our shared crisis. There is a need for ambitious climate action and a holistic approach to reduce the scale of displacement and distress migration in South Asia.

- **Rich countries have a much larger responsibility** to reduce their emissions domestically, according to their fairshares, and provide support to South Asian nations in scaling up climate mitigation and adaptation efforts as well as addressing loss & damage, by providing new and additional public financing.

Through enhanced support and resources, South Asian nations must:

- **Enhance resilience through scaled up adaptation efforts** and strong policies, practices and increased expenditure that address economic inequalities, identity-based marginalisations and promote participation of the vulnerable communities.

- **Increase the effectiveness of and universal access to social protection measures**, to ensure resilience to disasters, equitable access to education, employment, training & health-care in addition to unconditional cash transfers, maternal care and child social protection schemes; disability benefits and pensions.

- **Move towards a just transition in agriculture** and invest in promoting and enabling agroecological farming methods, accompanied with new and improved water management processes, that increase farmers’ ability to withstand climate impacts.

- **Provide guaranteed decent work both for those in climate vulnerable areas and those forced to move** by creating job opportunities, especially during droughts, floods and

5. Kristine Liao, ‘Climate Change Could Put \$4.7 Trillion of Asia’s Annual GDP at Risk by 2050’, Global Citizen, 19 August 2020.

cyclones, for those who can work and find themselves exposed to climate change impacts or displacement.

- **Plan safe, orderly and dignified movement** for those displaced or driven to move and ensure that migrants also have access to decent work, social protection, access to basic services such as education, housing, health protection, security and the ability to commemorate and celebrate the places they have left behind.
- **Ensure that the fossil fuel corporations and elites, who are most responsible** for the climate crisis as a result of disproportionate carbon emissions, contribute most to financing this transition through progressive wealth taxation, ending subsidies for fossil fuel intensive industries, and corporate taxation.

- **Promote just transitions away from fossil fuel development and carbon intensive sectors with a view to attaining the 1.5°C warming limit.** This includes moving away from such polluting industries while their workers are supported and trained to find appropriate work to advance sustainable futures.
- **Ensure that climate-induced migration is on the agenda of inter-governmental bodies** such as South Asian Association for Regional Cooperation (SAARC), Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) and other Asia-Pacific forums. They should monitor the migration triggered due to extreme and slow onset disasters within the region and prepare policy responses to secure human rights of such migrants, in accordance with the recommendations of the UN Human Rights Committee.



Woman fetching water, Pakistan. Photo credit: SDPI.



Water level depletion in village tank during the dry period, Parangiyawadia, Sri Lanka. Photo credit: Pushparaj Somasundarn.

2. Climate change impacts

Climate change impacts can occur suddenly with immediate and extreme impacts lasting from hours to days, such as in the case of storms and flooding. Or, they can occur as slow onset events over a prolonged period of time, due to irreversible changes caused by sea-level rise, desertification, salinization, land and forest degradation, loss of biodiversity, glacial retreat or ocean acidification, for example.⁶

For people who are the most vulnerable to the impacts of climate change, floods and cyclones destroy the very few assets that they may own, including homes and fishing boats. Rising sea levels and consistent flooding destroys small farmers' or sharecroppers' lands altogether. Such emergency contexts make life even worse for people who live with disabilities, women, girls, older people, those in detention and children. Repeated crop failure due to unusual and extreme weather patterns pushes families

into deep poverty, and in many cases, severe debt.

"We are facing erratic patterns in rainfall, sometimes there is no rainfall for long periods whereas sometimes there is too much rainfall. People in the village find it difficult to cultivate paddy in time due to lack of water when needed. Later, there is too much rainfall destroying the standing crops. It has resulted in significant decline in paddy production. Many people in the village even find it difficult to meet food requirements for the whole year."

- Mrs. Kamala BK from Ghumne village in Udaypur district, Nepal

6. Human Rights Council, 'The Slow onset effects of climate change and human rights protection for cross-border migrants.' Study for the Human Rights Council 37th session, 22 March, 2018.

In 2007, Cyclone Sidr claimed thousands of lives and caused an estimated USD 1.5 billion of damage in Bangladesh,⁷ while Cyclone Amphan in 2020 caused approximately USD 13 billion of damage largely in the Indian state of West Bengal (amounting to over 6% of the state's GDP) and resulted in about 118 fatalities across India and Bangladesh.⁸

According to the Indian state of West Bengal government's internal report, Cyclone Bulbul (2019) affected 3.56 million people and damaged half a million houses. It damaged crops across almost 1.5 million hectares of land, triggered fishery damage worth USD 100 million, and killed 13,286 livestock. In Bangladesh, Bulbul severely affected agrarian lands, killing 24 people, damaging 18,000 homes and displacing around 2.1 million to shelters.⁹

In Nepal in 2017, torrential rains impacted 35 districts across the country, affecting 18 severely. Flooding destroyed or damaged over 190,000 houses, displacing tens of thousands. 134 people died and 1.6 million were affected. Total losses across all sectors including health, agriculture, irrigation and housing were estimated at USD 584.62 million, over 2% of Nepal's national GDP.¹⁰

Across all five countries analysed in this report, a significant proportion of the population rely on fisheries and agriculture as their main livelihood. According to the World Bank data, around 65% of Nepali workers, 41% of Indian workers, 38% of Bangladeshi workers, 36% of Pakistani workers, 24% of Sri Lankan workers,

workers, 38% of Bangladeshi workers, 36% of Pakistani workers, 24% of Sri Lankan workers, work in the agricultural sector.¹¹ This sector is particularly vulnerable to climatic variability, as both short-term crop yields and the long-term sustainability and fertility of agrarian lands are greatly shaped by climatic factors.¹²



Fall Army worm in Ramchap, Nepal. Photo credit: LIBIRD

In India, over 60% of agriculture is rain-fed. The region's rural communities are thus highly sensitive to the effects of crop-destroying climatic shocks, compounded by decades of rural poverty and state neglect of small-holder farmers. Virtually all those working in South Asia's agricultural sector (99.3%), are in positions of informal labour.¹³

2.1 PEOPLE'S VULNERABILITY TO CLIMATE CHANGE IMPACTS

Poverty starkly restricts the options and opportunities people have in the face of crisis. Those in poverty are more likely to face acute climate impacts yet be less able to respond.

7. CPRD, CANSA and ActionAid, Bangladesh unpublished draft country report, November 2020.

8. Times of India, 'Death toll due to cyclone 'Amphan' in West Bengal now 98, (29 May 2020); and Dhaka Tribune, 'Cyclone Amphan: Death toll rises to 31,' (22 May 2020).

9. Christian Aid, 'Cyclone Bulbul a month on: the impact on Bangladesh's coastal communities', 9 December 2019.

10. Pradeep Bhattarai & Prabin Man Singh, 'Loss and damage in Nepal', Prakriti Resources Centre (PRC), July 2020.

11. International Labour Organization, ILOSTAT database. Data retrieved in December 2020, using World Bank calculations.

12. Aryal, Jeetendra Prakash, Tek B. Sapkota, Ritika Khurana, Arun Khatri-Chhetri, and M. L. Jat. "Climate change and agriculture in South Asia: adaptation options in smallholder production systems." *Environment, Development and Sustainability* (2019): 1-31.

13. ILO, Women and men in the informal economy: A statistical picture.

This explains why poverty is one of the strongest determinants of exposure to climate impacts, and a major cause of distress migration from climate-vulnerable areas.

Sharecroppers who work on farmers' lands and lack individual assets of their own, are particularly vulnerable to poverty when crops fail. Similarly, in Sri Lanka, tea estate workers are even more vulnerable than small farmers. They are often asset-less and forced to live in ghettos with unsafe communal living conditions alongside families who have for generations provided labour to a tea estate for very poor wages (between USD 1-5 per day). Their working conditions are also unsafe with very poor health and safety protections. Caste system oppressions accentuate marginalisation, and can lead to debt bondage which reduces the capacity of the most vulnerable to either use migration as an appropriate coping strategy, or access alternative income earning avenues.

Chronic cycles of asset loss and destitution can act

Nuhu Miah Sheikh, is a farmer, fisherman and father, from Naria Upazila in Bangladesh. In 2018, severe river erosion in the area destroyed the single storeyed building, croplands and fishpond he owned. He lost both his homestead and agricultural land worth approximately between USD 117,942 and 176,913 to riverbank erosion. Before the incident, he had loaned USD 9435 to other fishermen in the area who couldn't afford to repay him because they had lost everything too, putting Nuhu Miah under a huge financial crisis. Though he has some plans to recover his losses, he expressed his distress saying that while in the past, he was able to give Zakat (relief) to poor people, today, this sudden riverbank erosion has left him helpless and dependent on others for relief.

Fishing livelihoods along the riverbank, Bangladesh. Photo credit: CPRD

act as drivers for migration, if not leading to even more devastating consequences, such as increased suicides correlated with microloan related destitution.¹⁴

Economic losses cannot convey the devastation of losing everything in the places we call home: family members, houses, temples, businesses, livestock, ancestral territories and community sites of celebration and commemoration.

Nonetheless, it has been estimated that without strong mitigation and adaptation measures, slow-onset climate impacts could cause countries in South Asia to lose nearly 2% of their GDP by 2050, rising to a loss of nearly 9% by 2100, without counting for the losses due to extreme weather events. Other estimates acknowledge that people living in poverty will be hardest hit by climate hazards, and countries in South Asia could see 7 to 13% of their GDP at risk every year by 2050.¹⁵



14. Ashta, A., and Khan S., Does Microfinance Cause or Reduce Suicides? Policy Recommendations for Reducing Borrower Stress, 20 March 2015, Strategic Change Volume 24, Issue 2; BBC, Soutik Biwas, India's micro-finance suicide epidemic, 16 December 2010; Business Insider, Hundreds Of Suicides In India Linked To Microfinance Organizations, 24 February 2012; Center for Financial Inclusion, Standing in the Sun: Human Rights Abuses in the Name of Financial Inclusion, Sarina Kidd and Sarah Langhan, 23 October 2019; Open emocracy, 2019, Microfinance has been a nightmare for the global south. Sri Lanka shows that there is an alternative, Ahilan Kadirgamar Niyanthini Kadirgamar 5 September 2019.

15. Kristine Liao, 'Climate Change Could Put \$4.7 Trillion of Asia's Annual GDP at Risk by 2050', Global Citizen, 19 August 2020.

2.2 CLIMATE CHANGE IMPACTS WOMEN DIFFERENTLY

Women smallholder farmers, engaged either independently or as unpaid family workers, comprise 50% of the female labour force in South Asia. Their lack of land ownership, productive assets, and access to credit and information, among other rights, makes them particularly vulnerable to crop failures or other climate-related impacts. In addition, women in South Asia face several socio-cultural and economic barriers that make them less prepared for disasters. Lower participation in household or financial decision-making, lack of mobility, and exposure to insecurity or gender violence only increases their vulnerability to the impacts of climate disasters.¹⁶ When evacuated to flood shelters or embankments during flooding in Bangladesh or India, for example, women described lack of privacy and security as an issue. In drought-affected areas of Pakistan, women talked about having to go longer distances to fetch water, increasing their work burden. Lack of maternal and child health facilities following flooding events in Pakistan were also noted.

2.3 GEOGRAPHIC VULNERABILITY

Some geographic hotspots will experience inevitable displacement due to uninhabitable rising temperatures, eroding rivers and rising seas. Highly climate-vulnerable regions, such as the Sundarbans or the Mahanadi delta in India, are subject to more frequent threats of sea level rise and salinification, and as such will require planned relocation within the next decades given the amount of warming that has already

been locked-in as a result of historic GHG emissions.

Our modelling suggests that due to slow-onset events alone, nearly twenty million people have moved in these five countries. During discussions with rural communities across the five countries where we undertook research, all emphasized that families are pushed to migrate mainly because of uncertainty of income from agriculture due to pests and diseases, reduced water availability, drying of water sources, and the erratic pattern of rainfall.

Even with warming levels broadly consistent with Paris Agreement ambitions, an estimated 34.4 million people in Bangladesh, India, Nepal, Pakistan and Sri Lanka will be displaced or driven to move by 2050 solely due to slow onset events. Millions more from sudden onset flooding and storms. This requires strong policies protecting their right to move with dignity.

For Bangladesh, this means that the levels of displacement and distress migration linked to slow onset events could increase from a few hundred thousand in the past ten years (2010 - 2020), to approximately 900,000 by 2030 (please see the Table).

Under current mitigation pledges and targets demonstrating lower ambition, Bangladesh could see a seven-fold increase in displacement and distress migration by 2050.

16. The Economist Intelligence Unit, 'The South Asia Women's Resilience Index: Examining the role of women in preparing for and recovering from disasters', published by ActionAid, Australian Aid.



New housing scheme at Kalugala, Sri Lanka. Photo credit: Janathakshan.

3. The impacts of migration

Families in distress first migrate to nearby areas and then to bigger towns or cities. With very limited resources, they are forced to live in informal settlements and often subjected to social, environmental and economic uncertainty. Similar movement is also taking place across physical boundaries of nations, although this was not a focus of this report. Most of the migration stories we uncovered mentioned movement as an occurrence in response to persistent exposure to deepening climate change impacts and destitution. Families also spoke of the exposure to hazardous work and poor living conditions combined with stress related to migration status uncertainties.

The poor often sell their belongings in desperation to survive, but when this does not work, they take loans at predatory interest rates to fund their movement. Forced movement or migration often forces rural poor to unknown urban territories where they are forced to take poorly waged unskilled jobs. Poverty in a context of social dislocation can feed psychosocial health issues rooted in experiences of trauma. Families left behind struggle to survive

in increasingly distressing contexts. Limited resources for the majority of the rural poor and patriarchal expectations mean that men often migrate first.

Even after moving, families may not necessarily be safe from further climate displacement. In our research in the Sundarbans delta, residents from the Sagar islands revealed they had been relocated to their current location through a state support program from the Lohachara and Ghoramara islands, after the islands started to sink in the 1970s due to erosion linked to relative sea-level rise.

"The current [house] is my fifth, as the rest have been gobbled up by the sea ... Even here, the sea is gradually coming closer, and high tide completely inundates my home. We will have to stay here till the sea forces us out, as we do not have resources to buy land and resettle inwards."

- Kabita Maity, a resident from the island of Dhablaton in the Sundarbans, India

"In 1992 [my family] migrated to Rawaywala due to floods and moved again after the 2010 mega flood, migrating to Rasoolabad (a town near Muzaffargarh city). We then migrated to Sheikhpura (a large city near Lahore) after the 2014 flood."

- Hasnain, from Tibi Huassainabad, Pakistan

A significant amount of internal movement within South Asia is considered as seasonal or circular migration, where some members of families migrate for a period of the year to another rural area or urban centre, and return home after having saved some money. This type of migration often occurs in some of the poorest households, which lack resources to build alternative or resilient livelihoods with access to decent work and other forms of social protection. With declining agricultural incomes, rural communities across South Asia are surviving on a combination of incomes from agriculture and remittance sent by migrated members of their family.

Poor migrants are often trapped in a vicious cycle of poverty and debt, having to support their families who are left behind and often exposed to climate extremities causing destruction. Currently, in the absence of any significant support from the state, many migrants send families left behind a proportion of their income (remittance) in order to help withstand the difficult contexts. Remittance sent by India's 100 million internal migrants, in general, represents a flow of money that is eight times greater than the Indian state's combined expenditure on health and education.¹⁷ Foreign remittance comprises 8-9% of Sri Lanka's GDP.¹⁸

Currently, unsustainable levels of rural to urban migration across South Asia are contributing to the growth of megacities. In these cities, an absence of proper urban planning and city development has contributed to the proliferation of precarious informal settlements, where exposure to environmental and health hazards are high. Informal settlements are more likely to be built on terrain that is at greater risk of flooding, leaving displaced communities at risk of re-displacement. Lack of drainage infrastructure and poor housing quality in informal settlements not only compounds their vulnerability to climatic extremes, but also heightens the risk of waterborne disease and vulnerability to heat stress.

Displaced workers are likely to end up in precarious labour contexts. Women, particularly in Bangladesh and Sri Lanka may find work in garment factories where there are significant workers' human rights issues. Researchers have noted that most victims of the Tazreen Garments factory fire, which took the lives of at least 117 people in 2012, were women, many of them from areas of Bangladesh known for significant water stress and chronic crop failure.¹⁹ Men who do not have formal education or training, or lack social capital in the locations to which they move, may find themselves working as rickshaw pullers or in construction sites without regular income and social security. In India, 200 men migrated from the Minakhan area of Sundarbans to the Asansol Durgapur area of West Bengal after Cyclone Aila in 2009. They worked in stone quarries and many contracted fatal silicosis or were exposed to long-term silico-tuberculosis, which is, unfortunately, common in the poorly regulated mining or quarrying sectors.

17. Saurabh Mukherjea, 'India's real economic dynamo: A silent force that brings in 2% of GDP', Economic Times, 19 April 2019

18. http://www.labourdept.gov.lk/images/PDF_upload/notices/survey%20report%202020.pdf

19. George Black, 'Your Clothes Were Made by a Bangladeshi Climate Refugee', Mother Jones, 30 July 2013

"We went to work in those stone crushing units as Cyclone Aila had left us with no other options, and now we are suffering," said one of the Minakhan residents who had migrated to West Bengal, India.

In our research in Pakistan, India and Bangladesh, community members who had already experienced displacement and migration, spoke of significant social hardships at the destination. Beyond the previously mentioned obstacles of absent employment opportunities and precarious living conditions, internal migrants mentioned discrimination, harassment, and abuse as common experiences.

Often, a lack of access to health, education and decent work can make families across the region reluctant to return to an area that they have been temporarily displaced from.

3.1 GENDERED IMPACTS OF MIGRATION

Women living in flood-affected Sirahar District in Nepal shared that in absence of male members, who often migrate for work, women find life very difficult back at home. They are left behind to take care of household chores, agricultural activities, look after children and elderly and manage livestock. Doing all this single handedly is often a struggle for them. Pregnant women faced even more stressful time especially in case of a flood situation. They seek help from their neighbours or extended family. Community discussions also revealed that in such situations, families tend to rely more on the young girls; burdening



Participatory session with women in Pakistan.
Photo credit: SDPI

families tend to rely more on the young girls burdening them with too much work at a very tender age.

Migration of male members for work purpose not only puts all the responsibility of managing the home chores on female household members but also forces them to take over the agricultural production. Thus, very interestingly, it is creating a phenomenon called - feminization of agriculture.²⁰ Having said this, women however are still mere workers and do not hold authority of decision making. They are supposed to consult their husbands or male family members when it comes to money investments or larger purchases. A similar dynamic was captured in our study in Uttarakhand, India.

This research study done across 5 countries reveals that **no matter which country you pick, women are facing the same set of problems that can be linked to climate-induced displacement.** This is further aggravated by their exclusion from existing social protection schemes or policy frameworks. Women who are displaced also

20. Climate Change Knows No Borders - <https://www.cansouthasia.net/climate-change-knows-no-borders>



Community participatory session with women in Saharsa, Bihar. Photo credit: CANSA

Women migrants from Gaukhel in Maharashtra, India, spoke about how they had to wake up at 3 am to prepare food for the family, then labour at sugarcane cutting all day until they returned home at 6pm. They also had to fetch water from long distances, look after children and tend to livestock on top of earning a daily wage.

Rajo, 37, lives with her husband, Talooko, in Sanghar, part of Pakistan's drought-affected Tharparkar district. To avoid starvation due to the severe impact of drought, they migrate seasonally in search of employment. In the last 3 years, her family migrated to three different locations in the area, staying in each location for about 8 months. Rajo managed to save only PKR 4000 (USD 23.70) in the last 3 years, but when sharing about the impacts of migration on her family, she said "I was seven months pregnant when we migrated to earn money. I worked as a labourer and lifted weight, which caused a miscarriage. We had to borrow PKR 10,000 from the landowner to pay for my medical bills. We faced many problems when migrating, our children got ill, and then we had to spend our earnings on their health and travel fares."

face significant impacts. Those migrating to urban settings are often forced to take up work in precarious settings where workers' rights violations are rife. Similarly, compound uncertainties are faced by rural families migrating to other rural areas.

3.2 MIGRATION IMPACTS YOUNG PEOPLE

Across South Asia, young people are most likely to migrate. Our research, particularly in the case of India, shows that among seasonal migrants, youth often make their migration permanent. Young people in particular leave marginalized rural communities driven by a perceived lack of decent employment, education, access to social services, and opportunities for improving their lives. These deprivations make young people from rural poor backgrounds, often characterized by a lack of formal educational qualification, vocational skills, or even proof of identification, end up in highly precarious jobs in urban peripheries.

In focus group discussions with communities, young people repeatedly emphasized their concern around access to decent work, demanding skill development schemes, educational facilities (such as libraries) and opportunities to establish grassroots businesses. During a group discussion with people from Gaukhel village in Maharashtra,

businesses. During a group discussion with people from Gaukhel village in Maharashtra, India, one of the young respondents said, "If there is severe drought in future and no action or help received from the government then we too will be forced to migrate."

Many rural youth are also disenchanted with farming as a livelihood, given its uncertain and fluctuating incomes.

At least a fifth of South Asia's population is young (15-24), with India home to the world's highest youth population; half of the country's population is under the age of 25.

In spite of being widely excluded from political institutions and sidelined from formal decision-making spaces, young people are powerful agents of change. Youth-led movements are leading the way and achieving transformative progress on issues of climate justice, gender equality, and economic transformation, both in South Asia and across the world. Governments need to recognise the voice, expertise and potential of young people, working to better partner with and involve young people in designing responses to climate-induced displacement.

Participatory session with rural youth in Beed, Maharashtra. Photo credit: WOTR.



4. The need for climate action in the global North

Equitable action towards achieving the 1.5°C warming target is crucial to avoid preventable levels of displacement and migration under extreme hardship.

Undertaking action towards giving us a fighting chance of meeting the Paris Agreement temperature warming target, will limit the number of people displaced or driven to move due to slow-onset events to approximately 22.5 million by 2030 and about 34.4 million by 2050. More ambitious action that increases our likelihood of reaching the 1.5°C target is likely to reduce these numbers even further.

The alternative is a more than three fold increase in movement by 2050.

If global North countries fail to increase their mitigation pledges to reduce GHG emissions and strengthen resilience (adaptation measures), then slow-onset impacts (sea-level rise, water stress, crop yield reductions, ecosystem loss, and drought) will displace or force internal migration of roughly 37.4 million people by 2030 and about 62.9 million by 2050 within the 5 countries studied.

Migration linked to slow-onset impacts of sea-level rise, water stress, crop yield reductions, ecosystem loss, and drought					
	2020	2030		2050	
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Sri Lanka	2,849,936	3,414,329	3,414,329	34,425,981	11,594,722
Total: India, Nepal, Bangladesh, Sri Lanka & Pakistan	18,380,451	22,544,318	37,419,007	34,425,981	62,901,664

These numbers are likely to be a significant underestimate, as they do not include estimates for those likely to be displaced by sudden onset climate disasters such as flooding and cyclones, to which South Asia is particularly vulnerable, and assume that the temperature limits noted will be met despite significant uncertainties and risks.

Global efforts towards achieving the 1.5°C temperature warming limit - as well as adaptation funding - must be equitable and consistent with the UNFCCC's Common but Differentiated Responsibility and Respective Capabilities principle.²¹ Invariably, wealthy countries have the highest levels of capacity to contribute to meeting the global 1.5°C temperature target, and the responsibility to do so.²² The annual emissions footprint of an average US citizen is over 51 times greater than the average Nepali citizen.²³

Historically, South Asia has contributed less than 5% of historical cumulative emissions to the climate crisis, despite making up a fourth of the global population.²⁴ Yet, at the same time, it faces some of the most steep climate change impacts, including those that result in displacement and distress migration. This requires an approach to mitigation that is just and fair.

Wealthy countries with the greatest historical responsibility for causing the climate crisis need to implement just transitions to radically transform their energy, agricultural, construction, transport and economic systems to bring their emissions down sharply, and

transform their energy, agricultural, construction, transport and economic systems to bring their emissions down sharply, and provide international climate finance, in order to do their fair share of action towards meeting the 1.5°C target. Developed countries are currently failing. The EU and USA are only contributing to about 1/5th of their fair share of mitigation effort. This failure will drive distress migration and extreme hardship in South Asia and across developing countries.

Countries also cannot be permitted to evade responsibility through creative mitigation accounting. Once export emissions are taken into account, as well as reliance on unfair offsetting and future (or insufficiently developed) technologies, developed countries are shown to be significantly over-counting their mitigation pledges and under-estimating their fair share.²⁵ Genuine and ambitious reductions in accordance with historical responsibility for addressing industrialised countries' climate debt is necessary.²⁶

The world's richest 10% of people have caused 52% of emissions between 1990 and 2015.²⁷ The richest 10% of the world's population live in every continent; however around half the emissions of the richest 10% of people are associated with the consumption of citizens of North America and the EU, and roughly one fifth with citizens of China and India.

Conversely, the poorest 50% of people were responsible for just 7% of cumulative emissions between 1990 and 2015, and live

21. UN and Canada. 1992. United Nations Framework Convention on Climate Change. [New York]: UN, General Assembly.

22. Center for Global Development, 'Developed Countries Are Responsible for 79 Percent of Historical Carbon Emissions', 18 August 2015.

23. Carbon Dioxide Information Analysis Center, Environmental Sciences Division, Oak Ridge National Laboratory, Tennessee, U.S. Data accessed via World Bank: <https://data.worldbank.org/indicator>

24. Center for Global Development, 'Developed Countries Are Responsible for 79 Percent of Historical Carbon Emissions', 18 August 2015.

25. WWF, "Carbon Footprint: Exploring the UK's contribution to climate change," (March 2020).

26. War on Want, Christian Aid and others, "The UK's climate fair share to limit global warming to 1.5°C."

27. Tim Gore, 'Confronting carbon inequality', Oxfam, 21 September 2020; see also Civil Society Review, 'Can Climate Change Fuelled Loss and Damage Ever Be Fair?' (2019)

Conversely, the poorest 50% of people were responsible for just 7% of cumulative emissions between 1990 and 2015, and live precariously, surviving on less than USD 5.50 a day without environmental or economic shocks.²⁸ About 80% of South Asia's population lives on USD 5.50 a day.²⁹

Without a more equitable approach to mitigation, 10% of the global population earning above about USD 35,000 will soon see us on course for breaching the 1.5°C target through their consumption emissions alone.³⁰

At the corporate level, the 2017 Carbon Majors Study found that just 100 fossil fuel companies were responsible for 71% of anthropogenic GHG emissions.³¹

For many developed countries, given the extent of their historic emissions, their fair share of mitigation is often greater than the level of mitigation possible within domestic emissions. In some cases, wealthy countries' fair share of global effort would require radical transformations to reduce emissions, while financing the same level of action internationally. Therefore, wealthy countries have a responsibility to address this through ambitious public climate finance that supports

climate finance that supports mitigation, adaptation and loss and damage initiatives internationally.³² It is only by taking this equitable approach that we can take real steps towards limiting global warming to 1.5°C for the benefit of current and future generations.

Rich countries' contributions to climate financing remains perilously low. While reported public climate finance for developing countries amounted to USD 59.5 billion per year between 2017 and 2019 (just over half of the target), the real value (once loan repayments, interest, and finance not directly targeting climate action were discounted) was only a third of the reported figure (USD 19 - 22.5 billion per year). Only about 20% of public climate finance was in the form of grants (USD 12.5 billion per year). The other 80% came in the form of loans and other non-grant instruments, with more than half of these being offered at market rates.³³

Given their responsibility and capacity to contribute towards global mitigation efforts, developed countries must increase their contributions to climate finance.

28. Tim Gore, 'Confronting carbon inequality', Oxfam, 21 September 2020.

29. World Bank, 'Nearly Half the World Lives on Less than \$5.50 a Day' (17 October 2018).

30. Tim Gore, 'Confronting carbon inequality', Oxfam, 21 September 2020.

31..The Carbon Majors Database CDP Carbon Majors Report 2017; Tess Riley, 'Just 100 companies responsible for 71% of global emissions, study says,' Guardian (10 July 2017).

32. Civil Society Review, 'After Paris: Inequality, Fair shares, and the climate emergency,' (2018).

33. Oxfam, Climate Finance Shadow Report, <https://www.oxfam.org/en/research/climate-finance-shadow-report-2020>

5. Strengthening resilience and the right to stay

“Life is hard in Parangiyawadiya. But we farmers cannot leave our ancestral land. Paddy farming has been our livelihood for centuries. Sustainable solutions are required to reduce the impact of drought and we urgently require better market access for our harvests. We are struggling to cope with these challenges though still very attached to our farmlands.”

- Ausadahamilage Kularathna, Parangiyawadiya village, Horowpathana, Sri Lanka.



Vulnerable people must be supported to deal with climate impacts.

Between 1998 to 2017 India alone suffered around USD 79.5 billion economic loss due to earthquakes, tsunamis, storms, floods, extreme temperature, floods and droughts.³⁴ The real figures for human rights centred adaptation policies that address the range of climate hazards are therefore likely to be much higher. The estimated losses are increasing as climate impacts deepen, and those already experiencing climatic extremes will see impacts accelerate.³⁵ Strong adaptation policies have the potential to repair economic inequalities and identity-based marginalisations, while also addressing the deep injustice that the poorest are on the frontline of a crisis they did not cause.

Policymakers across South Asia have an unmissable chance to avoid worst-case scenarios, and build on the opportunity to enhance resilience to climate impacts.

According to Asian Development Bank estimations, the region needs to spend an average adaptation expenditure of 0.48% of GDP per annum (\$40 billion) by 2050 and 0.86% of GDP per annum (\$73 billion) by 2100. A 2°C warming scenario requires an average of 0.36% of GDP per annum (\$31 billion) by 2050 and 0.48% of GDP per annum (\$41 billion) by 2100.³⁶ These figures do not include loss and damage linked to extreme weather events, including cyclones, floods and droughts.

Across India, Nepal, Pakistan and Sri Lanka, farmers voiced their desire to see: improved

34. Mizutori, M., and Debarati Guha-Sapir. "Economic Losses, Poverty and Disasters 1998–2017." United Nations Office for Disaster Risk Reduction (2017).

35. Vishwa Mohan, 'Climate change costs India \$10 billion every year: Government', Economic Times, 18 August 2017.

36. Ahmed, Mahfuz, and Suphachol Suphachalasai. Assessing the costs of climate change and adaptation in South Asia. Asian Development Bank, 2014. Countries studied in report: Bangladesh, Bhutan, India, the Maldives, Nepal, and Sri Lanka

irrigation and soil health; training in alternative livelihoods during prolonged periods of droughts and easier access to decent work during these periods; financial support to maintain decent prices for whatever they are able to harvest, avoiding the need to sell their ancestral lands (with which many have spiritual and cultural connections) under duress; improved direct access to markets for small farmers; and improved training in sustainable and climate-resilient agriculture. Farm workers voiced additional needs around access to diversifying livelihood opportunities, including by providing for re-skilling opportunities. In Bangladesh, those making their livelihoods by vulnerable riverbanks sought similar livelihood diversification support.

Where farming will continue to become increasingly difficult as a result of climate change, states can provide guaranteed forms of income through diversifying livelihoods, and enable re-skilling to make a just transition to greener pathways. Work should meet ILO standards to ensure human rights centered resilience and sustainable livelihoods. Gender sensitive rural development would create schemes specifically for women who tend to undertake the majority of subsistence farming throughout the region. Guaranteed work schemes in these areas with community outreach to connect those in need to the right forms of employment would also be essential. Strengthening schemes like India's Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), which gives beneficiaries additional days' guaranteed wage labor during droughts, floods and cyclones, would be welcome.

5.1 AGROECOLOGY

Governments can support rural communities to adopt more agroecological approaches to farming in ways that can strengthen resilience by using natural materials instead of chemicals to improve the health and water carrying capacity of soils, diversify locally adapted seeds and crops and combat pests and disease.

By working with nature, increasing biodiversity, and avoiding harmful agro-chemicals that can impact the environment and human health, agroecology can provide multiple benefits to farmers, including improved resilience to climate change. Agroecological approaches, practices and technologies not only avoid harming the environment, but also ensure good and sustainable production, and at the same time, allow farmers to become less dependent on expensive agribusiness inputs such as pesticides, fertilisers and purchased seed.

Communities confirm that agroecological techniques which improve soil quality, increase crop diversity and replace agrochemicals, can help their crops cope better with erratic weather conditions brought on by climate change.

By reducing the cost of inputs, these approaches also help farmers to save more money and make a better living. Diversification of livelihoods options to reduce risk and generate new sources of income in the off-season or in case of crop failure, is also proving a key strategy for survival in the face of climate change.³⁷

37. Teresa Anderson, 'Agroecology, Empowerment and Resilience: Lessons from ActionAid's Agroecology and Resilience project', ActionAid, October 2017.

Governments should incentivise farmers to shift from industrial agriculture approaches, and adopt agroecological farming methods.

5.2 DISASTER RISK REDUCTION

Justice centered disaster preparedness, risk management and reduction policies are essential. Disaster risk reduction strategies save lives.



Recharge pond in Ramechap, Nepal. Photo credit: LIBIRD

International frameworks such as the Sendai Framework for Disaster Risk Reduction lay out a series of measures that can save lives, reduce the number of people affected, and reduce direct economic loss in relation to GDP as well as reduce disaster damage to critical infrastructure and distribution of basic life sustaining services. The Warsaw International Mechanism's Taskforce on Displacement recommends strengthening preparedness, including early warning systems, contingency planning, evacuation planning and resilience-building strategies and plans, and develop innovative approaches, such as forecast-based financing, to avert, minimize and address displacement related to the adverse impacts of climate change. There are additional UNHCR, WHO and IFRC guidelines for disability inclusive shelter and settlements in emergencies; the internationally agreed Sphere Standards and indicators; and Age and Disability Capacity Building Programme (ADCAP) has drafted a set of Minimum Standards for Age and Disability Inclusion in

Humanitarian Action. Such measures are encouraged by the Taskforce on Displacement.

Preparation should start with participation. Communities vulnerable to extreme weather events are best placed to account for their differentiated exposure to hazards and can work with policy makers to design resilient infrastructure projects, early warning systems, or evacuation and rescue plans that are sensitive to the needs of marginalised communities.

Evacuation preparedness must be sensitive to the specific needs of older people, people who live with disabilities, pregnant women, children, and communities in detention, for example. In Pakistan, increased risks of mortality for children, those living with disabilities and older people fleeing flooding was found.

Participatory processes can help communities map, date and identify risks, hazards, stresses, and the range of paid and unpaid work that is potentially vulnerable to climatic and other events.

This ground level information is essential to formulating successful national and regional policies on disaster risk reduction and resilience.³⁸

Disaster response must also be designed to ensure gender sensitive relocation. Pregnant women must be ensured sufficient nourishment, and women unable to breastfeed must receive formula milk or other appropriate alternatives. Therefore, gender appropriate health and social care must be available with temporary shelters.

38. ActionAid, "Resilience handbook: A Guide to Integrated Resilience Programming," (28 September 2016).

5.3 SOCIAL PROTECTION

Strengthen social protection schemes and ensure universal access so that the rights of all are protected, regardless of their exposure to climate and other shocks. According to the Asian Development Bank, across South Asia, only around a fifth of the ‘potential beneficiaries’ of social protection receive benefits.³⁹ Nepal’s social protection expenditure is around 3.5% of GDP; previous studies have shown that only a small proportion of the country’s population (between 10-30%) can access various different forms of social protection.⁴⁰ Both Bangladesh and India spend less than 2% of their equivalent GDPs on social protection; in India, less than 12% of Indians are covered by a formal pension scheme.⁴¹ The lack of reach of social protection systems across the region leaves significant percentages of the population deeply vulnerable, especially to current and projected disruptive climate impacts of the next decades. The lack of access to health and social care is consistently named as a driver for movement alongside deepening climate change impacts.

Bangladesh has the lowest expenditure on social protection (excluding health) in the region (0.7%).⁴² Improper targeting and implementation means that around 59% of those eligible for poverty-protection measures are excluded; many groups, such as very young children, are largely unaccounted for in protection schemes.⁴³ This exacerbates harms in a context of accelerating climate change impacts.

Unconditional cash transfers allow people to meet basic consumption needs even during times of shocks. Putting in place effective delivery mechanisms that can provide assistance even during times of crisis is particularly important in a climate change context where crises are projected to grow.

Gendered vulnerabilities need to be addressed through forms of social protection that increase autonomy and agency for women, and can include cash transfers alongside guaranteed income in recognition of care work and access to maternal healthcare, for example.

Participatory exercise with the community in Saharsa, Bihar, India. Photo credit: CANSA.



39. Asian Development Bank. *The Social Protection Index: Assessing Results for Asia and the Pacific*. Asian Development Bank, 2013.

40. Dilli Raj Khanal, 'Social Security/Social Protection in Nepal: Situation Analysis', International Labour Organisation, Jan 2012.

41. Gautam Bhardwaj, 'Schemes To Systems - Mind the Gap: Ageing and Pensions', World Bank, February 2019; Asian Development Bank. *The Social Protection Index: Assessing Results for Asia and the Pacific*. Asian Development Bank, 2013.

42. UNESCAP & International Labour Organisations, 'The Protection We Want: Social Outlook for Asia and the Pacific', Bangkok, 2020.

43. Sutradhar, Kumar & Harman, Luke, 'Access to Social Protection in Syhlet, Bangladesh', Save the Children, 2020.

State social protection programmes must be responsive to the particular injustices faced by other marginalised groups, tied to caste, ethnicity, nationality, religion and other historical oppressions, in the region. Research in both Nepal and India has shown that marginalised communities are disproportionately affected by and vulnerable to climate-induced displacement.

Similar sensitivity should also be incorporated for older people. In Nepal, 66% of people over the age of sixty have to continue to work to meet their basic needs, in Bangladesh the figure is around 39%.⁴⁴ Despite often experiencing ill health and living with disabilities, many older people continue to work as domestic workers, in agriculture, construction, as street vendors or rickshaw pullers. Climate change offers specific threats to an aging population, such as augmenting cardiovascular distress through higher temperatures. Social protection schemes, such as universally accessible quality healthcare and decent pension schemes, can help remediate this systemic vulnerability.

Social protection measures can also ease the burden on those who have already migrated, but have destitute families that took out loans to finance this movement. In this case any proportion of disposable income is allocated to repaying the loan - leaving no space to provide remittance to those most in need and facing climate extremes. In addition, in all the countries studied, when men migrated from rural to urban areas, this increased the workload of women who - in addition to undertaking care work for young, disabled,

and older family members - and potentially engaging in subsistence and agriculture to market, now also seek paid work. They do this without having decision-making autonomy. States need to deliver social protection both for those at home, and those displaced or driven to move through hardship.

Financing the level of social protection required and ensuring universal access will need a significant re-shifting of state budgetary priorities, from the creation of sovereign wealth funds to debt relief on an international scale.

5.4 ADDRESSING LOSS AND DAMAGE

Loss and damage should be addressed and those on the frontline of climate change impacts within South Asia, that is, the poor who contribute minimally to GHG emissions, should not be left to pay for a crisis they did not cause.

Wherever it is possible to guarantee non-repetition of losses and damages (through improved infrastructure development, social protection and disaster preparedness, for example) communities could be safely returned to their homes. There is also the opportunity to increase resilience upon return.

Our research in Pakistan revealed that those who own land are more likely to return. The risk of permanent migration following an adverse event can be reduced by ensuring improved access to decent work, education, training, social protection, and by enabling

44. Knox-Vydmanov, C. "Work, family and social protection: Old age income security in Bangladesh, Nepal, the Philippines, Thailand and Vietnam." Chiang Mai, Thailand (2016).

asset building (including access to land) for individuals, families and communities as a whole. However, where an area is likely to become permanently inhospitable - because there are no buildings strong enough to withstand accelerating climate breakdown or rising temperatures will create inordinate hardships, for example, people will be displaced and so policies of dignified movement should be ensured.

In cases of extreme disasters, once the threat of loss of life has subsided, communities must be supported to return to their homes and businesses. The UN General Assembly's Basic Principles and Guidelines on the Right to a Remedy and Reparation⁴⁵ refer to appropriate forms of redress including restitution, compensation, rehabilitation, satisfaction and guarantees of non-repetition.

Progressive taxation policies will be key for raising domestic resources to cover all of these investments into resilience and addressing loss & damage. Sri Lanka spends almost half of its government revenue (47.6%) on debt repayments. Pakistan spends 26.5%, while Bangladesh spends 14.6% of state revenue on debt repayments; nearly three times the state's own health spending.⁴⁶ Debt cancellations can significantly contribute to giving climate vulnerable countries the fiscal space to prioritise introducing measures that protect and promote human rights. Similarly, ensuring that loans do not come with conditions that require harsh macroeconomic policies inconsistent with such levels of state spending and support will be necessary to facilitate such policies.

Participatory planning exercise in Beed, Maharashtra, India. Photo credit: CANSA.



45. UNGA, Basic Principles and Guidelines on the Right to a Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law (21 March 2006) A/RES/60/147, para 23; and ILC, Draft Articles on Responsibility of States for Internationally Wrongful Acts (November 2001) Supplement No. 10 (A/56/10), chp.IV.E.1, article, para. 9.

46. Citizens for Financial Justice, 'Passing the buck on debt relief: How the failure of the private sector to cancel debts is fueling a crisis across the developing world', July 2020.

6. Planned migration and the right to move

It is possible to anticipate with some accuracy the level of sea-level rise, temperature rise, persistent storms, flood or droughts and other impacts, that will render an area inhospitable either permanently or for most of a year. As such, dignified planned movement is essential.

Communities must have options to migrate together or separately and be central in participatory decision making. Transitions must be safe, orderly and dignified and opportunities to live autonomous lives with human rights protections in the places of arrival must be promoted. Governments must make sure that communities are relocated to resilient territories, with proper basic services, sufficient support and resources to build homes and infrastructures.

The transition must take place with communities' consent and active participation, it must be safe and increase long-term resilience by providing a welcoming start in a new location - including by ensuring access to green jobs, education and training as well as social and health care provision, cash transfers, child protection schemes, and pensions. It must also enable communities to celebrate their place of origin through repairing non-economic cultural forms of loss. Rather than climate change increasing

change increasing precarity and insecurity, safe, orderly and dignified movement can increase communities' empowerment and resilience. This is consistent with the Taskforce on Displacement's call for parties to the UNFCCC: "To facilitate orderly, safe, regular and responsible migration and mobility of people, as appropriate and in accordance with national laws and policies, in the context of climate change, by considering the needs of migrants and displaced persons, communities of origin, transit and destination, and by enhancing opportunities for regular migration pathways, including through labour mobility, consistent with international labour standards, as appropriate."⁴⁷

Facilitating dignified planned movement in South Asia requires for policymakers to better understand the state of climate-induced displacement today, and to share learning and information across borders. In India for example, although the National Disaster Management Authority does map disasters and their consequences, official migration statistics resulting from those disasters are not tracked. Regional, national and municipal authorities are largely in the dark on the scale, nature, and evolution on climate-induced displacement.

47. <https://unfccc.int/sites/default/files/resource/10a1.pdf>

Currently, the rehabilitation of communities forced to move is not integrated with an approach that repairs the losses they experience and increases resilience to health, climate, environmental or economic shocks in their new location.

Instead, governments should see the climate crisis as an opportunity for strengthening a more sustainable approach to urban development. The homes and community infrastructure must be provided through local, national, regional and international climate financing transfers, and built in areas that are able to withstand our future changing climate.

Currently, those who own land and other assets, and have some formal level of education qualifications, training, and social networks are more likely to find decent work in the places they move to. Safe, orderly and dignified migration in response to climate change must increase the capacity for everyone to do this.

Governments need to both bolster labour rights across their national contexts, ensuring safe working conditions for all, and increase access to new areas of work for climate-displaced communities, preferably as decent green jobs⁴⁸ for sustainable and just futures.

Social protection which addresses the needs

of those unable to work, whether permanently or temporarily, is absolutely essential in meeting economic, social and cultural human rights obligations as well as protecting and promoting the right to live a dignified life.

When communities arrive in new places, they may have specific healthcare needs to help process significant social and cultural dislocations linked to movement and, as noted in our country specific interviews, the increased vulnerability to forming substance abuse problems. Conversations with displaced communities in Sri Lanka stressed in particular the ways in which climatic stress, and associated displacement, put sustained pressure on social cohesion and the fabric of families and communities.

The psychological impacts of displacement can also be challenging and traumatic, disrupting people's sense of belonging, identity and stability. Testimonies in our research, particular in the case of Sri Lanka, shed light on the painful ruptures of family and communal ties that arise from displacement. These realities, combined with emerging research, suggest the need for stronger psycho-social support and cultural continuity for displaced communities, and more research from a holistic health perspective into the consequences of climatic stress.

48. Compliant with ILO conventions.

To ensure that migrants forced to flee climate change are embraced in their place of arrival, the communities already residing in the towns to which they move could be provided with community awareness raising activities and workshops that nurture a welcoming environment and eradicate the current social stigma associated with having to leave your ancestral home and build a new life in a new place.

Finally, financing to enable the measures proposed throughout this section should be provided by those with the responsibility and capacity to contribute. Currently, subsidies and low cost loans for communities in Kamgar

Putala (India) forced to resettle outside of flood risk areas have been provided. Tamil Nadu received international aid to support relocations following a major storm in 2004.⁴⁹ However, these forms of support are not provided on the basis of accountability, responsibility or capacity. They are often reactive (rather than proactive) and are provided on an ad hoc and incomplete basis - rather than responding to needs responsively.

A responsibility or solidarity based pool of new and additional public funding is required to meet the scale of needs going forward.

Satabhaya, Odisha (India)

A rehabilitation programme for people displaced due to sea-level rise for Satabhaya was initiated in 2015. The relocation site was established adjacent to Bagapatia, a village inside the Bhitarkanika wildlife sanctuary. Of the 771 families exposed to risks, 571 have been relocated to new households. Out of these 571 dwelling units, 350 are built from concrete, while 221 units are thatched. The households were given a plot proportional to the size of their family. However, the plots are on swampy land that required landfilling to enable safe housing construction. Rs. 10,000 (approximately USD 135) was provided as assistance for this purpose and there are plans to convert all thatched houses to permanent concrete structures. Each household received Rs.16,000 (USD 216) to construct their house and an incentive of Rs. 54,000 (USD 726) was given in addition to providing 100 days of guaranteed work.

Since the financial assistance provided to these families was insufficient to construct a dwelling unit, the residents had to add personal savings too and are yet to receive formal legal land titles for this homestead land. Adding to their woes, this land is not suitable for doing subsistence farming that the residents used to do earlier and now they are forced to depend on local markets which increase their expenditure while regular income sources are limited. Living a dignified life is difficult in Bagapatia.

49. Boston, Jonathan, Architesh Panda, and Swenja Surminski. "Designing a funding framework for the slow-onset impacts of climate change: insights from recent experiences with coastal retreat." (2020).

7. Global South transitioning to greener pathways

Spending on fossil-fuel subsidies in India is almost double that of public expenditure on health.⁵⁰ Many countries in Asia have subsidies to dirty industries greater than either health or welfare budgets.⁵¹ In the 2019 financial year, India spent USD 12.4 billion on fossil fuel subsidies.⁵² Continued expenditure on fossil fuel infrastructure is a lose-lose approach, both worsening the climate crisis, and squandering an opportunity to build healthier, regenerative, green and just economic systems. Subsidies for other carbon intensive industries – such as the industrial agricultural industry – also continue to climb,⁵³ despite known risks of enhanced GHG emissions and reduced resilience to deepening climate change impacts.

South Asian states can pursue a more equitable development path that advances climate resilience and secures the right of communities to remain in their territories by focusing particularly on just transitions in two sectors of the economy: energy and agriculture.⁵⁴

Jobs that increase our collective ability to promote just and sustainable futures include local agroecological farming; renewable

energy generation, distribution and supply; green housing and community infrastructure; education and social care institutions; ecological restoration; coastal protection; reforestation; mangrove reforestation and building flood defenses; and building sustainable, electric and accessible public transport. These transitions not only reduce GHG emissions, they also create cleaner air with significant health and well-being benefits, improve clean cooking access, enable poverty alleviation through renewable energy, decent green job creation and enable community empowerment - which increases resilience to climate impacts - when that energy is generated democratically using decentralised technology.

In the case of energy, states should swiftly transition towards clean and renewable energy, which will rapidly bring down emissions while also reducing healthcare burdens and other harmful impacts in the future. The share of renewable energy in total final energy consumption is around 37% in India, 34% in Bangladesh, 46% in Pakistan and 51% in Sri Lanka.⁵⁵

50. Merrill, L., and V. Chung. "Financing the sustainable development goals through fossil-fuel subsidy reform: Opportunities in Southeast Asia, India and China." IISD, Winnipeg (2014).

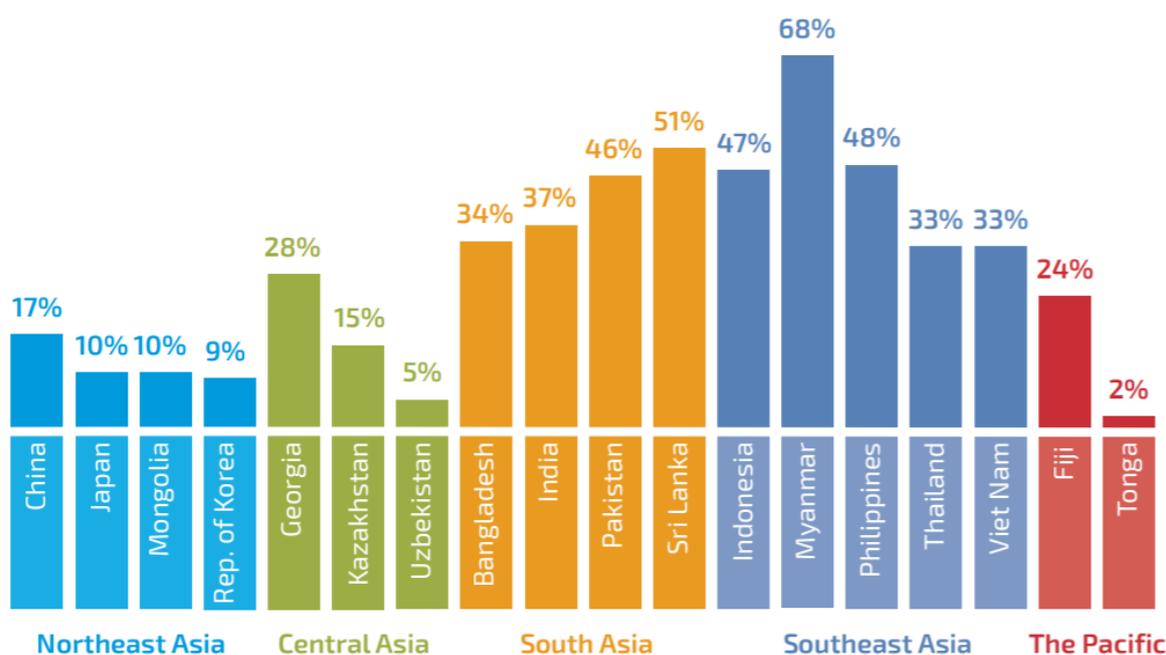
51. Ibid.

52. Garg, Vibhuti et. al, 'Mapping India's Energy Subsidies: fossil fuels, renewables and electric vehicles', International Institute for Sustainable Development, April 2020.

53. OECD, 'Agricultural Policy Monitoring and Evaluation, 2019,' (1 July 2019).

54. Teresa Anderson, 'Principles for a Just Transition in Agriculture,' ActionAid (January 2020).

55. REN21, 2019. Asia and the Pacific Renewable Energy Status Report (Paris: REN21 Secretariat).



Renewable Share in Total Final Energy Consumption in the selected Asia Pacific Countries, 2016 Source: https://www.ren21.net/wp-content/uploads/2019/05/REN21_Asia_Report_2019_Web.pdf

In comparison, the EU-wide share of renewable energy in gross final energy consumption was an estimated 18% in 2018.⁵⁶ This includes a significant component of energy from biomass and bioenergy sources, which can have ecologically and socially-harmful consequences.

Although South Asia has a higher proportion of clean renewable energy generation, work could be done to increase this further, with support and leadership from the countries most responsible for the historic emissions driving displacement and distress internal migration today.

Targeted investments in green energy have the potential to lessen the consequences of the COVID-19 related economic slowdown, creating decent green jobs in both urban and rural areas, reducing health risks, reducing electricity costs, and achieving energy access for all while

building a sustainable energy system that reduces the potential for deepening climate change impacts while being resilient to those already locked-in.⁵⁷ They would also address the huge energy poverty and lack of access to clean energy in the region, which disproportionately exposes women to toxic air that contributes to significant healthcare risks. Taking these steps ambitiously and immediately provides the greatest prospect of limiting temperatures to reduce displacement and distress migration due to climate change impacts.

In addition, the predominant model of industrial agriculture is deepening the climate crisis, and reducing collective resilience to accelerating impacts. Globally, large agriculture businesses have been implicated in land grabs and rely on destitute labourers; extreme water use; and heavy fertiliser and pesticide use causing pollution that is dangerous to local

56. EEA, 'Share of renewable energy in gross final energy consumption in Europe.'

57. Action Aid USA, 'Power for the People: Delivering on the Promise of Decentralized, Community-Controlled Renewable Energy Access', September 2016.



Harvesting paddy, Parangiyawadia, Sri Lanka. Photo credit: Pushparaj Somasundaran.

communities and the ecosystem. Industrial agriculture globally produces nearly a quarter of the world's GHG emissions even though small farmers and subsistence farmers feed a majority of the world on less than a quarter of land.⁵⁸ The intensive nature of industrial agriculture, and its widespread use of monocultures, also leaves crops particularly vulnerable to failure in the face of increasing climatic extremes where months of high temperatures are followed by heavy and persistent rainfall at unusual times.

Across South Asia, the corporatisation of agriculture is gaining renewed steam, as governments have weakened support for small-scale farmers in recent decades. This is a recipe for disaster in the context of ongoing climate violence, and a major blow to farming communities reeling from multiple threats.

Governments must work with rural communities to shape just transitions in agriculture, from industrial agriculture to agroecology, which has a far lower GHG footprint than industrialised systems.

58. GRAIN, "Hungry for land: small farmers feed the world with less than a quarter of all farmland," (2014); ILO "Agriculture: A Hazardous Work," (2015); Hannah Ritchie, "Food production is responsible for one-quarter of the world's greenhouse gas emissions," Our World in Data, Oxford Martin School (2019); Nolte et al. "International Land Deals for Agriculture. Fresh Insights from the Land Matrix: Analytic Report II," Land Matrix (2016).

8. Conclusions and recommendations

The report underscores the need for ambitious climate action and a holistic approach to reduce the scale of displacement and distress migration in South Asia. Rich countries have a much larger responsibility to reduce their emissions domestically and provide support to developing countries to scale up adaptation, address climate impacts and transition to greener pathways.

The human costs of inaction are too high and are outweighed by the abundant possibilities to increase well-being for all in response to our shared crisis. By acting swiftly, South Asian states can prevent a worsening humanitarian crisis, avoid mounting economic and health burdens in the future, and bring significant social benefits, including for those displaced or driven to move as a result of our warming planet.

Policymakers must join the dots between seemingly discrete policy areas. A response to climate migration involves mitigation, with the greatest level of ambition from the wealthy countries most responsible, and best equipped to take action. It also involves ecological

restoration, and investment in coastal protection as well as flood defences that increase geophysical resilience. At the same time, social resilience can also be improved through the provision of safe housing, decent green work, social protection and reparation for loss and damage. It is important to integrate an intersectional analysis of exposure based on identity across all policy areas.

This approach can enable sustainable urban development and thriving rural livelihoods that make the right to stay, where possible, practical and recognise the right to move. In addition, implementing progressive taxation and fiscal policies puts the onus on those most responsible for carbon emissions to take the greatest effort to support the solutions. Pushing for stronger international cooperation on issues of climate mitigation, adaptation, human rights protection and equitable migration will be essential. This must be done through initiatives like the Global Compact on Migration as well as within the UNFCCC - on the basis of equity and responsibility - to protect human rights and enable sustainable futures for collective well-being.

Domestically, Bangladesh, India, Nepal, Pakistan and Sr Lanka should:

- **Enhance resilience through scaled up adaptation efforts and strong policies,** practices and increased expenditure that address economic inequalities, identity-based marginalisations and promote participation of the vulnerable communities.
- **Increase the effectiveness of and universal access to social protection measures,** to ensure resilience to disasters, equitable access to education, employment, training and healthcare.
- **Move towards a just transition in agriculture** and invest in promoting and enabling agroecological farming methods, accompanied with new and improved water management processes, that increase farmers' ability to withstand climate impacts.
- **Provide guaranteed decent work both for those in climate vulnerable areas and those forced to move** by creating job opportunities, especially during droughts, floods and cyclones, for those who can work and find themselves exposed to climate change impacts or displacement.
- **Plan safe, orderly and dignified movement for those displaced or driven to move** and ensure that migrants also have access to decent work, social protection, access to basic services such as education, housing, health protection, security and the ability to commemorate and celebrate the places they have left behind.
- **Renegotiate loan conditions and seek debt relief and cancellations to increase fiscal space** available to pursue macroeconomic policies that permit greater levels of social security spending and responding to climate impacts.
- **Ensure that the fossil fuel corporations and elites, who are most responsible for the climate crisis** as a result of disproportionate carbon emissions, contribute most to financing this transition through progressive wealth taxation, ending subsidies for fossil fuel intensive industries, and corporate taxation.
- **Promote just transitions away from fossil fuel development** and carbon intensive sectors with a view to attaining the 1.5°C warming limit. This includes moving away from such polluting industries while their workers are supported and trained to find appropriate work to advance sustainable futures.

ANNEX: CLIMATE MIGRATION MODELLING

In 2018, the Center for International Earth Science Information Network (CIESIN) and the CUNY Institute for Demographic Research (CIDR), under the overall direction of the World Bank, released the World Bank flagship report *Groundswell: Planning for Internal Climate Migration* (Rigaud et al. 2018). The novel methodological approach to estimating the impact of climate change on internal migration patterns was built from spatial methods of projecting future population distributions that can be calibrated to reflect the impact of different potential drivers of change.

The migration data presented in this report builds upon the *Groundswell* methodology, incorporating spatial and temporal refinements and expanding the set of variables that influence mobility. The model, a gravity-based spatial allocation-type framework, produces scenario-based estimates of internal migration. Scenarios are combinations of socioeconomic and climate (emissions) projections. The development scenarios drive internal population and urbanization trends. Future population distributions are influenced by climate impacts on the water and agriculture sectors, ecosystem impacts, and sea-level rise. The model estimates the number of climate migrants and their future locations by comparing population distributions that incorporate climate impacts with a scenario based on a development trajectory only.

For this study, we adopted a scenario framework, a common approach to climate related research. This allows us to assess the avoided impacts of achieving a future in line

with the Paris Agreement (limiting warming to ~1.5°C) as opposed to a potential high-end temperature warming scenario of 3.2°C by 2100. To do so, we use the Representative Concentration Pathways (RCPs) and Shared Socioeconomic Pathways (SSPs). The climate forecasts are based on two scenarios; a lower and moderate emissions scenario. The lower emissions scenario is a world in which temperatures peak at 1.0°C –2.2°C above pre-industrial levels by midcentury and then stabilize through the end of the century (IPCC 2014).

This is where countries work together to reduce greenhouse gas emissions to zero within the next 15–20 years (Sanderson et al. 2016). In the alternative emissions scenario temperatures rise 1.5°C –2.6°C by 2050 and by 1.7°C – 3.2°C by 2100.

MODELLING METHODS:

The model adopted for this work is strongly based on the approach from the *Groundswell* report (Rigaud et al. 2018), which itself was adapted from the INCLUDE gravity-based downscaling model (Jones and O’Neil 2013, 2016). The INCLUDE model downscales national population projections to subnational raster grids as a function of geographic, socioeconomic, and demographic characteristics of the landscape and existing population distribution. Gravity-type approaches, commonly used in geographic models of spatial allocation and accessibility, take

advantage of spatial regularities in the relationship between population agglomeration and patterns of population change. These relationships can then be characterized as a function of the variables known to correlate with spatial patterns of population change.

The INCLUDE model uses a modified form of population potential, a distance-weighted measure of the population taken at any point in space that represents the relative accessibility of that point (for example, higher values indicate a point more easily accessible by a larger number of people). Population potential can be interpreted as a measure of the influence that the population at one point in space exerts on another point. Summed over all points within an area, population potential represents an index of the relative influence that the population at a point within a region exerts on each point within that region, and (Rich 1980) it can be considered an indicator of the potential for interaction between the population at a given point in space and all other populations. Population potential will typically be higher at points close to large populations, thus it is also an indicator of the relative proximity of the existing population to each point within an area (Warntz and Wolff 1971). Historically, population potential is often considered as a proxy for attractiveness, under the assumption that agglomeration is indicative of the various socioeconomic, geographic, political, and physical characteristics that make a place attractive.

For this assessment, the calculation of potential was modified by adding variables that describe local/regional conditions, including climate impacts on economic livelihoods, and weighting the attractiveness of each location (grid cell) as a function of the historic relationship between these variables and observed population change. Population potential is, conceptually, a relative measure of agglomeration, indicating the degree to which amenities and services are available. In the INCLUDE model, this value shifts over time as a function of the population distribution, assumptions regarding spatial development patterns (e.g., sprawl vs. concentration), and of certain geographic characteristics of the landscape. The Groundswell approach expanded the model by considering the local impact of climate on certain key sectors. In this further expanded version of the model, the agglomeration effect is enhanced or muted as a function of additional local characteristics that aid in differentiating between places. Furthermore, the version of the model applied here operates at higher spatial and temporal resolution (1 kilometre and 5-year time intervals, respectively).

Beginning with the 2015 gridded population distribution for each country, the model estimates changes in the spatial population distribution (including the impact of climate change) in five-year time steps by (1) calculating a population potential surface (a distribution of values reflecting the relative attractiveness of each grid cell), and (2)

allocating population change to grid cells proportionally based on potential. To generate estimates of internal migration under climate change, we then run a SPP2 scenario that excludes the impacts of climate change. That is, we hold the values for all variables that are influenced by climate change constant at current day values (crop, water, NPP, drought likelihood, and sea-level). The differences in the spatial population distribution between the two scenarios that include climate drivers and this “no-climate” scenario are attributed to migration induced by changing conditions, as the only variables that have changed are those impacted by a shifting climate.

Results and Limitation: The model adapted and applied in this work is a “top-down” type model that is designed to capture and estimate broad trends in spatial population change. This type of approach is well suited for large-scale application over larger regions or globally, and it has been shown to, in general, capture and replicate observed patterns of broad spatial change with a high degree of accuracy (Jones and O’Neill, 2013). However, this type of approach does come with certain limitations. Furthermore, any attempt to estimate future patterns of climate migration will carry with it certain limitations, regardless of the choice of model.

The description of model limitations is meant, primarily, to aid in interpreting the results of this assessment. Broadly, the outcomes presented here should be considered as a series of possible futures contingent on a set of assumptions, a set of “what if” scenarios. None of the scenarios should be considered a

“most-likely” outcome, nor should the emphasis be on any one projection of the total magnitude of migration. Instead, it is the variation across the different scenarios that should be considered as a starting point for discussions of potential policy intervention, areas that require additional research, or simply to start focusing questions that will be critical to anticipating and planning for climate-induced migration appropriately. Furthermore, the geographic information presented here (e.g. international flows, sub-national hot spots) should help to focus the attention of planners and policymakers on regions that are very likely to experience impacts, be it in- or out-migration. Even if there is uncertainty in the likely magnitude of those impacts, identifying critical geographic zones is crucial to fine-tuning policy intervention.

Finally, the work presented here represents a step forward in complexity of the family of gravity-based top-down models for assessing climate-induced migration over large regions at high resolution. The modelling itself should be scrutinized and continued refinements applied. Modelling climate-induced migration is a very challenging undertaking, rife with uncertainty. This should not, however, preclude the scientific community from attempting to do so as the exercise itself is necessary to generate the important conversations that will allow society to effectively manage this challenge.

