

# CARE for South Asia

Climate Adaptation  
and Resilience  
for South Asia Project

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**Nepal's Strategic  
Engagement in  
COP26**

**The Nexus between  
Climate Change and  
Food Security**

**Climate Fiction and  
Climate Realities**

*A partnership between ADPC, RIMES, and the World Bank to  
support informed decision-making for protecting development gains in South Asia*

Dear Readers,

The world is living in a state of fear due to the outbreak of the COVID-19 pandemic. Warning signs were pointing to such a crisis in the making, but, as is the norm, we preferred to ignore and continued with our 'normal life' until a 'new normal' intruded it. This is an expensive wake-up call to adapt to climate change and halt this slow march to different kinds of disasters in the future.

The encouraging news is that South Asian countries are taking this call seriously by continuing work on climate change adaptation and resilience amidst this outbreak. Every story in this edition speaks about the efforts being made by governments, communities, and practitioners to build an enabling environment for climate-resilient development in the region.

In the 2<sup>nd</sup> issue of the CARE newsletter, find out how the Government of Nepal plans to engage with various stakeholders before and during COP26, to be held in Glasgow in November 2021, then learn about the nexus between climate change and food security in South Asia.

Explore the challenges and opportunities that Nepal faces in the water management sector, and then read about the importance of resilient infrastructure to reduce the impacts of climate change in Bangladesh. We will also introduce you to women leaders who adopt climate-smart agricultural practices in Pakistan to sustain their livelihoods.

We are also excited to present a new section dedicated to climate change-related fiction. We would like to invite you to share your favorite novels and movies on climate change.

We plan to bring you much more exciting stories in the future, so please keep your eyes on our next issue.

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## Lead Story

# Nepal's Strategic Engagement in COP26

By Arun Prakash Bhatta (Ph. D)

Nepal is one of the most vulnerable countries to climate change, with frequent flash floods, glacial outbursts, droughts, landslides, heat waves, cold spells, and unpredictable rainfall. An increase in these climate impacts in recent years already threatens Nepal's development efforts, lives and livelihoods, particularly of women and marginalized groups.

The Government of Nepal is a party to the United Nations Framework Convention on Climate Change (UNFCCC) and has ratified the Paris Agreement that was adopted during its 21<sup>st</sup> session. Nepal, as a Least Developed Country (LDC), has a high stake in the outcome of the UNFCCC's negotiations process. The Government of Nepal has been actively participating in the negotiation process of each Conference of Parties (COP) and communicating its challenges and opportunities related to climate change to the world.

In accordance with the UNFCCC's provision, Nepal has taken various initiatives in devising appropriate policies, legal instruments, programs, and institutional and financial arrangements toward climate resilience.

Nepal has recently endorsed: National Climate Change Policy 2019; Environment Protection Act 2019 and Regulations 2020; National Framework for Local Adaptation Plan of Action 2019; Climate Resilient Planning and Budgeting Guidelines 2020; Gender and Social Inclusion (GESI) and Climate Change Strategy and Action Plan 2020; and submitted its second Nationally Determined Contribution (NDC) in 2020 as a part of the Paris Agreement.

Photo by Purna Chandra Lal Rajbhandari



## Starting a greener journey together

Nepal's second NDC is ambitious and estimated to cost US\$28.4 billion, of which Nepal can only manage US\$3.4 billion of from its own financial resources. Furthermore, this estimate does not include the costs of adaptation components and the cost of policies, measures, and actions.

In 2021, Nepal plans to communicate its Third National Communication Report, NDC implementation plan/roadmap, National Vulnerability and Risk Assessment, National Adaptation Plan (NAP), and Long-Term Low Greenhouse Gases Emission Development Strategy 2050.

Nepal has demonstrated strong leadership in taking localized climate action and inviting development partners to be part of this journey, recognizing that the participation of all relevant stakeholders is very crucial to contribute towards the implementation of the National Climate Change Policy and action plans.

On 12 December 2020, during the Global Climate Ambition Summit, the Honorable Prime Minister of Nepal highlighted that:

*“Nepal is seeking easy and adequate access to climate finance, which becomes critical for the implementation of ambition and Nepal seeks the hands of all countries to march ahead for the greener journey together.”*

The United Kingdom Government is hosting the 26th Conference of the Parties (COP26) in Glasgow in November 2021, where the Government of Nepal proactively aims to engage more strategically and effectively at the national and international level to raise awareness of the needs and priorities of the country. Notably, these engagements include the temperature goals of the Paris Agreement, climate finance needed for rolling out of its national and international commitments, and the mountain agenda.

The mountain agenda is critical for Nepal, as glacier melting is not only affecting the livelihoods of millions of people who benefit from the ecosystems of mountains, but it is also threatening the future of humanity by making living conditions more challenging. Therefore, Nepal has an unprecedented opportunity to ensure its heightened international profile on climate change and also leverage and mainstream non-traditional and low-carbon financing.

It is also important to ensure that UNFCCC policies and funding instruments will benefit Nepal. The Government of Nepal aspires to engage national and international partners to be able to strengthen Nepal's participation in the COP26 in a variety of events, communications, and knowledge management initiatives.

In this regard, the Ministry of Forests and Environment (MoFE) has prepared a UNFCCC COP26 roadmap to systematically engage relevant government institutions and development partners in the process.

## **Key pillars of the roadmap**

Nepal seeks to have strong leadership and representation in the COP26 and bring forward different agendas, including loss and damage, climate finance, adaptation and resilience, enhanced transparency framework, and the mountain agenda.

Positioning itself strongly, Nepal seeks to engage in negotiations, showcase successes and innovation, and secure climate finance to meet its national adaptation and mitigation targets.

MoFE organized initial consultations in 2020, engaging wider national stakeholders represented by government, non-government, and development partners to understand their interests and contributions, and to extend partnerships.

The inputs were received to organize strategic events, communications, and knowledge management initiatives, where the Government of Nepal will take the lead in collaborating with relevant national and international development partners. Furthermore, inputs received were classified into the following four broad areas of engagement:

### **1. Showcasing Nepal's climate change agenda in COP26**

***Nepal's commitment as per the Paris Agreement:*** Nepal will highlight its policy landscape and programmatic interventions, including forthcoming documents in 2021: Third National Communication, National Adaptation Plan, adaptation communication, National Climate Vulnerability and Risk Assessment, NDC implementation roadmap, and 2050 Long-Term Strategy.

***Knowledge management and evidence generation:*** Nepal will prepare to strongly position itself for negotiations in COP26 through knowledge management and evidence generation of different best practices, innovations, and lessons learned in the areas of nature-based solutions, energy transitions, adaptation and resilience, disaster risk management, and green recovery, etc. Nepal aims to demonstrate strong leadership on climate action, showcase innovation and successes, and highlight investment needs and priorities for climate action.

***Messaging and Communication:*** Nepal intends to take forward the mountain agenda to the center stage and represent key issues with a progressive voice in the LDC group and influence regional players to be more ambitious on climate action. Nepal also intends to communicate impacts and best practices, including bringing forward the voices of vulnerable communities and marginalized groups through audio, visual, and print media by engaging with journalists. With this, Nepal aims to ensure recognition for bilateral and

multilateral partnerships to share the common positions and commitment to a highly ambitious outcome.

**2. Enhancing partnerships and dialogues on leaving no one behind:** Nepal intends to translate the 'leaving-no-one-behind' agenda into practice. Representation and engagement by all important stakeholders to raise their voices on climate agenda by youth, women, the private sector, indigenous communities, CSOs, local governments, parliamentarians, and political parties are important to enhance partnerships and dialogues.

Identifying champions for advocating challenges and opportunities in COP26 and engaging vulnerable and marginalized communities to raise and bring forth their issues through public discussions are top priorities of this roadmap. Nepal will also engage at the regional level, especially with Hindu Kush Himalayan region, to take the mountain agenda forward.

**Organize events:** this includes celebrating various important theme days, highlighting climate agendas, and holding discussions, dialogues, conferences, panel discussions, and high-level events (bilateral and multilateral) regularly to showcase Nepal's climate agenda.

**Engaging and mobilizing with local and provincial governments:** the sub-national engagement in the process should be taken into highest consideration to raise awareness and reflect the issues in COP26. In the aspiration of federalism, Nepal seeks to engage local and provincial governments to sensitize on climate change issues as well as to discuss integration and implementation of climate action at the sub-national level.

**3. Defining and strengthening Nepal's position for COP26 key thematic areas:** the areas of work should be highlighted based on Nepal's ambition of LDC graduation. Some of the proposed preliminary themes are: loss and damage; climate financing; adaptation; mitigation; means of implementation; and enhanced transparency framework. These themes will be agreed upon considering country priorities and consultations with experts.

**Expert Thematic Groups:** setting up expert thematic working groups to prepare and communicate Nepal's position to all national and international stakeholders in a systematic manner. The groups will

include experts in different themes who will organize thematic discussions to define Nepal's position for COP26.

**Preparatory positioning:** organizing Sagarmatha Dialogue which is pending due to COVID-19 lockdown. This will help organize Nepal's priority at the regional level and develop regional and international coalitions on agendas of mutual interest.

**4. Ensuring strong representation in COP26 negotiation process**

**Effective negotiation and positioning:** the government of Nepal intends to organize orientation and training sessions for delegates to ensure strong representation of Nepal in the negotiation processes at COP26.

**High-level closed-door meetings:** Nepal intends to hold high-level bilateral and multilateral meetings. Nepal seeks to engage with different ministries and development partners to prepare negotiation briefs and visibility materials for these high-level meetings.

### Adopting a whole-of-government approach

In delivering high-impact messages in the areas of work identified under the key pillars of the roadmap to Nepal's strategic engagement in COP26, the Ministry of Forests and Environment, Government of Nepal will invite national and international development partners to provide their institutional support and commitments on the list of suggestive actions based on this roadmap. Furthermore, it has also planned a series of events that will accommodate the voices of community-based organizations, women, youths, and indigenous people so that the views of climate-vulnerable people are properly reflected in the country's roadmap to COP26. The aim is to showcase Nepal's climate scenario at the COP26 and seek support in the areas of climate finance, capacity building, and climate-smart technologies so that Nepal could align its developmental efforts with the goal of achieving carbon neutrality by 2050.

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# The Nexus between Climate Change and Food Security

By Sisira Madurapperuma

Scientific data is more than enough to conclude that climate change is faster than ever before. But are we changing fast enough to face the greatest development and humanitarian challenges?

Many of the potential impacts of rapid changes in climate have been modeled at multiple levels, including impacts on one of the most fundamental human rights: food. But the question is whether we are transforming the food security sector fast enough to achieve the net-zero emission target by 2050, while ensuring people have access to not only enough, but also nutritious food. In this context, does the food security sector possess the agility and flexibility to face climate extremes so that everyone has access to nutritious, quality food?



**21-31%** of total greenhouse gas (GHG) emissions are attributable to the food system



**821 million** people are undernourished



**613 million** women and girls aged 15 - 49 suffer from iron deficiency



**151 million** children under five are stunted



Support the livelihoods of over **1 billion** people in the world

The first World Food Summit held in 1996 explains that food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (Food and Agricultural Organization of the United Nations, 2021). Climate change disproportionately impacts all dimensions of food security, including the quantity, quality, access, and food preferences.

## The impact of climate change in South Asia can jeopardize global food security

South Asia is not an exception. On the one end, the region is highly vulnerable to climate change and variability; on the other end, it is a key player in global food supply and value chains. Hence, climate change impacts in South Asia will not only derail the region's food security, but also jeopardize food supply and value chains on a global scale.

According to the Intergovernmental Panel on Climate Change (IPCC), climate-related drivers of impacts in South Asia include a warming trend, extreme temperatures, extreme precipitation, dry spells, damaging cyclones, and sea-level rise. Increased risk of crop failures and lower production are inevitable in the region by 2050.

Water scarcity in arid areas will continue to reduce production and productivity. Furthermore, increased risks of drought-related water and food shortages, which cause malnutrition, pose significant threats to the region. On the other hand, floodplains, lower river basins, and deltas will face increased riverine, coastal and urban flooding, leading to widespread damages to infrastructure, croplands, livestock, livelihoods, markets, and settlements, therefore posing significant risks to food security.

Sea-level rise and sea-water intrusion will also reduce arable lands in South Asia, thus impacting the food production and supply in major parts of the region. Climate change will further exacerbate poverty, inequalities, and vulnerabilities; putting the food security of the region at extreme risk. IPCC projects that food insecurity will be a significant challenge by the middle of the 21<sup>st</sup> century, resulting in the largest number of food-insecure people of the world living in South Asia.

## Climate change mitigation: an option or a need of the hour?

In line with the Paris Agreement, South Asian countries have committed to achieving net-zero emissions by 2050 and limiting global warming to below 2 degrees Celsius. Achieving these goals are possible by focusing on key contributors to greenhouse gas (GHG) emissions.

*Around 21-37% of total GHG emissions globally are attributed to the food security sector.*

Therefore, climate change mitigation in the food security sector is no longer a choice but the only option. For South Asia, all countries in the region need to integrate climate mitigation measures into their food security sectors while updating their Nationally Determined Contributions (NDCs).

Agro-infrastructure, farm machinery, farming practices, waste disposal, post-harvesting losses, food waste, transport, storage, agro-based value-added product manufacturing, supply, and value chains need to be transformed to achieve net-zero emissions targets. Climate innovations are needed now more than ever before to ensure food security concerns are addressed, adaptation options are scaled up, and emissions are reduced through clean and renewable energy sources.

## Adaptation options through the prism of food security

Adaptation to climate change should be a critical component of the region's resilience-building strategy. Some of the key adaptation options include:

**Policy and practice coherence:** Sustainable Development Goals 1, 2, 3 (no poverty, zero hunger, and good health and wellbeing respectively) are directly linked to food security. Failure to achieve these goals by 2030 will inevitably lead to food insecurity in the region. On the other hand, both adaptation and mitigation in the food security sector are important in the implementation of the Paris Agreement. To ensure food and livelihood security, the Sendai Framework for Disaster Risk Reduction (SFDRR 2015-2030) also emphasizes investing in critical sectors to reduce disaster risk. Therefore, countries in South Asia need to look at food security

through policy coherence in implementing global frameworks at local levels.

**Data-driven decision support tools for agro-early warning systems:** Climate and disaster analytics play a crucial role in selecting appropriate mitigation and adaptation options in the food security sector. Agro-Early Warning System (AEWS) is a critical component of adaptation strategies. The AEWS should be designed utilizing local practices, knowledge, and know-how coupled with advanced data gathering, projections, and forecasting tools to enable policymakers, technocrats, and at-risk communities to make risk-informed decisions in time.

**Regenerative agriculture practices:** Regenerative agriculture practices support the reversing of climate change by rebuilding degraded soil and restoring organic matters and biodiversity while improving the water cycle. Regenerative agriculture will be a vital instrument in maintaining and restoring topsoil to meet future production demands. This will also contribute to the production of healthy and quality foods that will contribute to food security in the region.

**Research, innovations, and scale-ups:** Investing in research related to impacts, losses, and adaptation options including drought and flood resilient varieties, pests, and diseases, is critical to meeting food security needs. Promising climate resilience practices (including ecosystem-based approaches and vertical home gardening) need to be scaled-up across the region to have a greater impact in this sector.



Photo by Praveen Kumar





Photo by Praveen Kumar

**Enabling environment through policies, markets, institutions, and governance:** The resilience of the food security sector can be enhanced through risk governance and risk reduction measures, such as insurance markets, index-based weather insurance, and other policy instruments, to promote adaptation and reduce GHG emissions.

The food security sector has already been under severe strain due to disasters and climate change before COVID-19 reached the region. The pandemic has complicated the situation and created new vulnerabilities that make the sector even more fragile.

If the region is to meet food security demands and continue playing its dominant role in the global food supply and value chains, climate change mitigation and adaption are no longer an option; rather, it is an urgent priority. If it is not integrated into policies, strategies, and programs as a priority area, SDG Goal 2 (Zero Hunger) will take a long time to achieve.

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# Need of the Hour: Translating Water Policies into Action

**By Dr. Laxman Sharma**

Home to the mighty Himalayas, Nepal is rich in water resources. Major rivers emerge from its snowfields and glaciers, cascade through gorges and valleys, and flow into the flatlands of the Terai region. But

*despite its water abundance and large potential for hydropower generation, Nepal's rivers are yet to deliver on the nation's dreams and hopes of prosperity.*

Nepal's water resources are widely and unequally dispersed, leading to both abundances and shortages depending on season and locations. The country also imports electricity to meet its demands while hydropower infrastructure is gradually being developed.

Furthermore, climate change impacts pose a serious threat to the development and livelihoods of different communities. People's aspirations and expectations demand an encouraging policy environment that accelerates water sector improvements and contributes to the country's current slogan of a 'prosperous Nepal, happy Nepali'.

Therefore, suitable policies must be developed and implemented to significantly improve the Nepali people's qualities and standards of living in a sustainable manner.

Nepal's new Constitution, adopted in 2015, states that every citizen has the right to a clean and healthy environment. It further prescribes that the State shall carry out multi-purpose development of water resources, ensuring the availability of energy, developing sustainable and reliable irrigation, and reduce water-induced disasters by adopting good river management.

The new federal structure allocates the responsibility of managing water resources to all

three tiers of government (federal, provincial, local) on the basis of project size.

A comprehensive review of policies, strategies, plans, and legislation related to the water resources sector in Nepal was recently carried out under the CARE for South Asia project.

The study revealed that water sector policies in Nepal, which underpin the concept of Integrated Water Resources Management (IWRM), are evolving as the country ushers in a new era of federalism. The Water Resources Strategy 2002 was pivotal in directing the adoption of a policy based on resource conservation, environmental protection, and an understanding that river basins should be holistically managed by decentralized, autonomous, and accountable agencies.

The ideas of economic efficiency and social equity were set up to be the cornerstone of all policies. Complementing the government's policy landscape, the National Water Plan 2005 laid out short, medium, and long-term action plans to achieve stated national goals.

The Government of Nepal recently unveiled the National Water Resources Policy 2020 with the goal to sustainably conserve, manage and carry out multi-purpose development of water resources to contribute to the economic prosperity and social transformation of the country. It accepts multi-sectoral dimensions of water and embraces IWRM principles, including adopting the basin as a unit of water administration.

This new policy spells out the objectives and lays out strategies to achieve them, each defined by action plans. These include the remittance of river basin plans that cover water accounting, allocation and auditing, and prescribing a science and fact-based approach in its planning and management.

The existing legal framework for water resources management in Nepal is still set out in the Water Resources Act 1992 and complemented by the Water Resources Rules 1993.

The primary features of this Act, among others, are a) defining ownership of water resources with the nation; b) requiring permits for water uses; (c) institutionalizing water user groups; and (d) setting the priority order of water use as drinking water, irrigation, agriculture, hydropower, etc., respectively.



Over the years, the Government has promulgated more than 75 policies, acts, rules and guidelines with direct bearings on how water resources are developed and managed.

The Irrigation Policy 2013, Electricity Act 1992, Hydropower Development Policy 2001, and Environment Protection Act 2019 are key examples. One can conclude that the water resources sector is a heavily regulated sector that often confuses the private sector and deters stakeholders from sustainable engagement.

The situation at the provincial level, however, is slightly different. The provincial governments are yet to fully enact their own legislations related to water and conform to the spirit of federalism. The federal level needs to set a clear set of standards, umbrella policies and Acts to systemize provincial and local actions.

The review reveals that Nepal faces numerous challenges and its primary need is to translate policies into actions. Major bottlenecks include lack of capacity, inefficient coordination mechanisms, and overlapping responsibilities of federal, provincial, and local authorities.

Institutions need to be strengthened to build climate adaptation and resilience at all levels. Water harvesting, inter-basin transfers, enhancing water-use efficiencies and reuse, as well as groundwater development, can all be adopted for the sustainable development of the water sector in Nepal as drivers for prosperity.

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## Transport in Bangladesh: *Building Better Roads*

**By Sk. Naureen Laila**

Bangladesh has undergone significant economic growth in the last couple of years. Rural infrastructure development has played a major role in ensuring economic mobility and development. Rural roads are the lifelines that help rural people get connected and move their merchandise and agricultural products all throughout the country.

*Road infrastructure is balancing the growth of the national economy and rural economic development.*

Unplanned road infrastructure can cause either flooding or erosion, ultimately leading to waterlogging and sedimentation. Also, non-resilient infrastructure is more likely to be washed away by floods and other climate-induced hazards. This means that ensuring climate resilience in this sector is imperative to allow other sectors to rebound after disasters and extreme climate-related events.

However, the existing road design standards in the country lack climate resilience, especially in areas prone to flooding and storm surges that may cause erosion and damage to roads. Cyclone/storms are the leading disaster types in Bangladesh, claiming 60% of total death counts around the world, and flooding is the second most damaging disaster, totaling almost 75% of natural hazard-related disasters affecting Bangladesh.

Currently, only 36% of 3.5 million kilometres of roads in the country are paved. Rural roads are under the jurisdiction of the Local Government Engineering Department (LGED), which is under the direct authority of the Ministry of Local Government, Rural Development and Cooperatives.

The need to develop an adaptation and resilience approach for transport infrastructure projects in every phase, especially for rural roads and rail lines, is well-recognized. Different types of climate change impacts will require different types of adaptation measures. The adaptation options for existing infrastructure, including identifying vulnerable locations using vulnerability assessment results, are recognized by the International Union for Conservation of Nature (IUCN).

For example, extreme precipitation causes flash floods or riverine floods. Some of the critical recommendations for controlling the potential effects of these floods are: establishing flood modeling studies supplemented by improved design; improving construction standards using climate-resilient materials; and maintaining surface drainage. Capacity-building activities like the improvisation of policies and regulations with disaster preparedness training are also defined as resilience-building measures.

The Government of Bangladesh emphasizes the development and maintenance of rural roads with climate resilient designs by 2025. Bangladesh aspires to achieve 100% readiness for disasters by year 2041, using the strategic guidelines provided by Bangladesh's 8<sup>th</sup> Five-Year Plan (July 2020-June 2025). Published in 2020, this is the first plan supporting the Perspective Plan 2021-2041 (PP2041) and providing strategic guidelines to develop climate-, disaster- and impact-resilient rural transportation networks. In simple terms, it emphasizes the prioritization of roads to accelerate economic growth.

This Five-Year Plan addresses strategies and specific objectives and targets for rural road development, operation, maintenance, and strategic priorities for rural road networks in Bangladesh. A total of 16,000 km of two-lane rural roads are targeted to be constructed with resilient climate designs by 2025, as per the 8<sup>th</sup> Five-Year Plan. In addition, Bangladesh's PP-2041 supports the development of climate-resilient infrastructure towards achieving 100% readiness for disasters by the year 2041.

The Government of Bangladesh's commitment to eradicate poverty and strengthen rural roads will not only enhance connectivity and accessibility of remote areas in Bangladesh, but also create an opportunity for people living in rural Bangladesh to have dependable and climate resilient infrastructure during disasters and post-disaster periods. The future of Bangladesh's economy depends on building better roads to create climate resilient transport sectors all over the country.

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# A Story of Resilience: Women and Climate-Smart Agriculture

By Sana Zulfiqar

*"We are getting homegrown vegetables and getting an additional income too. I never thought before to earn and save 3500 rupees every month!"*  
- Rubina.

A beneficiary of the Lodhran Pilot Project (LPP), Rubina was selected by the Village Disaster Management Committee to receive training on climate-smart agriculture tools and techniques under its Building Disaster Resilience in Pakistan project.

Women experience a low income and constantly struggle to make ends meet in Jhang, a district in Pakistan's Punjab province. After the LPP's intervention, Rubina can now see a future full of possibilities!

Climate-smart agriculture (CSA) is a component of the LPP's project, which was a much-needed intervention for the rural community in Jhang district. The initiative was implemented from December 2018 to October 2020.

The CSA component sought to enable local farmers to learn and embrace climate-smart techniques to improve community disaster preparedness in seven of the most flood-prone union councils. The project enhanced farmers' economic empowerment and helped communities benefit from higher agricultural yields in the long run.

According to the Global Climate Risk Index, Pakistan is among the top 10 most climate-vulnerable countries in the world. Punjab province, in particular, faces the dichotomy of severe droughts and extreme

floods. These extremities undermine farm yields which eventually threaten household food security in the province.

Women generally own less livestock than their male counterparts and also contract for less pay. These differential constraints and insufficiency of resources can make women more vulnerable to climate shocks than men. Therefore, empowering women such as Rubina with climate-smart tools to help women pilot CSA strategies is an important initiative.

Sakina Mai, another beneficiary of the LPP's project from Dossa colony, recalls that sessions were held for women, who showed keen interest in kitchen gardening. She says that the LPP not only distributed seed packets and a tool kit for practical work, but also guided beneficiaries through the process at every step.

They held fortnightly sessions for all farmers where Sakina was a regular attendee. Soon after implementing the new techniques that she had learned; she noticed an increase in her vegetable yields. She decided to sell this extra produce to support her family.

"This extra income was a blessing during lockdown after the COVID-19 pandemic when my husband was unable to find any work."

Women like Rubina and Sakina belong to some of the most marginalized families in the region. Living in poverty, foreseen disasters like floods greatly affect their livelihoods each year, while unprecedented disasters like the COVID-19 pandemic only increased their hardships. Initiatives like Building Disaster Resilience in Pakistan project by the LPP targeted these communities to lift them out of poverty and give them the confidence needed to help contribute to their families' incomes.

The LPP has benefited 1,284 people, out of which 538 are female, 50 elderly and 8 disabled. The project has not only helped in building disaster resilience and emergency preparedness, but also left the villages with a solid foundation to build on their agricultural techniques. These techniques allow both women and men to actively lend their capacities to food and income security.

Photo by Sana Zulfiqar



*"I have learnt that fostering economic independence is essential to empowering women. Not only women feel recognised but also independent within a household."*

says an empowered entrepreneur, Sakina Mai.

*"I share my learning with other women of my village and motivate them to adopt CSA techniques and kitchen gardening. I am glad this earning is fulfilling basic needs of my family."*

shares Rubina.

As demonstrated by the examples of Sakina and Rubina, climate-smart agriculture can be the future of gearing towards climate resilience for women farmers.

LPP is a non-profit organization that implements different projects and programs in seven districts of Pakistan. The Climate-Smart Agriculture intervention was an important component of its project Building Disaster Resilience in Pakistan supported by the Foreign, Commonwealth & Development Office (FCDO) of the Government of UK (formerly known as DFID) through Concern Worldwide.

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# Climate Fiction and Climate Realities

Dystopian futures, tsunamis as high as skyscrapers and the end of the world as we know it! Authors and movie producers alike have drawn inspiration from climate change emergencies to scare and warn people. But today's fiction is tomorrow's reality as impossible disasters and apocalyptic scenarios jump out of story books and into our real lives.

## Movies:



**Day After Tomorrow (2004)**

Based on the book *The Global Superstorm* (1999), this film depicts a massive storm system that splits into three hurricane-like storms over the northern hemisphere that leads to major tsunamis and a modern Ice Age. It follows protagonist Jack Hall, a paleoclimatologist, in his efforts to warn the world of its impending demise and his dangerous trek through a disaster-ridden New York City to save his son.

*Do you think humanity can survive another Ice Age?*



**Dr. Seuss' The Lorax (2012)**

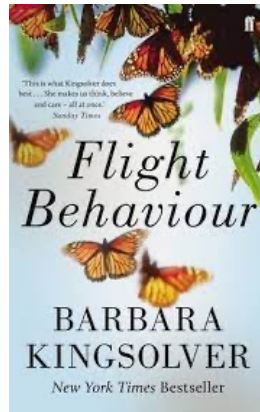
Based on a classic from Dr. Seuss, this movie is family-friendly and on the lighter side of the cli-fi spectrum but still conveys an important message. *The Lorax* is set in an artificial society where there is no vegetation and the mayor sells bottled oxygen to the polluted city. It recalls encounters between a young inventor and the Lorax, the guardian of the forest who 'speaks for the trees', but his warnings go ignored until the world's last tree is cut down to make way for industrialization.

*Its soundtrack 'How bad can I be?' warns all of us of the looming result of our unsustainable practices.*

## Books:

*Climate Fiction, popularly abbreviated as 'cli-fi', is a great source of learning about climate change and its potential impacts on humanity.*

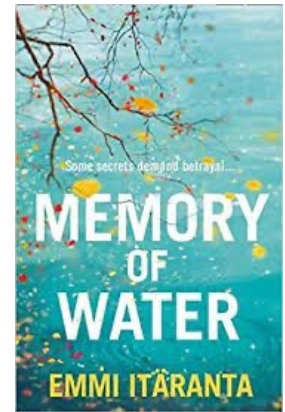
In this section, we take a look at some interesting novels and movies surrounding the 'what ifs' and 'should haves' of climate change. We also invite you, our readers, to share some of your favorite novels, movies or shows on climate change and we'll publish them with your names in the next issue!



**Flight Behaviour (2012)**

Voted 'Best Book of the Year' in 2012 by Washington Post and USA Today, this harrowing novel follows discontented housewife Dellarobia Turnbow in her discovery of millions of monarch butterflies in her in-laws' land. Dellarobia soon learns that the butterflies were thrown off-course by extreme weather events from their winter habitat in Mexico and are at-risk of their new area's climate.

*There are only so many places we can take flight to as the impacts of climate change threaten our communities.*



**Memory of Water (2012)**

Originally published in Finnish and translated to English amidst its popularity, the novel tells the story of how the morals of humanity dissolve in a water-scarce society. A young girl must decide whether to share her family's precious water supply with her friends and fellow villagers and risk being accused of "water crime", punishable by death.

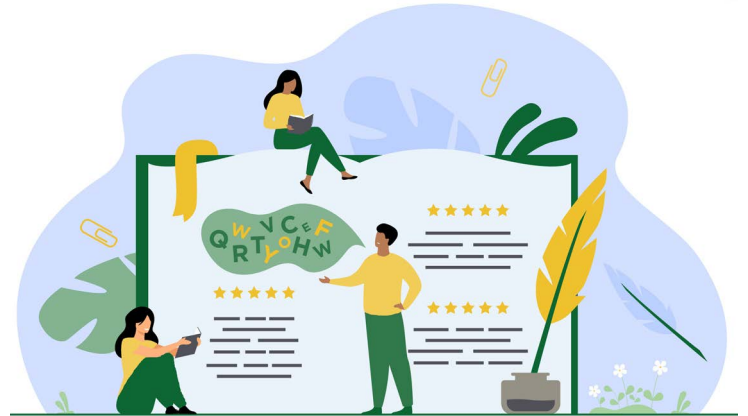
*As droughts become more common and access to water becomes a luxury, how long could our communities survive?*



## Breaking the Jargon

It's easy to get overwhelmed by the different terms used by experts when discussing climate change. The greatest confusion in the public sphere can be attributed to climate change and global warming. If we can't differentiate between these jargons, we won't be able to help find solutions to the many climate-related issues that threaten our ways of life.

Read scientific terms in every edition simplified by our experts in this field.



### Weather or climate?

| Weather   | Climate   |
|---|---|
| Atmospheric conditions that occur locally in short-term (minutes, hours, days). | Temperature, humidity and rainfall patterns over long-term (seasons, years, decades). |
| Weather is measured in <i>real-time</i> .                                       | Climate normal periods are presently updated every 30 years.                          |

### Climate change or Global Warming?

| Climate change  | Global Warming  |
|---|---|
| Changes in temperature, humidity and rainfall patterns that persist for an extended period.   | The estimated increase in global mean surface temperature (GMST) over a 30-year period expressed relative to pre-industrial levels. |
| Caused by natural internal processes (e.g. change in solar cycles, volcanic eruptions) or external forcing (anthropogenic changes in the composition of atmosphere or in land use). | Primarily caused by greenhouse gases released due to burning of fossil fuels.   |

### Climate change adaptation or mitigation?

| Adaptation  | Mitigation  |
|---|---|
| The process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. | A human intervention to reduce emissions (reducing burning of fossil fuel) or enhance the sinks (oceans, forests and soil) of greenhouse gases. |
| Its goal is to reduce our vulnerability to the harmful effects of climate change.   |   |

Source: Global Climate Change, NASA and IPCC

## CARE for South Asia Project Updates

The 'Climate Innovation Challenge' (CIC), a pool of US\$2 million in funding to spur disruptive technologies to build communities' resilience against the threat of climate change in South Asia, was formally launched online. The CIC is financed by the Foreign, Commonwealth & Development Office (FCDO) of the Government of the United Kingdom.

Panelists included government, academia and disaster risk specialists, namely the Government of Bangladesh, Pakistan Planning Commission, India National Disaster Management Authority, Dhaka University and the World Bank. After the call for proposals, each eligible innovator will be able to access a maximum of US\$150,000 to pilot their innovations at regional or national level.

Following up on the CIC, a series of needs assessment national consultations were held in 7 countries across South Asia to discuss how the CIC can best support innovators to deploy tech solutions that are scalable and transferable. The consultations brought together members of parliament, government officials from various ministries, and representatives from the private sector.

A workshop on setting up dialogue and sharing ideas to enhance policies, standards and capacities in the water sector was organized in Nepal. The workshop brought together water-related government organizations and updated them on the project's activities.

Participants included senior government officials from the Ministry of Energy, Water Resources and Irrigation (MOEWRI), Water and Energy Commission Secretariat (WECS) and other departments and research center under MOEWRI.

The workshop consisted of an introduction of the project, Nepal's water-related issues as an upstream water country and government initiatives such as the new Water Resources Policy 2020. A presentation was conducted on the project's regional perspective program and intended activities. Key takeaways included balancing authorities on water jurisdiction.

A mission was organized to Sindh Province in Pakistan to discuss water sector interventions of the project. The discussion focused on how the project should incrementally build on current water-related initiatives in the province. A number of projects being carried out in Sindh in water and agriculture were discussed and opportunities were recognized for future support.

It was suggested that the Government of Sindh is currently in the process of formulating its own Water Policy and there was an opportunity to engage in the policy formulation processes with the provincial government. It was understood that a strategic perspective needs to be built to capitalize on opportunities and that a holistic understanding of the water sector's social, political and economic dimensions in Sindh's context needs to be developed.

A webinar was organized to introduce the components and functionalities of a decision support system (DSS) and using information from this system in development plans and investment decisions. It is part of an upcoming series on 'DSS for understanding and reducing climate risks'.

The webinar brought together local government officials from Bangladesh, Nepal and Pakistan working in the agriculture, water resources, transport, and finance and planning sectors. It provided an overview of DSS and examined a specialized system for agro-meteorological early warning systems. Key takeaways include the fact that the DSS is also useful to prepare and respond to floods and droughts.

Another webinar was organized on the role of DSS in climate-induced agricultural risk management which brought together participants from RIMES, ADPC, World Bank and government officials working in the agriculture sector in South Asia.

The webinar introduced the DSS to participants and three country cases were presented to show examples of agro-met systems used in South Asia. Key takeaways from the webinar include the need to create a system that can assimilate information on a real-time basis, the effectiveness of agro-met decision support systems and the economic benefits of weather advisories to farmers.

A Component Brief was published that provides specific information on the project's second component on enhancing policies, standards, and capacities for climate-resilient development. Read the full Component Brief [here](#) to understand and discover regional and country-level interventions which the project aims to support in the near future.

Following up on the 'Climate Talks' panel discussions, two policy briefs were developed to capture the reflections of the panelists and share expanded research. One policy brief explores the need for [water accounting](#), while the other brief explores the [gender-specific effects](#) of climate change and how inequality can exacerbate the impacts of climate-induced disasters.

Briefs for different key sectors were also published which explore the impacts of climate change on different areas of development and how the project supports climate resilience priorities in each country. The briefs range from agriculture, gender mainstreaming, policy, planning and finance, transport and water in Bangladesh, Nepal and Pakistan. Read the different collections [here](#).

*The Climate Adaptation and Resilience (CARE) for South Asia project brings together data, tools, guidelines, and capacity to mainstream climate adaptive measures in the agriculture, water resources management, transport, and finance & planning sectors. It contributes to an enabling environment for climate resilience policies and investments in climate-sensitive sectors in South Asia, initially focusing on interventions in Bangladesh, Nepal and Pakistan.*

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