

BUILDING  
SUSTAINABLE  
FUTURES:  
ADVANCING  
CLIMATE  
RESILIENCE IN  
SOUTH ASIA



BY FARWA AAMER

Published by the Asia Society Policy Institute in collaboration with  
the World Bank South Asia Region



# Building Sustainable Futures: Advancing Climate Resilience in South Asia

**BY FARWA AAMER**

**PUBLISHED BY THE ASIA SOCIETY POLICY INSTITUTE IN  
COLLABORATION WITH THE WORLD BANK SOUTH ASIA REGION**



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# CONTENTS

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EXECUTIVE SUMMARY	8
INTRODUCTION	9
SOUTH ASIA'S ACUTE CLIMATE VULNERABILITY: AN URGENT CALL FOR RESILIENCE	10
THE CRITICAL NEXUS OF WATER, FOOD, AND ENERGY SECURITY IN SOUTH ASIA	12
CATALYZING CLIMATE FINANCE FOR RESILIENCE IN SOUTH ASIA	16
POLITICAL ECONOMY OF CLIMATE CHANGE	20
CONCLUSION	23
ENDNOTES	24

# EXECUTIVE SUMMARY

South Asia's climate vulnerabilities are severely compromising the region's socioeconomic stability. The impacts of climate change are particularly pronounced in the interlinked sectors of water, food, and energy—all of which are essential for economic and human development but increasingly strained by climate pressures. There is an urgent need to address these challenges with an integrated, systems-based approach as the region's historical means of managing them in silos are no longer sustainable.

To build resilience, South Asian countries must prioritize cross-sectoral collaboration, strengthen governance mechanisms, and develop institutions capable of managing these critical resources more effectively. Given the transboundary nature of problems such as dwindling freshwater resources, rising air pollution, and other shared climate risks, including the need to build coastal resilience, regional cooperation is not just beneficial but critical. Political will must also play a pivotal role in this transformation, but it is insufficient without the support of technical innovations and civil society movements. Grassroots efforts, empowerment of marginalized communities, and inclusive governance structures are necessary to drive meaningful bottom-up change. These shifts are crucial in moving beyond the top-down governance models that have long limited South Asia's capacity to respond effectively to climate challenges.

However, South Asia's path to climate resilience is complicated by significant fiscal constraints. Countries like Bangladesh, Sri Lanka, and Pakistan are grappling with economic crises and political transitions that undermine their ability to self-finance climate adaptation measures. The region urgently needs significant investments in the water, food, and energy sectors, whether for climate-resilient agriculture, better irrigation practices, or robust infrastructure. Rapidly accelerating climate finance mobilization is essential; international financial institutions and development partners play a key role in supporting regional governments to advance their climate resilience strategies. A diverse set of fit-for-purpose financial instruments can help unlock adaptation efforts in debt-strapped regional countries, ensuring that climate action proceeds without exacerbating their economic challenges. There is also growing potential for scaling up public-private partnerships to drive new and innovative climate initiatives. Creating financial incentives for the private sector to incorporate climate resilience into their investments can also help catalyze sustainable development efforts at the local, national, and regional levels.

Navigating the political economy of climate change remains one of the main hurdles to South Asia's climate resilience. Short-term electoral cycles, institutional inefficiencies, and entrenched reliance on high-emission industries hinder the formulation and execution of long-term climate resilience strategies. To overcome these barriers, it is vital to integrate climate policies into broader development frameworks, ensuring that reforms are strategically sequenced and the co-benefits of climate action are clearly communicated. It is equally important to make certain that energy transitions are socially just, minimizing disruptions for vulnerable communities and protecting livelihoods as the region aspires to a low-carbon future.

With the right investments, partnerships, and policy frameworks in place, South Asia can transform its vulnerabilities into opportunities. By leveraging global support, fostering regional cooperation and knowledge sharing, and embracing innovation, the region can build a pathway toward greater climate resilience and sustainable prosperity in the face of escalating climate risks. This report delves deeper into the thematic areas of water, food, and energy security; climate finance; and the political economy of climate change, outlining key solutions for achieving a climate-resilient future for South Asia. The report's findings are based on convenings co-organized by ASPI and the World Bank South Asia Region, which engaged experts and practitioners from the region working on climate resilience.



# INTRODUCTION

South Asia, characterized by diverse geography and climatic variability, faces severe and escalating threats from climate change. The region's environmental richness and dense population amplify its vulnerability. These climatic impacts necessitate urgent policy interventions to mitigate threats, adapt in a timely manner, and ensure resilient development and a sustainable future for the region.

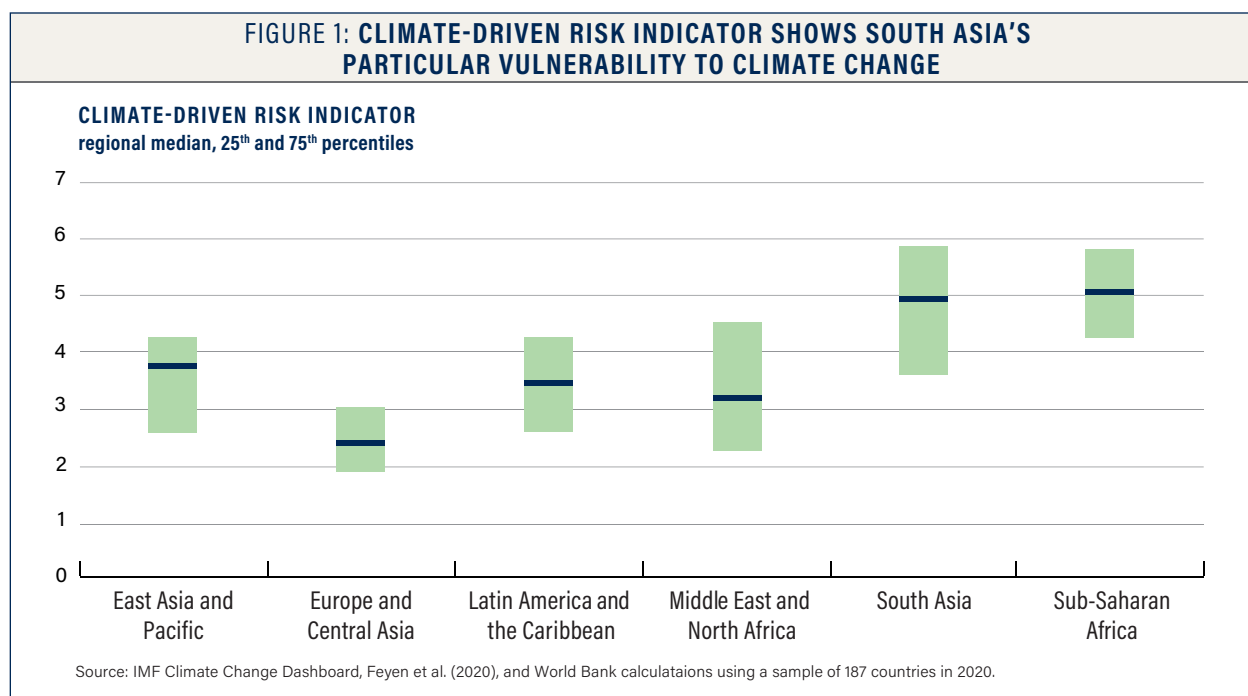
Addressing the climate crisis in South Asia requires a nuanced approach that seamlessly integrates international diplomacy, private sector leadership, financial commitments, and political will, together with robust regional cooperation. It is imperative for countries in the region (and their governments) to ramp up action, forge strong partnerships with global actors, and secure access to vital resources such as technological expertise, financial assistance, and knowledge sharing to implement sustainable solutions and bridge the gap in resources and capabilities needed to combat climate change in the region.

In pursuit of these objectives, the ASPI, in partnership with the World Bank South Asia Region, launched the “Building Sustainable Futures: Advancing Climate Resilience in South Asia” project in 2024. The project aimed to elevate discussions on enhancing climate resilience while promoting a deeper commitment to sustainability and security within South Asia and the global community. As a part of this project, ASPI convened several expert-level climate action roundtables, bringing together key regional and international stakeholders and experts to discuss climate policies and priorities, adaptation strategies, and potential solutions to enhance climate resilience in South Asia. This report serves as a crucial component of that project, distilling key insights from the roundtable series, which focused on three critical themes: (1) the water-food-energy security nexus in South Asia, (2) strategies for catalyzing climate finance for resilience, and (3) the political economy of climate change. By synthesizing these discussions, the report provides a strategic framework and important recommendations for addressing the region's most pressing climate-related challenges and guiding future policy interventions.

**The project aimed to elevate discussions on enhancing climate resilience while promoting a deeper commitment to sustainability and security within South Asia and the global community.**

# SOUTH ASIA'S ACUTE CLIMATE VULNERABILITY: AN URGENT CALL FOR RESILIENCE

The sixth assessment report of the Intergovernmental Panel on Climate Change highlights South Asia's acute vulnerability to climate change, which is exacerbated by developmental constraints, pervasive poverty, governance challenges, and reliance on climate-sensitive livelihoods.<sup>1</sup> The International Monetary Fund's Climate Change Dashboard shows that South Asia's climate vulnerability index is among the highest in the world, with a much higher median than other subregions in Asia (Figure 1).<sup>2</sup> The University of Notre Dame's Global Adaptation Initiative (ND-GAIN) index demonstrates that countries like Pakistan, Bangladesh, Afghanistan, and Nepal rank high on climate vulnerability but low on readiness to adapt, reflecting their limited capacity to cope with the impacts of climate change.<sup>3</sup>



Although South Asia contributes only 8% of global carbon emissions,<sup>4</sup> the region bears a disproportionate share of climate-induced adversities, underscoring the urgent need to build climate resilience.

Extreme weather phenomena in South Asia have escalated in both frequency and severity. The summer of 2024 witnessed severe heatwaves across the region, particularly in India and Pakistan, where temperatures soared above 50 degrees Celsius, with Delhi experiencing its hottest day on record.<sup>5</sup> The region is experiencing a “new climate normal” as more than half of South Asia's population, around 750 million people, have already been affected by one or more climate-related disasters in recent decades.<sup>6</sup>

Erratic monsoon patterns are causing severe flooding and extended droughts, disrupting agriculture, which is crucial for food security and employs a significant portion of the population. The catastrophic floods in Pakistan in 2022, which impacted more than 33 million people and resulted in total damages over USD 14.9

billion, exemplify the devastating effects of these changes.<sup>7</sup> Rising sea levels further threaten coastal areas, exacerbating saltwater intrusion and displacing millions of people in the region. South Asia's reliance on critical transboundary river basins—such as the Indus, Brahmaputra, and Ganges—compounds its water security challenges, as the region possesses only 4% of the world's annual renewable water resources, leading to significant supply-demand imbalances.<sup>8</sup>

The socioeconomic repercussions of climate change disproportionately affect marginalized and disadvantaged communities, who have the least capacity to adapt and recover. Vulnerable groups, including women, children, and the elderly, face heightened risks to their health, livelihoods, and overall well-being. UNICEF estimates that 76% of children under

age 18 in South Asia are exposed to extremely high temperatures, highlighting the urgent need for robust climate resilience strategies.<sup>9</sup> Adverse climate impacts further strain economies that are already burdened by crippling external debt. Countries such as Pakistan and Sri Lanka lack the fiscal capacity to manage the repercussions of climate change and meet their development needs at the same time.

Building climate resilience in South Asia is thus not merely an environmental necessity but a socioeconomic imperative, especially as the countries are ill-equipped to adapt to the climate crisis at the required pace.

**Vulnerable groups, including women, children, and the elderly, face heightened risks to their health, livelihoods, and overall well-being.**

# THE CRITICAL NEXUS OF WATER, FOOD, AND ENERGY SECURITY IN SOUTH ASIA

The interdependence of water, food, and energy security poses a formidable challenge for South Asia. An integrated and holistic resource management approach is essential to effectively address these intertwined issues. Such a strategy is critical not only for enhancing human security but also for bolstering economic resilience and fostering sustainable development across the region.

Water security is the linchpin of this nexus, as it is crucial for sustaining agricultural productivity and energy generation. South Asia is one of the most water-stressed regions in the world, with a staggering 74% of the region's population grappling with high water stress levels.<sup>10</sup> The region's transboundary river systems are all vital for its fresh water supply. However, these rivers are under severe stress as a result of climate-change-induced shifts in precipitation patterns, glacial melt, and over extraction. According to a study conducted by the University of Leeds, the Himalayan glaciers have lost ice 10 times faster over the

last few decades compared with the average since the last major glacier expansion.<sup>11</sup> This threatens the sustainability of the region's freshwater resources, which depend heavily on glacial melt.

**Food security in the region is intrinsically dependent on its climate, water availability, and consequent agricultural productivity.**

Many of the rivers in the region are fed by precipitation, and erratic rainfall patterns add to these concerns. Increasing rainfall variability, especially during the key monsoon season from June to September every year, further complicates

water management and affects the region's agricultural productivity. Shortages in surface water to irrigate crops like rice and wheat—India is the second-largest global producer of wheat—are coupled with extensive exploitation of groundwater to support the region's major agrarian economies. South Asia is the largest groundwater abstractor globally, and India, Pakistan, and Bangladesh together are responsible for pumping about half the world's groundwater for irrigation purposes.<sup>12</sup> This dependence is only going to grow with the region's increasing population and related demand growth, emphasizing how food security in the region is intrinsically dependent on its climate, water availability, and consequent agricultural productivity.

The second key component of the nexus is food security. According to the Food and Agriculture Organization, around 15% of South Asia's population remains undernourished—the highest share in the Asia-Pacific region.<sup>13</sup> A 2021 study utilizing crop simulation models projected a 16% decline in wheat yields in South Asia by 2050 as a result of climate change.<sup>14</sup> This decline poses a severe threat to food security, as wheat is a staple in the region, and underlines the need for systemic improvements in food production and distribution.

Climate disasters and extreme weather events have a dramatic impact on agricultural production and thereby food security. For example, the 2022 floods in Pakistan caused severe food shortages and increased inflationary pressures by destroying a substantial portion of the country's agricultural output. Bangladesh is predicted to lose one-third of its agricultural GDP by 2050 because of climate variability and extreme events.<sup>15</sup>

The third component of this nexus is energy. Energy security is fundamental to economic growth and development in South Asia. It is vital for powering industries, supporting rural electrification, and driving agricultural productivity, leading to a surge in demand and immense pressure on existing energy infrastructure

and resources. In addition, the region relies heavily on fossil fuels, particularly coal, for its energy needs. For example, according to the International Energy Agency (IEA), coal accounted for around 70% of India's electricity generation in 2021.<sup>16</sup> In 2023, the Power Grid Company of Bangladesh reported that country's coal share of the power generation fuel mix rose year on year from 8.9% to 14.2%.<sup>17</sup>

Water is a critical component of energy production, particularly for thermal power plants and hydropower. A substantial portion of South Asia's electricity is generated from thermal power plants, which use coal, natural gas, or nuclear energy—all water-intensive processes—making them particularly susceptible to water scarcity and fluctuations in water availability. Additionally, groundwater irrigation practices for agriculture consume significant energy for pumping. Energy use is subsidized for irrigated agriculture, leading to overexploitation of groundwater. For example, in India, 46.9% of all subsidies in the agricultural sector were for electricity in 2023–2024, a jump from 40.13% the previous year.<sup>18</sup>

The region is harnessing its hydropower potential as a part of a larger transition to clean energy. According to the IEA, hydropower accounts for 14.5% of total electricity generation in South and Southeast Asia and more than 90% in countries like Bhutan and Nepal.<sup>19</sup> However, hydropower depends directly on river flows and water availability, making it vulnerable to the impacts of climate change. Any variability in river flows caused by changing precipitation patterns and melting glaciers can have a drastic impact on hydropower production. Hydropower projects also face political and economic challenges as the region's main rivers cross national boundaries, requiring an additional layer of due diligence, dialogue, and diplomacy to execute and implement.

**To effectively address the shared threat of climate change, participants noted that it is imperative to establish cooperative mechanisms and institutional frameworks that foster coordinated and cohesive actions.**

Therefore, the interlinked challenges of water, food, and energy security in South Asia necessitate integrated and adaptation-centric management approaches. In light of these considerations, the project's first climate action roundtable on the "Water-Food-Energy Security Nexus in South Asia" yielded several key takeaways:

- **Cross-sectoral collaboration, integrated policies, and coordinated governance within each country:** Traditional siloed approaches are inadequate for managing the interconnected challenges of the water-food-energy nexus. Participants identified a need for effective cross-sectoral collaboration, wider stakeholder engagement, and a coordinated approach to policymaking and resource governance at all levels of decision-making. A granular understanding of water dynamics is key to effective policymaking and implementation. Building public trust in existing decision-making bodies and establishing institutions like national water commissions can also promote federal and interstate cooperation within South Asian countries.
- **Importance of regional cooperation:** Given the transboundary nature of water resources and shared energy and food security challenges, a "hydro-solidarity" approach requires diplomacy and regional cooperation. To effectively address the shared threat of climate change, participants noted that it is imperative to establish cooperative mechanisms and institutional frameworks that foster coordinated and cohesive actions. Specific opportunities and challenges include the following:

- » Reinvigorating and leveraging existing regional mechanisms, such as the South Asian Association for Regional Cooperation, to serve as a platform for climate dialogue and joint projects—supported by the active involvement of international organizations, civil society actors, and expert communities—could provide a constructive means for region-wide cooperation. Additionally, setting up river basin organizations to promote transboundary cooperation and fostering trust among riparian countries can help ensure fair and equitable water use that sustains ecosystems, food production, and energy needs.
- » The political situation in South Asia often obstructs data sharing. Although an overnight change is unrealistic, foundational steps can be taken to facilitate information exchange. Approaching and revisiting existing transboundary water agreements through a lens of coordination on shared challenges could provide more incentives for regular data sharing among riparian countries. Enhancing rainfall assessments at the subdistrict level through data mining and methodological analysis can improve planning and implementation.
- » Paving the way for science, technology, and business to be active voices in climate policies and water governance can help build a foundation for a more synchronized and holistic means of data sharing, policymaking, and resource management within countries and across the region.

The political situation in South Asia often obstructs data sharing. Although an overnight change is unrealistic, foundational steps can be taken to facilitate information exchange.

» The cryosphere is a critical area in which cooperation is possible to augment capacity, share knowledge, and work toward regional stabilization. Enabling a shared understanding of the impacts of climate-related changes in the cryosphere and constructive dialogues among regional stakeholders can help in devising effective adaptation strategies,

especially concerning the implications on the region's water resources, which could, in turn, impact all other national and regional development goals.

- **Global advocacy:** Participants called for leveraging international platforms such as the UN General Assembly and the UN Climate Change Conference (COP) to showcase regional cooperation efforts, highlighting South Asia's unique climate challenges, and advocating for increased international support and funding for regional climate initiatives.
- **Role of donor community and development partners:** Participants unanimously agreed that the donor community is a crucial player in building capacity and mobilizing action, enabling domestic actors to address climate challenges effectively. Institutions like the World Bank are increasingly devoting resources to support South Asia's climate adaptation and resilience-building needs. The World Bank has devoted around 35% of its lending portfolio to climate adaptation and mitigation in the region over the last few years.<sup>20</sup> Additionally, development partners like the United Kingdom's Foreign, Commonwealth and Development Office (FCDO), through the Climate Action for a Resilient Asia initiative, have launched partnerships with the World Bank—the Resilient Asia Program—to accelerate climate action and support projects that mobilize climate finance, strengthen water security, and conserve ecosystems and biodiversity across South Asia as well as the wider Indo-Pacific region.<sup>21</sup> The

Nepal government's National Adaptation Program of Action, backed by the FCDO and the United Nations Development Programme (UNDP), among other organizations, is another good example of how partners can work together to support sustainable development and address climate vulnerabilities in South Asia.<sup>22</sup> Building on these efforts will better support the region's growing development needs.

- **Focus on clean energy, sustainable agriculture, and efficient water usage:** Efforts to enhance water use efficiency in energy generation must be intensified by shifting to clean energy sources like solar and wind, which require significantly less water than traditional thermal power methods. Participants called for promoting climate-resilient and water-efficient crops such as millet, which can improve nutrition security.

Innovative practices such as water recycling, reuse, advanced irrigation techniques, and better incentives for farmers to adopt sustainable agricultural methods should also be implemented. For example, in India, the World Bank–supported “Pani Bachao, Paise Kamao” (Save Water, Earn Money) scheme in the state of Punjab enabled better agronomic practices and reduced farmers' water and electricity consumption by 30%.<sup>23</sup>

- **Empowering grassroots movements and inclusivity:** Political will must be complemented by technical and civil society initiatives to drive sustainable solutions. Empowering grassroots movements; advancing the voices of youth, women, and marginalized groups; and fostering bottom-up approaches were recognized as important strategies to generate momentum for change, transcending traditional top-down governance structures.

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# CATALYZING CLIMATE FINANCE FOR RESILIENCE IN SOUTH ASIA

South Asian economies are highly climate sensitive and grappling with severe fiscal challenges.

The average government debt-to-GDP ratio in the region stood at 86% in 2022, the highest among emerging markets and developing economies.<sup>24</sup> This heavy debt burden is compounded by the impacts of the COVID-19 pandemic and the repercussions of global conflicts on regional economies. Sri Lanka experienced its worst-ever economic crisis in 2022, which caused the country to default on its foreign debt.<sup>25</sup> Similarly, Pakistan, where the 2022 floods added to persistent economic woes, had a total external public debt of USD 88.84 billion in that year.<sup>26</sup> Both countries are still reeling from economic crises as they undergo political transitions this year in the face of growing development needs.

This fiscal strain limits the capacity of these nations to self-finance required climate resilience measures. The region is also one of the poorest globally, with a majority of the population living on less than USD 3.65 a day.<sup>27</sup>

The economic cost of inaction on climate change measures in South Asia is high. Climate-change-related GDP per capita losses for South Asian countries are projected to exceed the global average of 7%, with projected losses of 13% for Nepal, 10% for India, and 10% for Pakistan in 2100.<sup>28</sup> These figures highlight the need for urgent and effective climate finance to respond effectively and prevent further economic degradation. Per the United Nations Environment Programme's (UNEP's) Adaptation Finance Gap 2023 report, South Asia's annual adaptation finance needs for the period 2021–2030 range from USD 40 to 205 billion, with a median need of USD 97 billion. This represents a sizable median need of 2.4% of GDP annually (Table 1).<sup>29</sup>

**TABLE 1: ESTIMATED DEVELOPING COUNTRIES' ADAPTATION FINANCE NEEDS BY REGION FOR THE 2021-2030 PERIOD**

REGION	ANNUAL ADAPTATION FINANCE NEEDS IN US\$ BILLION (2021 VALUE)		ANNUAL ADAPTATION FINANCE NEEDS AS A PERCENTAGE OF GDP	
	Median	Min - Max	Median	Min - Max
East Asia & the Pacific	158	27-439	0.7	0.1-1.9
South Asia	97	40-205	2.4	1.0-5.1
Latin America & the Caribbean	51	6-149	0.9	0.1-2.7
Sub-Saharan Africa	46	17-96	2.4	0.9-5.0
Middle East & North Africa	27	8-66	0.7	0.2-1.8
Europe & Central Asia	8	2-20	1.4	0.3-3.6
Global	387	101-975	1.0	0.3-2.5

Source: UNEP Adaptation Finance Gap 2023 Report

The World Bank's Country Climate and Development Reports (CCDRs) are a diagnostic tool for integrating climate and development needs.<sup>30</sup> These CCDRs inform the World Bank's engagements in countries to attract funding and co-financing for climate action. Some of the reports also estimate climate finance needs for countries and identify priority areas for climate-resilient development by informing policy and institu-



tional reforms. Table 2 details the climate finance needs and priority sectors in three South Asian countries, according to the CCDRs.

TABLE 2: ESTIMATES OF CLIMATE FINANCE NEEDS FOR SOUTH ASIAN COUNTRIES PER WORLD BANK CCDRs				
COUNTRY	TOTAL (billions of USD)	BREAKDOWN	COST OF COMPONENT (billions of USD)	TIME FRAME
BANGLADESH	303.7	BPD2100: Adaptive water management and infrastructure	38	2018–2030
		NDC unconditional mitigation: Energy, agriculture, forestry, land use, and waste	32.3	2021–2030
		NDC conditional mitigation (same as above)	143.7	2021–2030
		Mujib Climate Prosperity Plan: Adaptation, just transition of labor, technology transfer, increased public revenue, renewable energy, energy efficiency, power, and transport resilience	89.7	2022–2030
NEPAL	243.5	Adaptation	47.4	2021–2050
		Mitigation	196.1	
PAKISTAN	348.4	Deep decarbonization: - Low-carbon power supply (\$84.7 billion) - Transport (\$57 billion) - Phase out coal and replacing with solar (\$31 billion) - Energy Efficiency (industry) (\$9.8 billion) - Energy Efficiency (buildings) (\$5.5 billion) - Clean cooking (\$1.3 billion) - EE irrigation (\$0.3 billion)	189.6	2023–2030
		Adaptation: - Disaster preparedness and response (\$85.7 billion) - Universal water and sanitation (\$55.2 billion) - Modernization of irrigation systems (\$4 billion)	144.9	
		Crosscutting: - Wastewater management (\$7.5 billion) - Municipal solid waste management (\$6.4 billion)	13.9	

Source: Bangladesh CDR,<sup>31</sup> Nepal CDR<sup>32</sup> and Pakistan CDR.<sup>33</sup>

For building greater climate resilience, key areas that require immediate investment include (1) transitioning to sustainable energy sources to reduce greenhouse gas emissions, (2) implementing practices that increase agricultural resilience to climate impacts, and (3) developing robust urban infrastructure to withstand climate-related stresses.

As climate change impacts the informal sectors of the workforce, migration to urban centers will increase. The region's urban areas, which currently lack adequate infrastructure, must be prepared to support the influx of climate migrants. The number of climate migrants is projected to increase sixfold between 2020 and 2050, potentially accounting for 25% of all internal migrants in the region.<sup>34</sup> The poorest and most climate-vulnerable areas will be hardest hit, making it imperative to bolster infrastructure and social support systems in both rural and urban areas.

Scaling up climate finance with private sector support is crucial for building adaptation and resilience. The global private sector is showing growing interest in investing in resilience and collaborating with governments to direct finance toward solutions. Practical tools and frameworks, such as the Global Adaptation and Resilience Initiative (GARI) and Standard Chartered reports, discussed below, can help drive this investment.

Against this backdrop, the project's second climate action roundtable, "Catalyzing Climate Finance for Resilience," brought together expert stakeholders from the private sector, multilateral institutions, academia, and think tanks. The discussion focused on tools and actionable strategies to bridge the climate finance gap in South Asia. Participants highlighted how a focus on inclusive and climate-resilient development would address the adaptation needs of the region. Below are some key takeaways:

- **People-centric approach and community-based solutions:** Identifying populations exposed to high-risk scenarios as a result of climate change was seen as essential to pave the way for the inclusion of local communities and vulnerable groups in planning and implementation. Such a bottom-up approach can enhance the effectiveness of resilience projects. Furthermore, improving access to finance for cities and municipalities is critical, given their high exposure to climate risks.
- **Assessing the environmental costs of business:** While the economic costs are apparent, participants argued that businesses operating in the region need to factor in the environmental costs of their operations to ensure that economic activity is not being conducted at the risk of environmental degradation. This should be considered in climate finance assessments and discussions about the role and responsibility of the private sector.
- **Positive framing:** Participants agreed that shifting the narrative around adaptation to highlight success stories can attract more attention and funding. Emphasizing the business case for adaptation and resilience can help demystify the process, engage more stakeholders, and drive more investment in adaptation in tandem with investment flows toward mitigation.
  - » GARI's first-of-its-kind investor toolkit for climate resilience solutions,<sup>35</sup> launched in partnership with the Lightsmith Group, the Bezos Earth Fund, and others, is an important example of a framework that already identifies companies in the business of climate resilience. The toolkit simplifies the learning curve by highlighting investors that are already invested in climate resilience and encouraging further investment in adaptation solutions.
- **Improving data availability:** Developing comprehensive data on climate risks and resilience investments can guide decision-making. Using climate modeling and mandating climate risk disclosures and risk assessments can provide valuable insights for investors and policymakers, encouraging better investment practices. Institutions like the UNDP are working with the climate finance network and sustainable finance hubs to address challenges such as the lack of data and providing the impetus for SDG (Sustainable Development Goals) investments by way of methodologies such as SDG investor mapping.<sup>36</sup>
- **Enhance investor confidence and private sector investment:** Participants noted the importance of developing and applying a resilience rating system for projects, assessing both the design and outcomes of projects to provide investors with clear and reliable information. Emphasizing the financial benefits of resilient investments and creating incentives for the

private sector to integrate a climate lens into their investments can help make such projects more attractive and secure.

- » The World Bank's Resilience Rating System, along with its climate risk testing method and tool, serves as a model that can be applied widely to guide investment decisions and ensure climate-resilient development.<sup>37</sup> Additionally, Standard Chartered, KPMG, and the United Nations Office for Disaster Risk Reduction's Guide for Adaptation and Resilience Finance provides an essential and accessible investment road map to build investor confidence in adaptation projects.<sup>38</sup>
- **Strengthening governance to unlock climate finance in South Asia:** Countries in the region that rely on agriculture and tourism face high climate risk and credit challenges. Enhancing government decision-making can be important in improving credit ratings and climate resilience. Partnering with international financial institutions and development partners can also help governments advance their resilient development agendas. For example, in 2023, the government of Bangladesh partnered with multilateral banks, bilateral donors, and private sector organizations to create the Bangladesh Climate and Development Platform to fund and prepare projects for climate adaptation and mitigation, with the goal of attracting further private sector investment.<sup>39</sup>
- **Enhancing public-private partnerships (PPPs):** Participants shared that strengthening frameworks and incentives for PPPs will attract private sector investments in climate projects, leveraging the sector's expertise and capital for large-scale climate mitigation and adaptation efforts, as well as creating more room for blended finance flows.
- **Developing green bonds and sustainable finance instruments:** Governments, financial institutions, and corporations in South Asia should promote the issuance of green bonds and other sustainable finance instruments. This can significantly increase capital for renewable energy projects, sustainable infrastructure, and climate resilience initiatives.
- **Forward-thinking approach to debt and climate finance:** The discussion emphasized the interplay between debt and public finance in mobilizing climate finance. South Asian countries like Pakistan, Maldives, and Sri Lanka face heavy debt burdens, and instruments like debt for climate adaptation activities introduce significant risks to the economic health of these countries. A wide range of instruments such as guarantees and results-based finance can bolster the adaptation ambitions in such countries. Easing interest payments during times of climate crisis can also help alleviate the economic burden.
  - » The World Bank's Climate Resilient Debt Clauses are a significant advancement, allowing countries to defer principal and interest payments on International Bank for Reconstruction and Development flexible loans and International Development Association credits in the event of certain natural disasters.<sup>40</sup> This provides critical financial relief and supports resilience in vulnerable nations. However, at this time, Bhutan and Maldives are the only South Asian countries that are eligible (because of to their designation as members of the Small States Forum and as small island developing states, as defined by the UN), making a case for further expansion of eligibility to other debt-ridden regional countries.

# POLITICAL ECONOMY OF CLIMATE CHANGE

As South Asia faces the escalating impacts of climate change, the region's ability to respond effectively hinges on more than just access to climate finance and technical solutions. A critical yet often underexplored dimension is the political economy that shapes climate action across the region. The socioeconomic, political, and institutional challenges that pervade South Asia—rooted in diverse governance structures, entrenched inequalities, and varying levels of development—pose significant barriers to the formulation and implementation of effective climate policies. Understanding how these factors interact to either support or hamper climate resilience is essential for advancing sustainable development and designing and implementing policies that address the environmental challenges while also promoting socioeconomic resilience in the region.

South Asia's economic development relies heavily on sectors like coal, agriculture, and manufacturing, which are significant contributors to greenhouse gas emissions. These sectors are deeply entrenched in the region's economies and political landscapes, making it difficult to transition to low-carbon alternatives.

**The socioeconomic, political, and institutional challenges that pervade South Asia—rooted in diverse governance structures, entrenched inequalities, and varying levels of development—pose significant barriers to the formulation and implementation of effective climate policies.**

Political leaders often face pressure from powerful industry lobbies to prioritize short-term economic growth over long-term environmental sustainability. The reliance on coal, for instance, is driven by its role in energy security and employment, particularly in countries like India, where the coal industry wields considerable influence over policy decisions. In Pakistan, the coal sector employed around 100,000 workers in 400 coal mines in 2022.<sup>41</sup>

However, we have seen some positive developments. India committed to increasing the share of non-fossil electricity generation capacity to 50% by 2030,<sup>42</sup> and at COP26 in Glasgow, Indian Prime Minister Narendra Modi announced India's plans for reaching net zero emissions by 2070.

Political leaders in South Asia often operate within short-term electoral cycles, prioritizing immediate economic gains and popular policies over long-term climate strategies. This focus on short-term results can lead to the underfunding of climate initiatives or the implementation of policies that are economically expedient but environmentally harmful. This year has seen key political transitions in South Asia. Although climate change and energy transition remain urgent priorities, economic and political instability in the region will require new governments to focus policy action on these “primary” issues first, potentially putting climate policies on the back burner.

Another significant barrier is weak institutional capacity, which undermines the effectiveness of climate policies. Corruption, bureaucratic inefficiencies, and a lack of technical expertise encumber governments' ability to enforce regulations, manage climate funds, and implement adaptation and mitigation projects. These institutional weaknesses are exacerbated by overlapping responsibilities among government agencies,

resulting in policy incoherence and delays in climate action. In water governance, for example, the absence of robust river basin organizations and regional frameworks limits coherent, cooperative policymaking for climate action across the region. The region also faces a lack of coordination between federal/central and provincial/state level governments, which impacts policy implementation. Furthermore, the region's most urgent resilience needs are at the local level, where both financing and institutional capacities remain weak.

Geopolitical tensions and historical mistrust among South Asian countries also deter cooperation on a regional scale, even though climate change and water stress are recognized as shared challenges that demand coordination and collaboration between governments.

The region is home to a number of climate-vulnerable populations, such as those in rural or marginalized communities, who often lack the resources to adapt to climate impacts or influence policy decisions. This social stratification limits the political will to implement inclusive climate policies, as the needs of the most vulnerable are frequently overshadowed by the interests of more powerful economic and political elites. As a result, discriminatory climate policies exacerbate existing inequalities, further entrenching the political economy barriers to effective action. For example, in realizing its net zero goal, India's government will also have to navigate the transition of about 70% of the approximately 2.6 million people employed in coal mining.<sup>43</sup>

With that in mind, the project's final climate action roundtable focused on the "Political Economy of Climate Change in South Asia." The roundtable discussion delved into the challenges and opportunities of formulating and implementing climate policies and advancing resilience in South Asia while navigating political economy barriers. Participants provided valuable insights into policymaking processes, offering critical lessons and strategic recommendations for advancing climate action in South Asia. The following are some key takeaways:

- ***Climate policies should be embedded in development priorities:*** In South Asia, where development challenges are pressing, participants emphasized that successful climate policies should be framed as solutions to immediate concerns like energy access, infrastructure, and economic growth to enable broader support for climate policies. As seen with India's National Solar Mission,<sup>44</sup> the focus on energy security and access, rather than purely emissions reduction, allowed for political and social acceptance, eventually leading to its successful implementation.
- ***Policy sequencing is crucial:*** Climate policy implementation is a long-term process that requires strategic sequencing. For instance, China's emissions trading system took two decades to build,<sup>45</sup> following the growth of renewable energy and gradual environmental regulation. South Asian governments should plan phased rollouts of climate policy to allow time for economic sectors to adapt. Participants noted that political economy is not static – as policies are implemented, the environment evolves and new policies become possible. For example, a country can start with incentive-based policies (e.g., renewable energy subsidies) and build toward more complex measures (e.g., carbon pricing).
- ***Address distributional impacts:*** Policymakers must evaluate the distributional impacts of climate policies, considering how different sectors (food, energy, consumer goods, etc.) and population groups will be affected. As South Asia transitions away from coal dependence, climate policies must address the social and economic effects on vulnerable communities.

Financial compensation alone is not enough; it must be paired with strong job creation in alternative industries plus support for local community development. This applies to both energy transition and sustainable agriculture initiatives. Participants agreed that this comprehensive approach will make climate reforms more acceptable to the public and ensure a just transition.

- **Build public trust:** Policies that affect prices or livelihoods, such as subsidy removal or carbon pricing, often face resistance unless trust is established through early delivery of benefits and transparent governance. South Asian governments should build trust by ensuring visible short-term benefits (e.g., improved public services, job creation) from climate policies. Early and transparent communication about the long-term benefits of reforms (e.g., improved health outcomes) can also help gain public support. As governments

**Participants added that bringing together multiple stakeholders – local governments, civil society, private sector, coal workers, and farmers, among others – will help build political support for future climate policies.**

change hands, there should be a renewed focus on full transparency and ensuring a strong commitment to achieving climate goals remains.

- **Managing perceptions and developing positive framing:** When designing climate policy processes, perceptions of policy impacts matter even if those perceptions sometimes diverge from the likely actual impacts. Working with those public and political perceptions in mind, governments must find means of positive communication and overall framing of the policy—one that emphasizes co-benefits, compensatory policies, and transparency—to garner wider acceptance and achievable results.
- **Improve climate governance, cross-sectoral coordination, and local community engagement:** Participants shared that effective reform requires coordination across all relevant government ministries (agriculture, health, environment) and decision-making levels (federal, state). As new climate reforms are considered, the federal policy community should support building the capabilities of local and regional governments to manage and implement climate transition policies effectively. This includes providing training, technical support, and financial resources. In addition, taking a decentralized approach to climate policy implementation would allow local governments to tailor solutions to their specific contexts and needs, enabling a more successful implementation. Participants added that bringing together multiple stakeholders—local governments, civil society, private sector, coal workers, and farmers, among others—will help build political support for future climate policies. Policymakers should focus on gathering and promoting evidence from the ground up, leveraging knowledge of communities directly affected by environmental degradation and subsidies. Highlighting these voices can help reshape the political narrative and provide a more compelling and inclusive case for reforms.



# CONCLUSION

The climate challenges facing South Asia are complex and severe, requiring an urgent, coordinated, and comprehensive response. This report, informed by expert insights and thorough analysis, emphasizes the need for South Asia to build resilience through adopting innovative approaches, advancing regional collaboration, and building strong global partnerships. Securing vital resources—technology, finance, and knowledge—will be essential in realizing effective adaptation and mitigation efforts across the region. Success also demands strong political will, informed by evidence-based policy, private sector leadership, civil society engagement, and sustained international cooperation. By advancing these principles, South Asia can turn its climate vulnerabilities into opportunities for sustainable and inclusive development, ensuring a secure future for its people and ecosystems.

ASPI and its partners will continue to spotlight the region's climate challenges, actively mobilizing experts and engaging stakeholders to advance ongoing dialogue and policy discussions. Through our collective efforts, we aim to meaningful action on climate resilience in South Asia.

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