PUNE INTERNATIONAL CENTRE

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Unlocking Climate Finance: Overcoming Barriers to Private Investment in South Asia

August 2025

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Abstract

This paper examines the challenges of mobilising private capital for climate finance in South Asia as the paucity of financial resources exacerbate the regions capacity to counter the persisting climate change issues. Although public funding has traditionally accounted for the majority of climate-related investments, but it remains insufficient to satisfy the region's NDCs and its resilience objectives. The study looks into institutional, structural, and regulatory impediments that prevent private investment, such as inconsistent policies, fragile financial markets, a lack of data, and geopolitical risks. The study uses a mixed-methods approach to evaluate the existing situation and outline future directions by combining regional statistics, policy reports, and case studies. In order to counter climate concerns and involve private stakeholders, it highlights the potential of blended finance, public-private partnerships, and cutting-edge instruments like green bonds and credit guarantees. In order to promote sustainable financial flows, the paper also emphasises the importance of institutional reforms, strong climate information systems, and regional cooperation. The paper makes the case that enabling private investment is essential for fulfilling South Asia's economic aspirations and ameliorating its current climate action efforts. In order to facilitate increased contribution of private stakeholders, the paper argues for a paradigm shift towards cooperative, market-responsive climate governance.

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List of Abbreviation

AQI	Air Quality Index
BIMSTEC	Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation
DFI	Development Finance Institution
EMDEs	Emerging and Developing Economies
ESG	Environmental, Social and Governance
GHG	Greenhouse Gas
GCF	Green Climate Fund
GDP	Gross Domestic Product
G7	Group of Seven
G20	Group of Twenty
IEA	International Energy Agency
IFC	International Finance Corporation
IFI	International Financial Institutions
IMF	International Monetary Fund
IORA	Indian Ocean Rim Association
IPCC	Intergovernmental Panel on Climate Change
LDC	Least Developed Countries
LED	Light Emitting Diode
MDP	Multilateral Development Banks
NAP	National Adaptation Plan
NC	National Communication
NDC	Nationally Determined Contributions
OECD	Organisation for Economic Co-operation and Development

PPP	Public-Private Partnership
R&D	Research and Development
SAARC	South Asian Association for Regional Cooperation
SCF	Standing Committee on Finance
SMEs	Small and Medium-sized Enterprises
UN	United Nations
UNCF	United Nations Children's Fund
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

1. Introduction

The most challenging issue of the twenty-first century is climate change. Climate change and other environmental issues are among the 21st century's most urgent challenges, according to the World Economic Forum (World Economic Forum, 2024). It is among the top five potential hazards for the upcoming decade. We already know that climate change will negatively impact human and animal health, decrease agricultural productivity, and decrease water availability. Gemenne et al. argue, "Poor and developing economies bear the brunt of climate change disproportionately compared to the developed world" (Gemenne et al., 2014). Climate change has resulted in increased disaster frequency throughout the world, and it is people in the poorest regions who suffer the most from these perturbations that significantly impede development. This is well evidenced through the increased GHG emissions since industrialisation due to the reliance on fossil fuels, which have subsequently caused global warming, alterations in the composition of the atmosphere, and a rise in average global temperatures by 1.1°C to 1.2°C (Rasheed et al., 2023). These changes have exacerbated climate-sensitive hazards, which manifest as a trend towards more extreme weather, including droughts and floods. Unfortunately, this is set to continue or worsen as the climate remains in an intense phase of change.

One of the world's most climate-sensitive areas, South Asia's member nations are extremely vulnerable to a variety of environmental risks affecting biodiversity, air quality, water quality, and human health. Many South Asian countries rank among the most climate-vulnerable nations in both the short and long term, with several of them appearing in the top ten globally (Masud et al., 2023). Despite contributing comparatively less to global CO_2 emissions than other developing and developed nations, the region bears some of the most severe consequences of global warming (Diffenbaugh et al., 2019). Major cities in South Asia are particularly affected, suffering from extreme environmental pollution in terms of air, water, and public health (Nahar et al., 2021).

According to the Economist Intelligence Unit's Global Survey 2021, Dhaka ranks as the least liveable capital in the world, and the US Air Quality Index (AQI) of 2022 identifies it as the world's most polluted city (Economist Intelligence Unit, 2021; Masud et al., 2023). According to AQI, South Asia is home to nine of the ten most polluted cities worldwide, highlighting the region's widespread environmental vulnerabilities (Masud et al., 2023). This April 2023, Bangladesh experienced a record heatwave, with Dhaka, the country's capital, recording the highest temperature in the previous 58 years (The Business Standard, 2024). The IPCC also

warned against climate crises as one of the major challenges in store for South Asia during the next twenty years (Shaw et al., 2022). Due to rising sea levels and extreme flooding, the IPCC reports that Bangladesh, India, Pakistan, and most of Sri Lanka are threatened, while landlocked Afghanistan, Bhutan, and Nepal are threatened by increased temperatures and droughts. Low-lying island-state Maldives is already seriously threatened with submersion (Kugelman, 2021).

UNICEF cautioned that climate change will have dire consequences for children in the region. For the first time, its Children's Climate Risk Index reported that from heatwaves to natural disasters, including extreme flooding, children living in Afghanistan, Bangladesh, India, and Pakistan consequently face incredibly high vulnerability (UNICEF, 2021). "The climate crisis will have a devastating impact on the health, education, and protection of children", the report said. These alarm signals put a great burden on the shoulders of regulatory bodies and policymakers to take effective measures.

Climate finance has become highly critical in addressing the challenges of climate change. The urgency of mobilising adequate climate finance is critical for developing regions like South Asia. This makes the region very vulnerable and requires significant investment for mitigation and adaptation aspirations, as outlined in the Nationally Determined Contributions (NDCs) of its member countries. The financial requirements for South Asia to meet its climate commitments are staggering. According to the UNEP Adaptation Gap Report 2023, adaptation finance alone would require funds in the range of $215-387 billion until 2030 (United Nations Environment Programme, 2023). However, historical funding trends reveal a stark gap, with South Asian countries receiving only a fraction of the required annual funding. Bridging this gap demands innovative strategies that leverage both public and private capital, particularly as public resources alone cannot meet the region's ambitious climate targets.

Public finance has historically dominated climate finance in South Asia, driven by domestic government spending and international development aid (Songwe et al., 2022) . The scale and complexity of climate challenges facing the region, however, dwarf all existing public funds. The private sector have a huge potential to complement public finance through its capacity for large-scale investment, innovation, and risk management. However, mobilisation of private capital remains a struggle given the presence of deep structural, regulatory, and economic barriers which preclude investment in green projects across the region.

Scaling up private investment in climate finance, particularly in developing countries like India, Bangladesh and other south Asian countries, has been commonly recognised as unavoidable during recent years. While the world is suffering from the increased climate crisis, the emphasis in the framework of climate finance is shifting to an ever-growing call for the need not only for innovation in climate technologies but also for large-scale adoption of currently available solutions. As identified by the seminal India Climate Finance Report 2023 by Green Artha and Climate Capital Network, this transition from the "Age of Innovation" to the "Age of Adoption" is very critical (Climate Capital Network, 2023). Scaling of technologies that have already been developed and use of tools like blended finance are some of the key constituents, says this report. **Blended finance, which mixes public and private capital in strategic ways to derisk climate projects, is considered core to attracting private investment.** These will be **crucial for India's long-term target of achieving net-zero** emissions by 2070, estimated to require $10.1 trillion in funding (International Finance Corporation, 2023).

While desperately needed, private capital for climate projects remains still very scarce to this date, particularly in emerging economies. It is public finance that continues to have dominance, while private stakeholders, venture capitals, and equity are underrepresented. The problems in attracting private capital are manifold; amongst the major contributory factors are policy risks, regulatory uncertainties, and underdevelopment of the financial sector. High capital costs fuelled by such factors as volatile exchange rates and unclear investment opportunities further discourage private investors. These are compounded by a lack of sophistication in the financial sector, resulting in risk aversion among private investors (Gogoi, 2024; Muralidharan et al., 2021).

This paper seeks to offer an analysis of the climate finance landscape in South Asia, where private capital is going to become more and more critical to address the growing needs for climate finance in the whole region. It discusses the current state of flows, challenges barring private sector participation, and the potentials of blended finance and public-private partnership approaches to unlock new investment opportunities. It further reviews a number of policy options regarding the creation of an enabling environment for private sector involvement in climate finance via the promotion of innovation, development of financial markets, and use of international and regional cooperation.

This study adopts the mixed-method approach, incorporating both qualitative and quantitative analyses. It profiles the flow of climate finance in the region through synthesising data from

regional case studies, global reports, and expert analyses. Furthermore, reviews of financial instruments provide in-depth insights into the structural challenges and opportunities for mobilising private capital in South Asia. A *critical aspect of this paper is understanding why private investment in climate finance remains limited in the South Asian region* as well as *identifying the major policy barriers that hinder the flow of private capital* into climate projects. The study will further explore what policy interventions and strategic solutions South Asian governments can pursue to create an enabling environment for private sector engagement in climate finance. By addressing these concerns, this paper therefore provides a broad-based understanding of the opportunities and challenges in mobilising private capital for climate finance in South Asia. The findings stress how high the priority is to foster an enabling collaborative ecosystem in which the public and private sector work together to achieve transformative change. All this against the backdrop of a region facing growing climate risks, calling for quicker action now to enhance resilience and, thereby, sustainable development, positioning South Asia as an important player in global climate action.

2. South Asia's Need for Climate Finance

Climate finance, as defined by the UNFCCC Standing Committee on Finance, involves funds invested in mitigating greenhouse gas emissions and increasing resilience to the impacts of climate change. In fact, it involves monetary support, which is basically needed to enable countries to make their economies sustainable with no further exacerbation of global warming. Therefore, the need for climate finance has increased enormously in the world, especially in developing areas such as South Asia, where vulnerabilities due to climate change are already extreme. Several estimates suggest that developing countries will need trillions of dollars in climate finance through 2030 to reach the temperature goals included in the Paris Agreement (Agarwal et al., 2021). The second Needs Determination Report by the UNFCCC Standing Committee on Finance (SCF) says that developing countries need between $5.012 and $6.852 trillion cumulatively until 2030 to achieve their NDCs (UNFCCC, 2024). This range exceeds the earlier $5.8–$5.9 trillion estimate cited in the SCF's first Needs Determination Report (UNFCCC, 2024). However, these figures are likely conservative: out of 142 countries that submitted NDCs, only 98 provided 'costed' needs, meaning this estimate likely covers only part of the actual climate finance requirements (UNFCCC, 2024). The report also suggests that the annual funding needed to implement NDCs falls between $455 and $584 billion. According to the 2022 Stern-Songwe assessment, in order for poor nations (except China) to reach their climate objectives, they will require at least $1 trillion in external funding annually until 2030 (Songwe et al., 2022). If the LDCs are left out of the total, in most Emerging and Developing Economies (EMDEs), climate finance growth slowed because of delayed projects, deteriorating borrowing conditions, and pandemic-related public budget constraints between 2018 and 2020 (IMF, 2022). Climate finance in India decreased by 9% in 2020 compared to 2018 (Naran et al., 2024). However, climate finance increased from $26 billion to $41 billion between 2020 and 2022 for the South Asia region (Naran et al., 2024). Spurred by the notification of pro-solar energy "buy-back" laws in 2022, Pakistan's climate funding increased during this period, reaching 31% of the region's total in 2022—next only to India at 68% (Naran et al., 2024). Domestic sources of climate finance accounted for 60% of the region's total climate finance in the year 2018 and have grown from $12 billion in that period to $25 billion as of 2022 (Naran et al., 2024).

South Asia is one of the most vulnerable regions to climate change in the world. It has been often hit by frequent and intense climate disasters that have wrecked ecosystems, economies,

and people alike. According to the World Bank, in the last two decades, around 750 million people in the South Asian region have been affected by at least one climate-triggered disaster (World Bank Group). Further, as the South Asian region is already accommodating the world's poorest and most vulnerable population, climate change carries the potential to lower the living conditions for up to 800 million people in the region, which can be a major concern for the countries in the region (World Bank Group, 2023). Moreover, a 2018 World Bank study projects that South Asia could see up to 40 million internal climate migrants by 2050 in a worst-case scenario, highlighting the dire consequences of inaction (Rigaud et al., 2018).

By 2030, South Asia will require an estimated $2,727 billion to meet its NDCs (Asian Development Bank, 2023). The cost of adaptation, or building resilience, and mitigation—each a method for averting the negative effects of climate change—comprises the total financing required. However, the financial requirements extend beyond what is outlined in these targets; in fact, South Asian countries must address broader needs in climate resilience to offset growing climate-induced losses and damages. Below is the table that represents the costed needs of each of the South Asian countries based on the UNFCCC Standing Committee on Finance's second report on the determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement (2024). The table below presents information on the National Adaptation Plan (NAP) and National Communication (NC) reports submitted by developing countries under the UNFCCC Convention and the Paris Agreement. Only the report that provides the highest costed needs for adaptation, mitigation, and cross-cutting measures for each Asian country is included.

($mln)	Adaptation	Mitigation	Cross-Cutting	Loss and damage	Total
Afghanistan	33,180	7,590	-	-	40,770
Bangladesh	44,000	22,012	-	13,660	79,672
Bhutan	13,849	-	-	-	13,849
India	871,678	-	-	-	871,678
Maldives	-	-	-	-	-
Nepal	47,440	-	-	-	47,440
Pakistan	152,000	196,000	-	-	348,000
Sri Lanka	830	-	-	-	830

Figure 1: The costed financial needs of each South Asian country (millions of United States dollars).

Source: (United Nations Framework Convention on Climate Change, 2024)

Despite the significant requirements, the region faces a funding gap in meeting these targets. Climate finance inflows remain insufficient. AidAtlas data shows that South Asian countries received an average of only $1.25 billion per year in climate-related finance from 2002 to 2021 (Dhakal & Wangmo, 2024). This funding level falls considerably short of the annual $200 billion needed to address the region's full scope of climate finance requirements. Implementing the mitigation measures outlined in South Asian countries' NDCs is estimated to require about $1,158 billion while achieving their NAP targets would cost an additional $600 billion (Dhakal & Wangmo, 2024). This adds up to $1.758 trillion in climate finance needed by 2030 for addressing the needs. For instance, Pakistan alone needs $348 billion from 2023 to 2030 to tackle its climate and development challenges; similarly, in achieving 500 GW of renewable energy generation by 2030, India will need an investment of $293 billion (Ministry of Climate Change & Environmental Coordination, 2023; The Economic Times, 2023). Similarly, the ambitious Mujib Climate Prosperity Plan for Bangladesh requires $89.72 billion, underlining the necessity of continued and substantial financial support (Ministry of Environment, Forest and Climate Change, 2022).

These are investments essential for a region which bears the full brunt of significant economic and social impacts because of a changing climate. Increased temperatures and more frequent bouts of extreme weather shave off agricultural yields, reduce freshwater supplies, and constrain public health and overall productivity in general. For example, estimates show that

average annual losses across South Asia due to climate change will reach $160 billion by 2030 if present climate finance needs are not met (Asian Development Bank, 2023). These impacts will be exacerbated by the pace of inaction and further irreversible devastation to economies, ecosystems, and communities. The cost globally of not meeting the necessities of climate finance overshadows the cost of immediate action. Without proper funding, physical assets and productive lands run the risk of being vulnerable to extreme weather and sea-level rise, while higher temperatures impact labour productivity and agricultural yields. Additionally, the economic losses that could be prevented by limiting warming to 1.5°C by 2100 are projected to be five times higher than the climate finance required by 2050 to achieve this target (Alberti, 2024). While climate finance needs are expected to decrease after 2050, the economic damages under a business-as-usual scenario will continue to rise exponentially over time.

3. Landscape of Climate Finance in South Asia

Public finance, in the context of climate finance, includes government spending, a multilateral climate fund, and national or multilateral development finance institutions' expenditure, while private finance includes spending by corporate entities, households, commercial financial institutions, and institutional investors. In this regard, major areas of climate finance have so far been derived from public finance, responsible for a majority of the climate-related investments in the region. For 2018-2019, taken together, South Asia received 9% of the total climate finance to Asia and the Pacific, at $46.8 billion (Asian Development Bank, 2023). Of this, 56% came through public sources. Public finance, therefore, made up a big chunk, mainly channelled to mitigation projects, 83% of the region's climate funding, while adaptation received a much lower percentage share of only 13%. This dependence on public funding underscores the region's dependence on international development agencies, multilateral financial institutions, and domestic governments to lead from the front in climate initiatives.

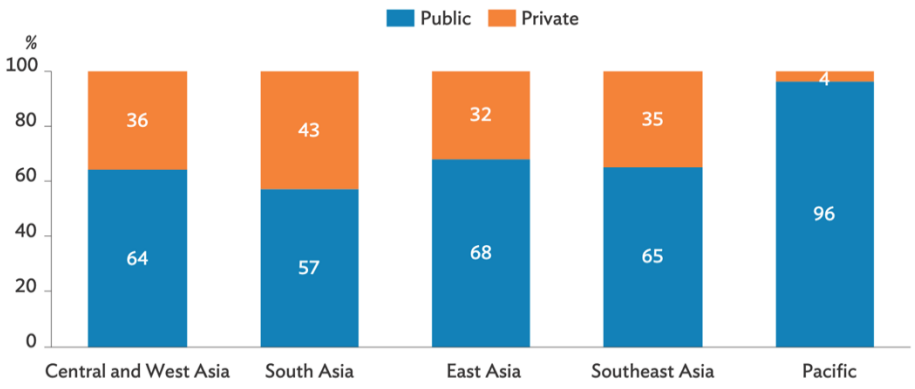

Figure 2: Public and Private Shares of Climate Finance Across Aisa and Pacific, 2018-2019

Source: (Asian Development Bank, 2024)

India and Bangladesh together accounted for 95% of regional climate funding in 2018-2019 (Asian Development Bank, 2023). The Indian government is very active in funding renewable energy projects. In pursuit of its NDC targets, it has invested significant money in solar and wind energy. Bangladesh has also invested a big chunk of its national budget in climate adaptation. During 2017-2018, Bangladesh spent 7% of the annual budget for mitigation and adaptation (Asian Development Bank, 2023). Other countries, such as Nepal, have scaled up

climate-relevant budgeting to almost 30.76% of their total budget by 2018, underlining the core role of public finance in supporting climate action (Asian Development Bank, 2023).

In 2018–2019, approximately 45% of the climate finance available in South Asia—USD 21.2 billion—was mobilised and spent domestically within the same country (Asian Development Bank, 2023). Of these, 77%—USD 16.4 billion—came from private investment, 38% from corporations, and 31% from households. Another important part, which accounts for 30% of funding sources, is represented by commercial financial institutions. In the same period, domestic private finance grew only by 12%, from $62.5 billion in 2018 to $70.3 billion in 2019 (Asian Development Bank, 2023); while in the same period, domestic public finance grew by 64%, from $105.3 billion in 2018 to $172.4 billion in 2019, due to higher reported expenditures of local governments. International finance, largely through multilateral and bilateral DFIs, comprises a staggering 54% ($25.2 billion) of climate finance in South Asia during the period 2018-2019. Adaptation projects are usually underfinanced because of the perceived high investment risks brought on by their capital-intensive nature; most of these projects are earmarked to be long-term projects both in planning and implementation (IPCC, 2022). Most such adaptation projects are also fragmented, typified by small-scale incremental measures for specific sectors, which may also be discouraging to many investors, commonly private ones. Yet, investing in adaptation is of utmost importance towards safeguarding vulnerable communities and building long-term resilience against climate impacts. In order to balance this equation, therefore, more support from international donors on adaptation projects across South Asia is needed, particularly in priority sectors like agriculture, water management, and infrastructure that form the backbone of regional stability.

Though public finance plays a vital role in funding climate-related projects across South Asia, it has its limitations. One major issue is that public funding, while necessary, often dominates the market in ways that inhibit private sector engagement. For example, the Light Emitting Diode (LED) industry in India has requested the government to do away with the scheme of distributing bulbs, since this was creating price distortions and was a disincentive to retailers to stock or sell the lamps (The Economic Times, 2019). Public funding in the form of grants or concessional loans from governments and multilateral organisations acts as entry barrier in competition, as private investors will be more inclined to invest in projects wherein they get a direct return on investment (Choi et al., 2023). This creates a crowding-out effect, where public finance dominates the market and reduces opportunities for private sector participation. Without greater private sector involvement, South Asia will face difficulties in meeting its

climate finance requirements, especially for projects that require large-scale investments and long-term financing commitments.

Though public finance dominates the climate finance landscape, private sector contributions are gradually rising, especially in renewable energy projects (Naran et al., 2024). This shift is driven by the increasing affordability of renewable technologies and various government incentives for green energy projects. The domestic private sector, particularly corporations and households, has been steadily financing wind and solar energy projects using debt and equity instruments. This trend has been encouraged by investment incentives set up by various countries to address the high upfront capital costs. Additionally, as the costs of renewable technologies decrease, this has helped improve the risk profile of renewable energy projects in many regions. For example, in India, more than 90% of solar projects had investment-grade ratings by 2020, compared to 2012, when all solar projects were rated non-investment-grade (Singh et al., 2021). This development has improved the attractiveness of renewable energy projects to private investors by decreasing the perceived risks of investment. The climate finance landscape of South Asia, therefore, underlines urgent needs both for public and private finances that would be very instrumental in responding to climate challenges effectively within the region. While public finance dominated, it was not sufficient to meet the broad climate finance needs within the region. In this aspect, private sector engagement becomes essential for narrowing the financing gap. Indeed, a stable policy environment reduces borrowing costs, encourages regional cooperation, and creates better climate finance flows that value resilience in the climate effects. Inaction is hugely costly; delayed climate investments may result in significant economic and social losses across the region. For reaching its climate objectives, a balancing act between public and private sector participation is required for South Asia, with the use of international and domestic resources. In fact, now is the time to act, while the costs of inaction remain much higher than the investment needed to respond to climate change and protect future generations.

4. Significance of Private Capital in Climate Finance

Given the disastrous repercussions of the changing climate, there is going to be an increasing need for innovative, inclusive financing mechanisms beyond traditional approaches in government funding. There will be a requirement of high investment in resilient infrastructure such as flood defences, smart energy grids, and green public transport systems that are able to handle the increasing challenge. Though, remarkable progress has been made in international climate finance for the region. The World Bank's climate financing for the South Asia region has increased from $1.4 billion in fiscal year 2017 to $3.7 billion in fiscal year 2021, with $1.9 billion allocated for adaptation actions and $1.8 billion for climate emissions (World Bank Group, 2023). This signals growing ambition both on the need to cut emissions and build resilience. But this task needs private capital, as no government single-handedly could gather such sums of money for these mega projects. Private sector intervention brings much-needed funding, innovation, and expertise in plugging gaps in financing and catalysing further public investments that multiply the climate finance impact in South Asia. In fact, in order to achieve the ambitious targets set by South Asian countries, mobilisation of private capital becomes highly crucial. For example, for India to achieve the net zero target by 2070, private capital becomes very significant.

Addressing the adverse challenges posed by climate change and ensuring sustainable growth requires large-scale financial investment. However, the extent to which developing countries in South Asia will be able to allocate financial resources in their fight against climate change is limited as they have several other challenges to deal with, like eradicating poverty, developing infrastructure and improving the living conditions of their population (Upadhaya et al., 2021; McGeady & Baskaran; 2023). This gap can only be filled through the mobilisation of private capital in a volume substantial enough required for projects such as renewable energy development, sustainable agriculture, disaster-resilient infrastructure, etc. More than this, particularly the private players could help governments invest in scarce resources to develop policies and regulatory reforms that promote climate resilience.

The private sector not only brings capital but also specialised expertise in risk management (Kousky & Kunreuther, 2018). South Asian climate projects often face political, economic, and environmental uncertainties that can deter public investment. Private investors, however, typically employ robust risk management frameworks that can stabilise project financing and attract further investment. For instance, energy firms specialising in solar and wind projects in politically volatile areas may implement risk-mitigating structures, such as insurance products

and guarantees. The presence of private capital thus signals project viability and mitigates risks, making climate initiatives more attractive to a broader range of investors.

Innovation plays an important part in tackling climate change, and this forms the backdrop to the melting pot of technological capabilities at different levels of development in South Asia. Private capital is at the fore-end in fostering innovation and hastening the usage of climate-resilient technologies. Furthermore, private-actor investments can speed up the roll-out of renewable energy technologies—solar photovoltaic systems, wind turbines, energy storage solutions—that will be required for the transition to low-carbon economies (International Finance Corporation, 2017). Private investors can also provide venture capital and impact investments in startups and SMEs that are pioneering new solutions in sustainable agriculture, water conservation, and waste management.

Besides, private sector engagement stirs competition, which again is fundamental to pushing innovation and price cuts in green technologies. Competition in South Asia's energy market, largely dominated by fossil fuels, has in recent times been rising on account of emerging renewable energy companies triggered by private investments. This soothes the costs and enhances access to climate-friendly technologies. For instance, there are microgrid solutions that are increasingly being financed through private investment. This then provides remote communities with a low-cost sustainable power source by creating market dynamics that benefit consumers and the climate (Falchetta et al., 2022; Onu et al., 2023).

Apart from being vital for resolving problems related to climate change, investments in green technologies and sustainable practices are an economic driver. Given South Asia's immense potential from renewable energy to sustainable agriculture and eco-tourism, there is an enormous opportunity to drive new jobs and economies. Private capital can be catalytic, supporting these sectors through the financing of large-scale renewable projects and sustainable business ventures that promote employment opportunities and spur local economies (Ghosh, 2024). The renewable energy industry has emerged as one of the largest employment-providing sectors in India, with varieties in solar and wind energy projects hiring thousands of people in various skill sets.

Further, South Asia has signed onto a number of international agreements on climate action, the most prominent being the Paris Agreement. The requirement of huge investments that come with meeting these responsibilities could be sourced with the help of private capital (Thakur et al., 2022). Moreover, private investors nowadays are increasingly inclined towards

sustainability goals, considering both financial returns and alignment with global climate objectives. This, in turn, motivates South Asian governments to create supportive policies and regulatory frameworks to attract private investment in climate finance.

Due to the limited public budgets and severe climate impacts, private capital is emphatically vital for furthering climate finance in South Asia. Private investments address fundamental gaps in South Asia's climate strategy by mobilising financial resources, driving innovation, enhancing infrastructure, aiding economic growth, and integrating with international commitments. The region will greatly benefit from promoting an ecosystem that attracts and retains private capital to achieve net-zero targets and sustainable development. The appropriate policies, robust risk management framework, and public-private partnerships can create an enabling environment for the countries in South Asia to catalyse private sector involvement in climate finance (Adhikari & Chalkasra, 2021). This approach will thus enable South Asia not only to meet current challenges but also to seize emerging opportunities in the context of a resilient and sustainable future in the fight against climate change.

5. Key Challenges to Private Capital Mobilisation in South Asia

The climate finance gap in South Asia is particularly high. For example, estimates have indicated that around $1.758 trillion is needed by 2030 to achieve its NDCs and NAPs in the region (Dhakal & Wangmo, 2024). This would imply a requirement of approximately US$200 billion per year, whereas the actual climate-related development finance received by the region averaged US$1.25 billion a year between 2002 and 2021(Dhakal & Wangmo, 2024). The huge gap between the required funding and the actual financial inflow underlines one of the key challenges, notably how to attract private investment on a sufficiently large scale.

Climate finance and private capital mobilisation in South Asia form the very core of addressing the highly pressing environmental concerns and ambitious climate-related targets within the subregion. While the region has a huge potential for sustainable investments, a number of critical structural and systemic hurdles come in the way of the effective flow of private capital. These pertain to data gaps, inconsistency in policy frameworks, underdeveloped financial markets, institutional coordination issues, and even fragmentation at the global economic level. These factors together form a web of hindrances that call for urgent action.

Other obstacles include the high cost of borrowing, political and regulatory risks, and limited investor confidence. Overall, the cost of capital for green technologies is significantly higher in South Asia compared to other regions (Raheja et al., 2024). For instance, a study by Climate Policy Initiative highlights the disparity in lending rates for solar projects: in India, the lending rate is 11.4%, while in Germany it is just 2.8%, driven by factors such as sovereign credit risk and political instability (Gautam et al., 2023). Additionally, credit rating agencies in the Global North perceive developing markets in South Asia as high-risk, further inflating financing costs. This results in higher interest rates and expected equity returns for Global South nations, making their investments far more expensive than those in the Global North. According to the International Energy Agency (IEA), financing clean energy projects in emerging economies can be up to seven times costlier than in Europe or the USA, posing a significant barrier to private sector involvement (IEA, 2021).

Another major challenge to private capital mobilisation includes gaps in the climate information architecture (Lim et al., 2024). Weak climate information architecture inhibit accurate assessment and tracking of risks. There is a shortage of reliable, standardised and comparable data, taxonomies, and disclosure mechanisms in South Asia. For instance,

according to the International Monetary Fund assessment, data regarding soil moisture levels, ocean temperature interactions, and geolocational climate risks are barely available (Lim et al., 2024). Along with data availability issues, there exists data quality deficiency in terms of reliability and comparability. All these factors adversely affect investors' ability to capture the potential of green projects and accurately price climate risks. The IMF report has highlighted that 89% of surveyed officials cited data gaps and a lack of analytical capacity as major deterrents to efficiently mobilising climate finance (Lim et al., 2024). Therefore, countries in South Asia should consider establishing a framework for measuring, monitoring, and disclosing information related to green finance activities because the absence such mechanisms creates information asymmetry, which further erodes investor confidence (Network for Greening the Financial System, 2022). In fact, the Reserve Bank of India has also pointed out issues such as the lack of a universally accepted definition of 'green' and the absence of clear classifications for activities that qualify as green. These challenges complicate not only investment decisions but also the tracking and documentation of green finance flows across the country (Pant & Pathak, 2023).

In addition to data deficiencies, the absence of climate taxonomies across South Asia further complicates efforts to mobilise private capital. Taxonomy plays a crucial role in order to categorise various sectors and activities as "low carbon", "sustainable" or "transitional" (Connolly et al., 2024). Its absence might give rise to increased incidents of "greenwashing" or wrongly allocating funds to projects that have little or no environmental value (Lim et al., 2024). Such inconsistencies carry the potential to confuse investors and diminish the region's appeal as a destination for sustainable investments. Moreover, Capelle et al. highlight some relevant insights from the carbon emissions reports by firms in the Asia-Pacific region. They argue that there is an increase in the number of firms self-reporting their carbon emission, from about 200 firms releasing reports in 2014 to nearly 1,000 by 2022 (Capelle et al., 2023). However, government agencies and public institutions in the region are seldom subject to mandatory disclosure requirements. Additionally, the lack of precise climate labels and impact scores adversely affects the flow of sustainable investments into Emerging and Developing Economies (EMDE) of Asia (Network for Greening the Financial System, 2022). In the absence of such metrics, fund managers and investors rely on Environmental, Social and Governance (ESG) scores to assess the impact of climate policies. However, ESG scores are not an ideal parameter for assessing climate performance. Lower scores often disproportionately disadvantage EMDEs in Asia, as ESG funds allocate only a small portion

of their portfolios to EMDE assets, predominantly focusing on major economies like China (Lim et al., 2024).

Another major challenge emanates from the inconsistency in policies and regulations. Most South Asian countries give the wrong impression to investors by subsidising fossil fuels on the one hand and trying to put mechanisms in place for carbon pricing on the other. For example, in the Asia Pacific region, *subsidies on fossil fuel* reached a total of 579.7 billion dollars in 2022, accounting for 44% of the global total (Lim et al., 2024). *These are market-distorting subsidies that keep the price of fossil fuels artificially low, hence making renewable energy projects less competitive*. This discourages private investment in green infrastructure. On the other hand, carbon pricing mechanisms have remained at a rudimentary level and are poorly implemented in most parts of the South Asian region. These conflicting policies harm investor confidence and the mobilisation of private capital for climate programmes.

The underdevelopment of financial markets in South Asia imposes significant limitations on the availability of financial instruments for climate financing. Unlike advanced economies, where the traction of green bonds and sustainability-linked loans is considerable, scaling up such instruments has proved difficult to achieve in South Asia. In 2022, sustainable debt issuance in the Asia-Pacific region accounted for only 1.3% of the region's GDP, with most of it concentrated in advanced economies such as Japan and Korea (Lim et al., 2024). For South Asian developing economies, the alarmingly low flow of sustainable debt highlights the limited capacity of local markets to attract private capital. Even when green bonds are issued, the region has not benefited from a "greenium"—the lower cost of capital typically associated with green instruments. For example, Indian green bonds issued last year were sold at higher yields than comparable conventional bonds, reflecting a lack of confidence and interest by investors in such instruments. According to data from Bloomberg, green bonds form only a tiny fraction of total bond issuances globally. Green bonds currently compose only 0.7% of the total bonds outstanding in India and generally bear a higher coupon rate relative to non-green bonds (Pant & Pathak, 2023). The lack of concession or pricing incentive for green bond issuances further reflects the limited appetite of the market for sustainable finance. This highlights a significant barrier to scaling up the financial tools necessary for supporting green infrastructure and climate action.

High perceived risks further deter private investors from committing to climate finance projects in South Asia. These risks stem from political instability, currency fluctuations, and the nascent stage of green technologies in the region (Butler, 2024). Many of the technologies being

developed for green projects lack a proven track record, and their commercial viability is frequently met with scepticism. Furthermore, rapid advancements in innovation often risk rendering new technologies obsolete before a project's lifecycle is complete. Additionally, the benefits or financial breakeven points for green projects are typically realised over extended periods, placing them in higher-risk categories for financing. The lack of availability of historical data for these projects further complicates comprehensive project appraisals for analysts. Private investors often view climate projects in South Asia as high-risk ventures with uncertain returns, especially in the absence of robust risk mitigation mechanisms as well as adequate carbon pricing (Prasad et al., 2022). Several report points out that there is underutilisation of innovative financial instruments like blended finance and credit guarantees, which further discourages private investors (Lim et al., 2024; OECD, 2023). The lack of these mechanisms exacerbates the perception of risk and limits the flow of private capital into climate-related projects.

Adding to that is the issue of institutional coordination. Climate policy responsibilities usually fall under the purview of several government ministries, a fact that can create significant coordination problems alone, especially in the case of countries in South Asia that do not have an oversight committee (Lim et al., 2024). Other persistent structural problems that worsen the above-mentioned issues include the regulatory and legal difficulties of doing business, such as contract enforcement, property rights, fiscal risk management, and management of public investment. These make the attraction of long-term investment in sustainable infrastructure difficult. The majority of Pacific Island nations lack capacity and hence find it difficult to meet the very stringent accreditation criteria of the Green Climate Fund, since public investment management is already demanding (Fouad et al., 2021). Moreover, shallow financial markets in most of EMDE Asia make it impossible for most investors to hedge long-term risks.

Global economic fragmentation further complicates the mobilisation of private capital for climate finance in South Asia. Geopolitical tensions, such as those between China and the United States, and protectionist policies have disrupted global trade and financial flows (Georgieva, 2023). These geopolitical contestations adversely affected the South Asian region's access to critical technologies and resources. For instance, export restrictions on essential commodities like nickel and germanium—key components for renewable energy technologies—have increased their costs, making green projects in South Asia less viable (International Monetary Fund, 2023). Moreover, the division of global supply chains into politically aligned groups in the context of the growing geopolitical power contestation has

further hampered the technology transfer and has adversely affected the region's low carbon transition. Such developments delay the implementation of climate policies and undermining collective efforts to scale up private capital mobilisation. Additionally, the geopolitics of South Asia itself affect the mobilisation of climate finance as well as the regional coordination and collaboration required for mitigation and adaptation efforts in the South Asian region. For instance, recently, the South Asian Association for Regional Cooperation (SARRC) has been almost silent on climate issues because of political conflicts among the countries, particularly between India and Pakistan (Bonagani, 2021).

Further, protests against climate-resilient projects in India and neighbouring regions have significantly hindered the mobilisation of private capital for climate change mitigation, as socio-political instability and land disputes increase project risks and deter investors. For instance, Modhera in Gujarat, India's first fully solar-powered village, houses a 6 MW solar plant with a linked battery storage system providing energy to 6,000 residents. However, its construction in 2022 faced strong opposition from local farmers. A case was also filed in Gujarat's highest court in 2020, demanding restitution for the deprivation of 50 acres of grazing land (The News International, 2024). Research group Land Conflict Watch reports that there are currently 25 active land disputes related to renewable energy in India, further exemplifying the challenges (The News International, 2024). The problem extends beyond India. In Bangladesh, a 200 MW solar plant in Barguna was scrapped earlier this year due to local protests, highlighting the broader regional difficulties in renewable energy development (The News International, 2024). Conflicts of this nature arise from a lack of sufficient consultation with the local community, adequate compensation, and concerns about environmental impacts, which delay projects, inflate their costs, and deter investor confidence. In light of the above challenges, it becomes important to involve local communities in decision-making, ensuring fair compensation and tangible local benefits are being provided.

Finally, limited access to global sustainable finance mechanisms further constrains South Asia's ability to attract private capital. Several countries in the South Asian region suffer due to low credit ratings, which restrict their access to international climate funds like the Green Climate Fund. For instance, Bangladesh has faced difficulties in meeting the complex GCF accreditation processes, which has denied the country access to funding for its various climate adaptation and mitigation projects (Transparency International Bangladesh, 2024). This is a case of a country with high levels of vulnerability to climate change impacts such as increased

sea levels and severe flooding. This has highlighted the challenges that South Asian countries are encountering while harnessing international finance for climate adaptation and mitigation.

6. Policy Recommendations

Climate finance in South Asia will need to be privately capitalised if the region is serious to meet the challenges of the environmental crisis and move toward sustainability. A set of South Asian countries—including, but not limited to, India, Bangladesh, and Nepal—face huge financing gaps in their respective climate action agendas (Asian Development Bank, 2023). Moreover, these cannot be filled up with public resources alone. The private sector is the backbone of economies in developing nations throughout Asia and the Pacific; the climate resilience of this sector is thus integral to maintaining a resilient economy in the face of climate change. Businesses are directly vulnerable through disruptions from climate impacts on operations and markets, and indirectly through changes in insurance availability and cost, increased competition for scarce resources, and other factors (Lu, 2022). This means that the private sector, from SMEs to multinationals to financial institutions, is going to be affected by the adverse impact of climate change and, therefore, should be playing a critical role in the mobilisation of climate finance for several adaptation and mitigation projects in the region. Hence, the following measures can be undertaken in order to mobilise private capital for climate finance.

6.1. Comprehensive Policy Reforms

South Asia must encourage private sector participation by creating a favourable investment environment. Whereas big companies and financial institutions look at climate action increasingly as an opportunity to make money, it is the clarity on regulations and mitigation of risks that will lead them to commit significant capital (Foley et al., 2013). This calls for the creation of tax incentives, subsidies, carbon credits, etc. by the governments to attract private players to invest in renewable energy, low-carbon solutions, and energy conservation. Similarly, PPP can also be facilitated to play a decisive role in accelerating infrastructure development in the fields of clean energy, transportation, and sustainable agriculture. Success stories, such as that of India's Ujjwala Yojana—which partnered with private entities to provide clean cooking fuel—demonstrate the ability of PPPs to realise broad climate objectives. Another example in the region is Nepal, which has recently adopted the PPP model in waste to energy sector, especially the agro-industry and municipal solid waste based waste to energy projects (Ghimire et al., 2024). Indeed, PPPs are one sort of collaborative approach to infrastructure development, striking a balance between efficiency from the private and oversight from the public sector (World Resources Institute, n. d.). These partnerships allow

governments to leverage private investment, innovation, and expertise while maintaining control over environmental and social standards. With PPPs, South Asian governments can share both the risks and rewards of infrastructure projects with private investors, facilitating sustainable development in alignment with national climate goals.

Instruments such as credit guarantees, concessional loans, and sustainability-linked bonds can attract private capital to high-risk climate projects (Zattler, 2024). For example, the Indore Municipal Corporation's green bond issue raised ₹7.2 billion and was oversubscribed nearly six times, indicating strong investor interest (The Economic Times, 2023). Similarly, Pakistan's Water and Power Development Authority also launched the country's first 10-year green bond in 2021, which has raised around US$ 500 million in order to support hydropower generation in the country (Boston Consulting Group et al., 2023). By expanding the use of such instruments, governments can significantly lower the cost of financing for green projects. Furthermore, to build a strong market for green financing, new and clear financial tools need to be created to help investors and stakeholders feel confident. In India, green bonds launched in 2007 have grown well but are mostly focused on the energy sector because of government support. Other areas like the stock market and banking are still behind. For example, in 2020, only 7.9% of the total bank loans to the power sector were for renewable energy (The Economic Times, 2021). To change this, the Central Bank can encourage green financing by making policies like lowering reserve requirements for banks supporting sustainable projects, as done in Lebanon (Pant & Pathak, 2023). Countries like Brazil provide good examples of *green bonds* for farmers who adopt sustainable practices (Pant & Pathak, 2023). *These bonds, listed on global markets, offer farmers low-interest loans and attract investors interested in sustainable agriculture. India, with its large farming population, can try similar ideas.* Furthermore, Maldives, one of the most vulnerable countries in the region, is working on a debt-for-nature swap, so that the freed up fund can be used for the conservation efforts of the fragile ecosystem (Dickie and Strohecker, 2024).

Furthermore, setting up a green bank through a PPP could be a game-changer (Pant & Pathak, 2023). Such a bank's major function would be to focus solely on funding and monitoring green projects. Additionally, clear policies that tie environmental goals directly to development plans are essential. States should provide strong financial incentives, especially for small businesses, to make green practices affordable. Regularly sharing updates about existing and upcoming initiatives will help investors understand the government's long-term vision. This approach will encourage more investments in sustainable projects and support countries' goals for

growth and environmental protection. Governments must establish market-responsive policies that align with the private sector's operational dynamics. For instance, India's renewable energy targets and auction-based mechanisms for solar energy have attracted significant private investment, amounting to $5.5 billion in 2016 (Ren21, 2017). Similarly, policy clarity on issues such as feed-in tariffs, net metering, and renewable purchase obligations can signal long-term stability and profitability, making investments more appealing (Bhandary et al., 2020). Economies with conducive investment environments are better positioned to attract foreign private capital for climate initiatives.

Beyond maintaining stable macroeconomic conditions, international investors are drawn to robust legal and regulatory frameworks that support climate action. Key factors include enforcing strong regulatory measures, strengthening institutional capacities, ensuring efficient climate-focused public budgeting, and setting clear priorities for climate investments (Morita and Pak, 2018). EMDEs with ambitious NDCs, clearly identified priority sectors, a pipeline of scalable and bankable projects—particularly in the clean energy domain—and streamlined project implementation processes are particularly appealing to external financiers (Bowman 2022; IFC 2017; IEA and IFC 2023). Furthermore, domestic resource mobilisation is essential to ensure sustainable climate finance flows within South Asia. Deepening domestic capital markets may reduce, to some extent, the dependence of the region on international sources of funds and provide a sounder financing base. The additional advantage is that this will be in local currency, precluding risks from exchange rates coming from foreign currency debt, and would be more robust for climate projects (Jena et al., 2018). To mobilise domestic resources, governments can offer tax incentives, issue green bonds, and provide subsidies for green investments.

6.2.*Boost Climate-Focused Innovation*

Another important pillar of mobilising private capital for climate action involves promoting *climate-related innovation and research and development (R&D)*. South Asia falls behind its global peers in R&D expenditure. For example, the *expenditure of India on R&D accounted for merely 0.7% of its GDP in 2017-18* (The Economic Times, 2022). Similar is the case with other South Asian countries as they are spending a very low percentage of their GDP on R&D. For instance, Bangladesh (2016) R&D expenditure is 0.4%, Nepal's (2010) is 0.3%, Pakistan's (2021) is 0.2%, and Sri Lanka's (2020) is 0.1% (Lowy Institute). In fact, to ensure climate resilience in the South Asian region, large-scale investment in renewable energy, battery

storage, carbon capture, smart agriculture, and other areas is required. At the centre of this transition would be startups in South Asia. However, India's climate tech venture funding stood at a mere $1 billion between 2016 and 2021 against $15 billion in Europe and $50 billion in the United States (Suri, 2023). For this gap to be bridged, governments need to offer grants, tax breaks, and venture capital support for climate technology startups. Cooperation with the international partners can further bolster it. Joint research initiatives with countries such as the United States, Japan, and Germany will enable each country to develop its climate solutions in concert with institutional exchanges and cross-border funding. Moreover, the establishment of innovation hubs and incubators in climate technology allows the scaling up of new, groundbreaking ideas from the laboratory to the market.

6.3.Role of Multilateral Institutions in Mobilising Private Capital

International institutions and partnerships play a crucial role in mobilising climate finance. Multilateral development banks (MDBs) such as the World Bank, International Finance Corporation, and Asian Development Bank need significant reforms to ensure affordable climate finance solutions for low and middle-income countries (Prizzon & Léautier, 2022). While MDBs have increased their allocations for climate-related initiatives in recent years, their investment strategies, risk models, and priorities require further alignment with overarching climate finance objectives. The World Bank, in particular, needs to revise its financial risk models and find ways to attract greater private sector investment (Suri, 2023). The IMF, the Brookings Institution, and the Center for Global Development are among the various institutions that have offered proposals for how MDBs and other IFIs can do a better job in leveraging private capital to fight climate change (Linn, 2022; Kenny & Morris, 2021). For instance, as the president of the G7, in October 2022, Germany joined the United States and other major shareholders in advancing comprehensive reforms for the World Bank to help meet the global climate challenge (World Bank Annual Meetings, 2022). In like manner, India has utilised its G20 presidency in advancing MDB reforms. These institutions can be helpful in establishing multi-sovereign loan guarantees, which enhance the creditworthiness of green projects and reduce risks for investors (Sinha, 2023). Furthermore, MDBs must simplify their funding processes and provide technical assistance to developing nations to create more bankable green projects. That is not all; MDBs play a critical role in setting global standards for climate risk disclosure and reporting. Mechanisms such as the Task Force on Climate-

Related Financial Disclosures increase transparency and can build investors' confidence in climate projects.

Furthermore, regional institutions such as the South Asian Association for Regional Cooperation (SAARC), the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), and the Indian Ocean Rim Association (IORA) can provide much-needed support for the mobilisation of private capital in climate finance across the region by promoting regional cooperation and facilitating investment in sustainable initiatives (Zafarullah & Huque, 2018). These organisations can establish a joint investment fund in order to pool resources from member countries and private players for large scale climate projects (Basu et al., 2011). Such a facility would benefit smaller countries like Bhutan and Maldives, which often struggle to secure sufficient financing due to their limited access to capital markets. Furthermore, these organisations can promote PPPs in the region to share risks and resources and provide capacity-building initiatives to local businesses on accessing climate finance. Along with this, it can further develop comprehensive regional climate action plans aligned with global goals while considering local priorities, and strengthen networking opportunities through forums that connect investors, policymakers, and project developers (Khanna & Sikka, 2023). By implementing these strategies, SAARC, BIMSTEC, and IORA can enhance their roles as facilitators of private investment in climate finance. Regional cooperation could also facilitate knowledge sharing and coordination on climate finance policies, improving the effectiveness of financial investments across the region.

6.4. Consumer Priorities Shape Sustainability

The preferences of customers as well as larger public opinion greatly influence investment decisions. *In fact, the younger generation plays a very crucial role in mobilising corporate action with regard to climate change*. General public, particularly younger demographics show loyalty towards companies that are actively addressing environmental issues (Robins et al., 2018). According to a Deloitte (2024) survey, *environmental sustainability continues to be a significant issue among young people, with approximately 62% of Gen Zs and 59% of millennials expressing climate change-related anxiety or stress* (Deloitte, 2024). This priority is reflected in their purchasing behaviour, as they often choose products and services based on environmental impact. In fact, over half of respondents have indicated that they make efforts to influence their employers to take meaningful climate action.

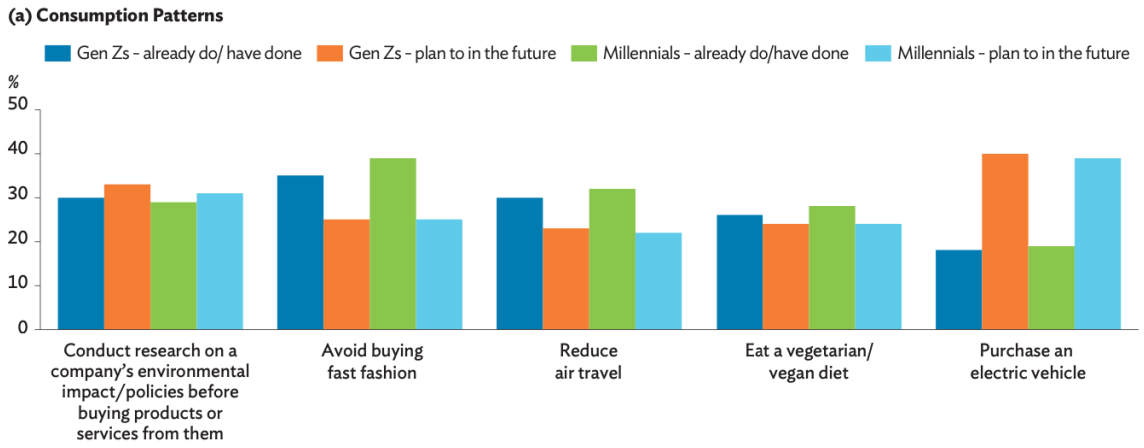

Figure 3: Consumption Patterns of Different Consumer Groups

Source: (Asian Development Bank, 2024)

6.5.Blended Finance

Public sector involvement is crucial to minimise risks in climate adaptation and mitigation projects. Therefore, public sector funding in developing countries should be deployed in the form of blended finance. Instruments like subordinated loans, first-loss guarantees or hedging can diminish the fear regarding uncertain or volatile returns on projects (Ehlers et al., 2022). In fact, the performance-based incentives for project developers will be helpful in compensating for the marginal cost that occurs due to the usage of "greener" technologies (Dahlqvist et al., 2023). Blended finance refers to the strategic use of concessional public funds to mobilise the private investment in projects that deliver positive externalities but may otherwise not be viable on account of existing market inefficiencies (Jena & Bibhudatta, 2023).

Blended finance is highly relevant for the low and middle income countries as these are the countries that face difficulty in mobilising finance in order to meet their climate goals. Though developed countries promised to transfer US$100 billion to developing countries per year, however, they terribly failed to do so. This gap in funding is further rising. Before COP27, a report mentioned that the investment requirement for climate action in EMDEs (excluding China) had grown to US$1 trillion per year (Songwe et al., 2022). Considering the political nature of development assistance and the budgetary implications that it has on the donor countries communicates that these funding gaps cannot solely be covered by increased aid (Randall, 2022). In fact, the majority of international forums like G20, Organisation for Economic Co-operation and Development, UN institutions as well as other Development Finance Institutions view blended finance as a promising tool to fill the funding gap and

achieve climate goals through the mobilisation of private sector investment. Moreover, in South Asian region, Sri Lanka recently joined the Global Blended Finance Alliance in May 2024, which aims to strategically utilise public funds to mobilise commercial finance in order to promote sustainable development in the developing countries (Wijesinha, 2025).

6.6. Building Data Systems

Strengthening data systems is crucial for reducing the high cost of green financing, which is often linked to information gaps and asymmetry (Pant & Pathak, 2023). There is a need to develop a transparent information system with strong checks and balances that will provide confidence to investors about their decisions in green projects. Along with it, the establishment of a regulatory body to oversee this database would be helpful in maintaining date integrity and building confidence. India already has a green building database and recognises green-focused projects through awards and ratings (Pant & Pathak, 2023). However, broader sectoral coverage is needed to encourage investment in other areas. Furthermore, it is important to develop a strong climate information architecture, a globally harmonised climate disclosure standards and a globally agreed principles for climate finance taxonomy (Prasad et al., 2022). These steps will ensure a more precise evaluation of risks in the market, resulting into more informed decision-making with regard to climate investment, ultimately facilitating the expansion of climate finance (Ferreira et al., 2021). Harmonised taxonomy would also be helpful in standardising data reporting along with minimising the inconsistencies in green finance terminology.

Further, effective climate finance management requires transparent tracking systems to monitor financial flows and ensure accountability (World Economic Forum, 2024). Without any uniform system of tracking climate finance, the assessment of effective and impactful investments in climate initiatives is quite complicated. To address this gap, South Asia could benefit from regional and international collaboration in developing tracking mechanisms. Improved transparency in climate finance flows would also help attract investors by demonstrating accountability and ensuring that funds are used effectively to address climate challenges.

7. Conclusion

Addressing climate change, especially in South Asia, is an urgent necessity. With its special vulnerabilities to climate impacts, the region faces the uphill task of mobilising the required financial resources to meet its NDCs and NAPs. Whereas public finance has traditionally been the main source of climate funding in South Asia, apparently, **the scale of the challenge requires active private sector involvement**. This estimated funding gap of $1.758 trillion by 2030 requires a holistic multi-stakeholder strategy that pools together public resources, private resources, and international resources (Dhakal & Wangmo, 2024).

This paper develops several key points in climate finance in the South Asian region: first, large funding gaps and disproportionate high bias in mitigation as opposed to adaptation projects, despite dire regional needs for resilience in a context of frequent severe climate events; second, among the key structural and systemic barriers impeding mobilisation of private capital are data deficiencies, fragmentation of policies, underdeveloped financial markets, and geopolitical tensions. Some of these are the contributing factors that make it difficult to attract and retain private investment in climate projects within South Asia.

However, the potential for transformation is equally significant. The paper outlines key strategies to mobilise private capital, including the adoption of blended finance mechanisms, strengthening PPPs, and creating robust climate information systems. Access to innovative financial instruments, such as green bonds, concessional loans, and credit guarantees, will place South Asian countries in a position to mitigate the risks of investment and attract much more participation from the private sector. In this respect, multilateral institutions and regional cooperation mechanisms such as SAARC and BIMSTEC could contribute constructively toward promoting cooperation and knowledge sharing among their member countries for the pooling of resources to fight the adverse impact of a changing climate.

In fact, what is required is a set of policy reforms and a stable regulatory environment which would incentivise private investment. In the future, the key role of governments is to shift to market-responsive policies, smooth carbon pricing mechanisms, and improve transparency in financial flows. Indeed, regional climate-focused innovation and R&D play an instrumental role in further accelerating technology uptake towards a low-carbon, sustainable future for the region. Finally, developing domestic financial markets and regional taxonomies aligned with

international standards can support investor confidence and attract better access to international climate funds.

This paper thereby places private capital at the fulcrum of South Asia's needs for climate finance. *The private sector brings in much-needed resources, but more importantly, innovation, expertise in managing risks, and the ability to undertake large-scale infrastructure projects*. But, it needs focused effort by governments, international institutions, and the private sector in building an enabling ecosystem for such sustainable investment.

South Asia is at a very critical juncture in its climate journey. The cost of inaction is deepening through rapidly rising social, economic, and environmental losses that threaten the region's stability and development. *By adopting an integrated approach—combining public and private efforts, fostering regional cooperation, and driving policy innovation—South Asia can bridge the gap in climate finance and build a resilient, sustainable future*. This paper calls for urgent action, as the investments made today will shape the region's ability to adapt to climate change and secure livelihoods for future generations.

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