



**Regional Paper on
“Climate Change Ambition in South Asia
and COVID-19 Recovery
Affecting the Nationally Determined Contributions
of South Asian Countries”**

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The Regional Paper was formulated by Mr. Uchita de Zoysa, as the Consultant for CANSA. He is the Executive Director of Centre for Environment and Development (CED) and Chairman of Global Sustainability Solutions (GLOSS).

The consultant was assisted by Associate Researchers Dr. Sajith Wijesuriya and Ms. Avishka Sendanayake in conducting the study. Ms. Steshini Corea, intern, also contributed towards conducting the study.



INTRODUCTION

Background, Methodology and Scope of the Study

The Paris Agreement, which is a legally binding international treaty on climate change, was adopted by 196 Parties at COP 21 in Paris on 12 December 2015, and entered into force on 4 November 2016. The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels, and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to increase the ability of countries to deal with the impacts of climate change, and at making finance flows consistent with a low GHG emissions and climate-resilient pathway.

The Paris Agreement works on a five-year cycle of increasingly ambitious climate action carried out by countries. By 2020, countries are expected to submit their plans for climate action. These plans are known by the universally accepted term of Nationally Determined Contributions (NDCs). In their NDCs, countries communicate actions they will take to reduce their Greenhouse Gas (GHG) emissions to reach the goals of the Paris Agreement. Countries also communicate in the NDCs actions they will take to build resilience to adapt to the impacts of rising temperatures. Meanwhile, the Climate Ambition Summit held on 12 December 2020 to mark the fifth anniversary of the adoption of the landmark Paris Agreement helped strengthen NDCs; the main outcomes of which include the new net-zero targets, stronger national climate commitments, accelerating adaptation; increasing public climate finance, leadership by cities, businesses and others, and paving the path to COP26 in Glasgow.

It is an important milestone in 2021 to further close the large gap between the climate targets and the previous requirements of the governments. The COVID-19 situation made the conditions for an active CSO engagement in climate action difficult – it shifted the global and national focus to COVID-19 and away from attention to climate policy, and government restrictions further constrained CSO based climate action. Awareness about the cumulative effects and solutions for both climate change and COVID-19 among decision-makers in project countries is very low due to the strong COVID emergency approach. The COVID-19 pandemic alerted societies across the world to potential breakdown scenarios such as anthropogenic climate change. Despite compelling scientific evidence, it has previously been difficult to convince governments and people of the need for collective transformational action for the past few decades. It must be noted that it is the same lack of political commitment and leadership towards critical climate action that helped the spread of the COVID-19 pandemic.

To contribute to inclusive enhanced NDCs, a project consortium is currently implementing the project “Participatory NDCs for a climate-just response in COVID-19 world” with funding from the German Federal Ministry for Economic Cooperation and Development (BMZ). The consortium is composed of CARE Germany (as formal lead), Climate Action Network International, Climate Action Network South Asia (CANSAs), and civil society partners in Sri Lanka, Nepal, Bangladesh, Tanzania, and Uganda. To point to good examples and ways to enhance the new and updated NDCs, the consortium partners' intent to prepare an analysis of recently submitted and proposed NDCs, has resulted in a report.



This work seeks to inform of the need for raising ambition with a reference to Sustainable Development Goals (SDGs) in context of the emerging realities of the pandemic. SDGs are at the heart of the 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015. They provide a shared blueprint for peace and prosperity for people and the planet, now and into the future. They recognize that ending poverty and other deprivations must go together with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests. Therefore, it is important to understand the linkages between the SDGs and NDCs towards the implementation of the international climate and development agendas by optimizing the way by identifying their intersections.

The scope of this Regional Paper on “Climate Change ambition in South Asia and COVID-19 recovery affecting the Nationally Determined Contributions of South Asian Countries” includes:

- a. An overview of the impact of COVID-19 on achieving the NDCs; Linkages between the NDC and SDG agendas and the synergies of impact.
- b. Potential scenarios for COVID-19 recovery affecting the nationally determined contributions of South Asian countries.
- c. Foresight into post COVID-19 climate change ambition in South Asia to be used by policy makers and policy influencers.

The following methodology was therefore adopted for this study and formulation of the paper:

- a. Conducting a desk research and comparative analysis on NDCs in the eight South Asian countries in the context of the UNFCCC Paris Agreement.
- b. Conduct a desk research and analysis on the linkages between NDCs and SDGs in the eight South Asian countries.
- c. Conduct a desk research on the impact of COVID-19 in the eight South Asian countries.
- d. Conduct a survey amongst CANSA members on “Climate Change Ambition in South Asia and COVID-19 Recovery Affecting the Nationally Determined Contributions of South Asian Countries”.
- e. Formulate recommendations including a framework to manage the climate ambitions in South Asia.



THE POLICY CONTEXT

Climate Change Ambition in South Asia

In the lead-up to the Paris Agreement, more than 160 countries and the European Union submitted their plans to address climate change, which are known as Intended Nationally Determined Contributions (INDCs). According to this agreement, a country's INDC is converted to a Nationally Determined Contribution (NDC) when it formally joins the Paris Agreement by submitting an instrument of ratification, acceptance, approval, or accession, unless a country decides otherwise. Accordingly, 192 Parties had submitted their first NDCs. As per the agreement, all countries were expected to submit their updated NDCs in 2020; 80 countries, representing 47.2% of global emissions, have stated their intention to enhance ambition or action in new or updated NDCs while 77 countries (including the 27 EU countries), representing 27.9% of global emissions, have submitted a new or updated NDC.

2.1. A Comparative Analysis on the Thematic NDC Targets in South Asia

All countries in the South Asian sub-region had committed to the Paris Agreement and towards developing the NDCs in 2016. While all South Asian countries had submitted their first INDCs or NDCs, only a few have submitted their updated second NDCs. Countries such as Bangladesh, Maldives and Nepal have submitted their updated reports in the year 2020 while Afghanistan, Bhutan, Pakistan, and Sri Lanka are currently in the process of updating. A comprehensive study was conducted by analyzing all the reports submitted by the 08 South Asian countries since 2015 which included both INDC and NDC reports.

As a centralized source of updated sub-regional information was not available, a comparative analysis was conducted on the NDCs submitted by the eight South Asian countries: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. Each country had a unique approach to presenting their NDC targets due to a lack of an available global guidance document in developing the reports. The initial analysis clustered all the targets listed in the respective NDC publications into the four main thematic areas found under the Paris Agreement; Adaptation, Mitigation, Loss and Damage, and Means of Implementation, to present a brief overview of South Asian country commitments. All countries highlighted targets for adaptation and mitigation while only Sri Lanka, Nepal and Maldives had identified targets for Loss and Damage. Means of implementation was identified as a clear subsection by all countries; their respective reports highlighted requirements for capacity building, finance and institutional mechanisms.

The Paris Agreement and subsequent COPs (Conference of Parties) offer limited guidance to countries (parties) towards formulating the NDCs on their scope, features, and the information they should contain. As a result, the information that Parties have included in their NDCs and the way they have presented this information varies considerably. This makes it very difficult to compile and collate this information, to assess collective global progress in addressing climate change. Interpretations of the Paris Agreement leads to the inclusion of Mitigation, Adaptation, Financial support, Technology transfer, Capacity building, and Transparency, in the NDCs.



Towards conducting a comparative analysis of the NDC targets in the South Asian region, clear categories were required. Global and regional approaches to communicating the NDCs were studied towards the identification of a common scenario for the sub-region. Therefore, and inspired by the first NDC by Sri Lanka, four 'Thematic Categories of NDC Targets' were used to conduct a comparative analysis in the region, which included Adaptation, Mitigation, Loss and Damage, and Means of Implementation. The following definitions are drawn to establish the context of the four thematic NDC categories:

- 1. Adaptation** - Adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts. It refers to changes in processes, practices, and structures to moderate potential damages or to benefit from opportunities associated with climate change. Adaptation will focus on sectors of human health, food security (agriculture, livestock, and fisheries), water and irrigation, coastal and marine biodiversity, urban infrastructure and human settlement, tourism and recreation. Adaptation initiatives that derive mitigation co-benefits will be prioritized. (Source: UNFCCC)
- 2. Mitigation** - Reducing the GHG emissions against the Business-As-Usual (BAU) scenarios in the sectors of energy (electricity generation), transportation, industry, waste, and forestry. The key contributors to GHG are Carbon Dioxide (CO₂), Methane (CH₄) and Nitrous Oxide (N₂O). Enhancing the carbon sinks also falls under this category. (Source: UNFCCC)
- 3. Loss and Damage** - Include harms resulting from sudden-onset events (climate disasters, such as cyclones) as well as slow-onset processes (such as sea level rise). Loss and damage can occur in human systems as well as natural systems, though the emphasis in research and policy is on human impacts. Within the realm of loss and damage to human systems, a distinction is made between economic losses and non-economic losses. The main difference between the two is that non-economic losses involve things that are not commonly traded in markets. (Source: Germanwatch)
- 4. Means of Implementation** - Interdependent mix of financial resources, technology development and transfer, capacity-building, as well as the creation of a national enabling environment required to implement the NDCs. (Source: IIED)

While only a few countries have adopted this clear-cut categorizing of their NDCs, most countries had addressed the objectives while presenting their targets. The following is a summary of the comparative analysis of the NDCs submitted by countries in the South Asian region based on the four thematic clusters.



Table 01: Four Thematic NDC Categories as Represented Across Countries in South Asia

	Sectors	South Asian Countries										
		Afghanistan (1st NDC)	Bangladesh (1st NDC)	Bangladesh (1st NDC Updated)	Bhutan (1st NDC)	India (1st NDC)	Maldives (1st NDC)	Maldives (1st NDC Updated)	Nepal (1st NDC)	Nepal (2nd NDC)	Pakistan (1st NDC)	Sri Lanka (1st NDC)
1	Adaptation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Mitigation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Loss and Damage							✓	✓	✓		✓
4	Means of Implementation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

NDCs of the South Asian region highlights the importance of adaptation, mitigation, loss and damage and means of implementation for the region. All eight countries present a significant number of NDCs for adaptation. A majority of the NDCs had identified adaptation and mitigation targets separately. The following is a summary of the four common thematic areas in South Asia:

- 1. Adaptation** - The South Asian region's NDCs highlight a strong need for adaptation efforts within the region. Majority of the sectors identified by the eight countries are cross-cutting across the region. Building resilience among the populations, infrastructure and economy seems to take priority within the region. Disaster risk reduction and early warning systems are also cross-cutting NDCs across the region as all these countries experience a multitude of natural hazards because of climate change-driven effects. The importance of clean drinking water and irrigation are also expressed within the region's NDCs. Agriculture and food security are also identified as important NDCs for the region, specifically through climate-smart agriculture practices. Almost all countries presented the financial commitments required for adaptation, and many of the countries had already allocated domestic funds towards adaptation as it is seen as essential for the region. All the countries also mention the formulation of the National Adaptation Plan (NAP) but only a few have already developed it, according to the available NDC reports.
- 2. Mitigation** - Across the South Asian region, mitigation targets focused on emission reductions through various sectors. The eight countries give prominence to the energy sector to reduce emissions by 2030 through implementing renewable energy projects to generate the required electricity needs. Electric vehicles and enhancing public transport have been identified across the region to be the solution to limit emissions from the transport sector. Waste sector emissions have also been identified as having the potential to be reduced through waste-to-energy and better waste-management plans. All the countries with remaining natural forests



highlighted the importance of sustainable forest management as well as conservation through carbon sequestration. All the overall emission reduction targets presented higher ambitions with external financial support in comparison to no external support. Countries that submitted updated NDCs presented higher ambitions in comparison to their initial NDCs.

3. **Loss and Damage** - While loss and damage was not identified as a separate thematic area in a majority of the NDCs across South Asia, many countries did highlight the requirements for early warning and disaster risk reduction. Maldives is the only country that had identified insurance schemes as an important adaptation mechanism and Sri Lanka highlighted the need for insurance schemes under loss and damage.
4. **Means of Implementation** - The South Asian countries did highlight similar areas under means of implementation such as the need for capacity building from the individual level to institutional and governance levels. All the NDCs specify the financial requirements for the successful implementation of the NDCs where some were more comprehensive than others. Institutional mechanisms were also highlighted as key requirements for implementation across the region. While all countries presented policies and strategies within their NDCs, many of them are not directly addressing climate change, and can be identified as a gap.

What follows is a summary on how the eight South Asian countries have addressed the four thematic NDCs categories.



AFGHANISTAN

ADAPTATION	MITIGATION	LOSS & DAMAGE
<ul style="list-style-type: none"> • DRR approaches • Change integration into NPPs • Economic development & sustainable rural livelihoods through mgmt. of env. resources, access to clean energy • Technical capacity of government institutions • Adaptive, integrated land & water management, improve access to water, improve agricultural productions • Awareness on climate change impacts and adaptation measures 	<ul style="list-style-type: none"> • Energy - production & efficiency, power plants - fuel shift to natural gas & renewables, coal mines mgmt. • Agriculture, Food & Waste - Agriculture and livestock, irrigation infrastructure, improved cropping systems, waste mgmt., modified rice strains and mitigation measures for N2O. • Industry - Industrial processes and extractive industries • Transport - sustainable transport • Nature based solutions - land use, forests and rangelands <p>Target - reduce GHG emissions by 13.6% by 2030</p>	<ul style="list-style-type: none"> • Not addressed <p>MEANS OF IMPLEMENTATION</p> <ul style="list-style-type: none"> • Total financial needs for the NDCs amount to USD 17.405 billion • Adaptation needs require USD 10.785 billion • Mitigation requires USD 6.62 billion (2020-2030)




BANGLADESH

ADAPTATION

- DRR approaches - Early warning systems for natural hazards, disaster preparedness, shelters for hazards, cyclones & storm protection, inland monsoon flood-proofing & protection, climate resilient infrastructure & communication
- Urban resilience through improving drainage system to minimize flooding, river training & dredging
- Agriculture: promote stress-tolerant varieties for cultivation
- Research & knowledge management
- Local-level perspectives
- Health, biodiversity & ecosystem conservation
- Capacity building at individual, institutional levels
- Adaptive Delta management initiatives - Mujib Climate Prosperity Plan up to 2030, Forest Investment Plan (FIP, 2017-2022) and Bangladesh Delta Plan, 2100
- Achievement in power sector: 5.8 million solar home systems (SHSs) installed providing solar electricity to 18 million beneficiaries, etc.

MITIGATION

- Reduce GHG emissions by 12 MtCO₂e by 2030 or 5% below BAU emissions (conditional target: 15%) in Industry, Energy and Transport sectors
- Industry - Potential to reduce the solid waste which is 75% biodegradable is by converting it to energy
- Energy (energy production, efficiency) - Energy intensity per GDP will be reduced by 20% by 2030 in comparison to 2013 levels. Generate 1700 MW from utility scale solar plants and 250 MW from solar home systems by 2030
- Transport - Introduce 10,000 hybrid and e-vehicles, broad gauge and electric locomotives, good quality fuel and Euro III and IV engines, all four-lane highways, withdraw 86,000 unfit vehicles from the roads and introduce Lithium-ion battery in all motorcycles, cars

Bangladesh has formulated its National Adaptation Plan (NAP), but is yet to submit it. Institutional arrangement for NDC implementation is not yet operational

LOSS & DAMAGE

- Not addressed, but included the financial costs of climate-related hazards experienced in recent years

MEANS OF IMPLEMENTATION

- Adaptation costs of tropical cyclones and storm surges will be \$55167 million - annual recurrent cost will be \$112 million; inland monsoon flooding cost will be \$2671 million, annual recurrent cost will be \$54 million by 2050
- Major implementation gaps: lack of institutional capacities and coordination
 - lack of concrete climate change policies aimed at food security, livelihoods, and
 - health protection sectors
 - lack of inland flood protection and monsoon protection policies
 - lack of disaster management facilities & training in flood-prone areas
 - lack in climate change and especially adaptation awareness among ministries and other government institutions



BHUTAN

ADAPTATION

- Increase resilience to impacts of climate change on water security through Integrated Water Resource Management (IWRM) approaches
- Promote climate-resilient agriculture to contribute towards achieving food and nutrition security
- Sustainable forest management and conservation of biodiversity to ensure sustained environmental services
- Strengthen resilience to climate change-induced hazards
- Minimize climate-related health risks
- Climate-proof transport infrastructure against landslides and flash floods, particularly for critical roads, bridges, tunnel and trails
- Promote climate-resilient livestock farming practices to contribute towards poverty alleviation and self-sufficiency
- Enhance climate information services for vulnerability and adaptation assessment and planning
- Promote clean renewable and climate-resilient energy generation
- Integrate climate-resilient and low emission strategies in urban and rural settlements

MITIGATION

- Bhutan is a carbon neutral nation - emissions do not exceed carbon sequestration by their forests, estimated at 6.3 million tons of CO₂. Existent forest cover of Bhutan is at 70.46%; efforts to maintain the cover through sustainable forest management and conservation of environmental services
- Sustainable forest management and conservation of biodiversity to ensure sustained environmental services
- Promote low carbon transport system
- Minimize GHG emission through application of zero waste concept and sustainable waste management practices
- Promote green and self-reliant economy towards carbon neutral and sustainable development through promoting clean, renewable energy generation
- Promote climate-smart livestock farming practices to contribute towards poverty alleviation and self-sufficiency
- Energy demand-side management by promoting energy efficiency in appliances, buildings and industrial processes and technologies
- Integration of low emission strategies in urban and rural settlements through green buildings, sustainable construction methods and climate-smart cities

LOSS & DAMAGE

- Not addressed

MEANS OF IMPLEMENTATION

- Domestic resources being spent on both adaptation and mitigation actions through a five-year plan with an objective for carbon-neutral and climate-resilient development
- Bhutan Trust Fund aimed at conserving the environment through locally funded projects addressing climate change mitigation and adaptation
- Provides an overview of the institutional mechanisms in place for climate change, as well as capacity building needs
- No specific policies for climate change but has strong environmental and green development policies



ADAPTATION	MITIGATION	LOSS & DAMAGE
<ul style="list-style-type: none"> • Agriculture - implement policies/missions targeting threats • Water - enhance efficient use of water, ensure access and tackle the adverse impact of climate change - transboundary and regional issues to be factored in • 'Health Mission' under NAPCC for strategies to mitigate, contain and manage the adverse impact of climate change on health at the national and sub national levels. • Vulnerable areas on coasts, islands declared Coastal Regulation Zones with restrictions on setting up and expansion of industries, operations and processes • Disaster risk reduction and response apparatus at national, state and district levels. E.g., National Mission for Sustaining the Himalayan Ecosystem (NMSHE) to address important issues such as glaciers, the hydrological consequences, biodiversity and wildlife conservation and protection, traditional knowledge societies and their livelihoods. • MGNREGS has a budgetary annual allocation of about INR Rs 730 billion (USD 11.6 million) in 2021-22, to strengthen natural resource base of rural economy - linked to land, soil, and water, adaptation actions under state action plans on climate change 	<ul style="list-style-type: none"> • Clean and efficient energy systems • Enhance energy efficiency in industries • Develop climate resilient urban centers • Promote waste to wealth conversion • Safe, smart, and sustainable green transportation network • Planned afforestation • Abatement of pollution • Citizens and private sector contribution to combatting climate change 	<ul style="list-style-type: none"> • Interlinkages between loss and damage and adaptation highlighted, but not identified as a subsection <p style="text-align: center;">MEANS OF IMPLEMENTATION</p> <ul style="list-style-type: none"> • Highlight several policies and strategies towards combating climate change, e.g., under climate finance policies, set up INR 3,500 million (USD 55.6 million) for the National Adaptation Fund • Identified and created institutional mechanisms to implement the NDCs



 **MALDIVES**

ADAPTATION	MITIGATION	LOSS & DAMAGE
<ul style="list-style-type: none"> • Enhance agriculture and food security • Infrastructure resilience • Public health • Enhance water security • Coastal protection, safeguarding coral reef and its biodiversity, tourism, fisheries and early warning and systematic observation • Disaster risk reduction and management 	<ul style="list-style-type: none"> • Unconditional reduction was 10% GHGs below BAU for the year 2030, whereas conditional reduction would increase up to 24%. • Energy (electricity generation, energy efficiency for both domestic and industry) • Transportation • Waste management • Emission in 2030 under BAU to 3,284.92Gg CO₂e through interventions in energy and waste sectors (conditional basis reduce emissions in 2030 by 26%) • Transportation has been left out of the updated NDCs 	<ul style="list-style-type: none"> • Need to enhance mechanisms to collect information on loss and damage <p style="text-align: center;">MEANS OF IMPLEMENTATION</p> <ul style="list-style-type: none"> • Highlights necessity of financial resources, technology, and capacity building • Finance and steps to increase financial allocations towards implementing the NDCs • Climate governance and capacity building as a key means of implementation - it comprises policies and strategies and technological enhancement • Institutional arrangements to implement the NDCs



NEPAL

ADAPTATION

- Implement Environment-Friendly Local Governance (EFLG) Framework in village development committees, municipalities to complement climate change adaptation
- Promote renewable energy technologies, water conservation and greenery development
- Undertake scientific (physical and social sciences) approaches to understand and deal with impacts of climate change in mountains, hills and lowland ecosystems and landscapes
- Develop and implement adaptation strategies for climate change affected sectors
- Study further loss and damage associated with climate change impacts with the support from scientific and academic communities
- Sectors included: Agriculture and food security, forests, biodiversity and watershed conservation, water resources and energy, rural and urban settlements, industry, transport and physical infrastructure, tourism, natural and cultural heritage, health, drinking water and sanitation and disaster risk reduction and management
- Cross-cutting areas: gender equality and social inclusion (GESI); awareness raising, capacity building, research, technology development and extension and climate finance management
- Tourism, recreation
- Climate-smart technology

MITIGATION

- Energy (by 2030, increase the reliable supply of clean energy, ensuring access to all)
- Agriculture (by 2030, soil organic matter content of agriculture land will reach to 3.95%), livestock
- Forestry (Nepal's 2016 NDC sets a target to maintain 40% of the total area of the country under forest cover, current forest cover is approximately 44.74% of which 4.38% is other wooded land (OWL)) and other land use (AFOLU)
- Industry (by 2030, adopt low emission technologies in brick and cement industries to reduce coal consumption and air pollution, including through the development and/or enactment of emission 7 standards)
- Waste (by 2030, create an enabling environment for both public and private sector to treat industrial and municipal waste, including faecal sludge)
- Tourism (by 2025, formulate and implement nature-based tourism plans in at least five main tourist destinations)
- Urban settlements (adopt national building codes and prepare Integrated Urban Development Plans (IUDPs) emphasizing low carbon and climate-resilient urban settlements in all municipalities)
- Transport
- Commercial sectors

Updated NDCs use 2011 as base year for emissions and emissions per sector. Under each of these sectors there are several goals and targets to be achieved by 2030, one target under each sector is highlighted above.

LOSS & DAMAGE

- Research needs mentioned
- National strategy and action plan on Loss and Damage (L&D) associated with climate change impacts will be devised by 2025

MEANS OF IMPLEMENTATION

- Governance
- Finance, economic efficiency and cost effectiveness
- Equity and inclusiveness
- Monitoring, reporting and verification (MRV)
- Highlight number of policies, acts and strategies and the relevant institutional mechanisms required for the implementation of the NDCs.

Nepal is the only country to have updated their NDC. Also the only country to address gender dimension within the NDCs. It has its National Adaptation Plan (NAP) in place.



PAKISTAN

ADAPTATION	MITIGATION	LOSS & DAMAGE
<ul style="list-style-type: none"> • Agriculture and food • Water and irrigation • Urban city planning and human settlement • Knowledge management/education • Resilience to hazard/risk management • Climate-smart technology • Energy • Focus on resilience building in the long-term, medium to long-term and near-term • Long-term: Build a climate-resilient society and economy by mainstreaming climate change in the economically and socially vulnerable sectors of the economy • Medium to long-term: Achieve the long-term adaptation visions for a climate-resilient society as well as pursuing effective means to address water, agriculture, and infrastructure vulnerability to climate change • Near-term: Develop policies, plans towards adaptation and enhancing capacity on disaster risk reduction. 	<ul style="list-style-type: none"> • Energy supply - increase in grid efficiency, large-scale and distributed grid connected to renewable energy and more • Agriculture - improved irrigation and water management, implement agroforestry practices through plantation of multipurpose and fast-growing tree species, promote use of green manure, better manure storage and management, and many more • Emissions reduction of 20% by 2030 (estimated at USD 40 billion) but no mitigation options for the following sectors: energy, agriculture, industrial processes, land-use change and forestry and waste • Institutional mechanism defined • Need for capacity-building within sectors highlighted • Policies, strategies and plans to implement NDCs 	<ul style="list-style-type: none"> • Not specifically highlighted <p style="text-align: center;">MEANS OF IMPLEMENTATION</p> <ul style="list-style-type: none"> • Need for financial support is briefly mentioned throughout report



ADAPTATION

- Health (establish clinical waste disposal systems in all hospitals in collaboration with relevant agencies)
- Agriculture (promote / introduce / develop Integrated Pest Management (IPM) practices to minimize pest damages to improve environmental impacts and health)
- Livestock (Identification of vulnerability in the livestock sector)
- Fisheries (establishment of fish barricade devices for each perennial reservoir to prevent fish escape, in consultation with Irrigation Department)
- Water (establish and erect sand bags across the river during the drought season to prevent saline water intrusion where saline water intrusion is a concern)
- Irrigation (restoration and rehabilitation of all abandoned tanks and irrigation canals in Sri Lanka)
- Coastal and marine (establish an accurate sea level rise forecasting system for Sri Lanka)
- Biodiversity (restoration of degraded areas inside and outside the Protected Area (PA) network to enhance resilience)
- Urban, city planning and human settlements (mainstream climate adaptation in physical and urban planning and incorporate them into planning in development projects)
- Tourism and recreation (adapt and alter conditions and destinations of the tourism and recreation sector)

One key target under each sector is highlighted above for reference.

MITIGATION

- Energy (NDC 1: establishment of large-scale wind power plants of 514 MW)
- Transport (establishment of energy-efficient and environmentally sustainable transport systems by 2030)
- Industry (modernizing and facilitating industries to follow recognized standards related to GHG emission reduction)
- Forestry (increase the forest cover of Sri Lanka from 29% to 32% by 2030), and
- Waste (introducing a source separation system at the household level and a proper collection mechanism)

Each sector has several NDC targets to be achieved by 2030. Also presented above are one target per sector as a reference to the type of targets presented under each sector.

Sri Lanka is the only country in the region to have submitted their National Adaptation Plan (NAP). And has NDCs for Loss and Damage.

LOSS & DAMAGE

Sri Lanka is the only country to identify NDCs specifically for loss and damage. They include:

- Improve the forecasting capabilities at all-time scales;
- Analysis of total loss and damage of climate induced disasters from 2000 and the gap that was not compensated/recovered
- Establish a local mechanism in line with the Warsaw International Mechanism for Loss and Damage
- Strengthen the existing national mechanism to recover the loss and damage to the maximum possible;
- Introduction of possible insurance schemes to recover the loss and damage to livelihood, properties, infrastructure, agriculture and fisheries, and
- Other affected sectors due to adverse impacts of climate change

MEANS OF IMPLEMENTATION

- Need for financial instruments, technological advances, capacity building and overall implementation mechanisms to achieve NDCs
- Implementation mechanisms include institutional establishments
- Presented several policies, strategies, and programs in place to address climate change and assist the implementation of the NDCs
- In readiness phase until 2020 so will only be preparing to implement chosen NDCs
- Sri Lanka's chosen base year as per BAU scenario is 2010 from 2021 to 2030



2.2. A Comparative Analysis on the Sectoral NDC Targets in South Asia

While thematic clusters provide an overview of the NDC policy landscape in South Asia, a deeper analysis through a sectoral scope or coverage is necessary; sectoral breakdowns assisted in identifying the local requirements of the countries in the sub-region.

As not all reports were clear in their sectoral breakdowns, several assumptions were made. For instance, if the country report did not include sectoral breakdowns, but if the report consisted of sectoral targets such as agriculture or health, those targets were aligned with the identified sectors. Altogether 32 sectors were identified after examining all the NDC reports from the South Asian region. There were several cross-cutting sectors between the four main thematic areas. For example, sectors such as energy, agriculture/livestock, forestry, irrigation, capacity-building were identified as targets under the different thematic areas by several countries. To further elaborate, energy was highlighted as a sector under both adaptation and mitigation by the following countries: Afghanistan, Bhutan, India, Nepal, and Pakistan.

Adaptation and mitigation comprise the conventional sectors ranging from health, urban planning, education, forestry to energy, industry, and transport. Whereas under loss and damage, sectors such as disaster risk reduction, early warning, insurance schemes, policy and strategy were identified. Similarly means of implementation covered the following: finance, capacity building, implementation mechanism, policy and strategy and monitoring framework.

The preliminary mapping of 'Sectoral Clusters of NDC Targets' across the four thematic NDC categories in South Asia is presented in Table 02. The sectors from 1 to 23, starting from the health sector to early warning systems were identified as individual sectors which were highlighted as adaptation NDCs across the region. The rationale behind presenting them as sectors is that countries presented NDCs under each of these sectors. From 23 to 31, which is from early warning systems to monitoring frameworks were included in the table as they were not only identified as cross cutting and enabling tools but also presented as targets within the NDCs but it is understood that they are not conventional sectors as the rest. Due to the varied presentations of the NDCs across the region, this classification was necessary to provide a wholistic picture of the regional mapping.

The table 02 below provides mapping of the four thematic NDC categories been represented in each selected sector as follows.

Adaptation	A
Mitigation	B
Loss & Damage	C
Means of Implementation	D



Table 02: Preliminary Mapping of Sectoral NDC Targets Across the Thematic Categories in South Asia

Sr. No.	Sectors	South Asian Countries										
		Afghanistan (1st NDC)	Bangladesh (1st NDC)	Bangladesh (1st NDC updated)	Bhutan (1st NDC)	India (1st NDC)	Maldives (1st NDC)	Maldives (1st NDC updated)	Nepal (1st NDC)	Nepal (2nd NDC)	Pakistan (1st NDC)	Sri Lanka (1st NDC)
1	Health		A		A	A		A	A			A
2	Agriculture & Food	A B			A B	A	A B	A B	A B	B	B	A C
3	Livestock		A		A			B	B	B	B	A
4	Fisheries		A					A	A			A
5	Water	A	A		A	A	A	A	A	A	A	A
6	Irrigation	B	A		A	A B	A B			B		A B
7	Coastal & Marine					A		A	A			A
8	Biodiversity		A			A		A	A	B	B	A
9	Urban, city planning & human settlement	A	A	B	A B	B	A	A	A	A B	A	A B
10	Tourism & Recreation							A	A		A	A
11	Knowledge Mngt. / Education	A			A	A	A			A D	A D	A
12	Resilience to Hazards	A	A		A		A	A	A D	A C	A	A B
13	Climate smart solutions				A		A			B	A D	A
14	Environmental resources mngt.	A			A	A		A	A	B	A B	A B



Sr. No.	Sectors	South Asian Countries										
		Afghanistan (1st NDC)	Bangladesh (1st NDC)	Bangladesh (1st NDC updated)	Bhutan (1st NDC)	India (1st NDC)	Maldives (1st NDC)	Maldives (1st NDC updated)	Nepal (1st NDC)	Nepal (2nd NDC)	Pakistan (1st NDC)	Sri Lanka (1st NDC)
14	Environmental resources mngt.	A			A	A		A	A	B	A D	A
15	Energy	A B	B	B	A B	A B	A B	B	B	A B	B	B D
16	Transport	B	B		B	B		B	B	B	B	B
17	Industrial	B	B		B	B			B	B	B	B
18	Forestry	B			A B	B			B	B	A B	B
19	Waste			B	B	B		A B	A B	B	B	A B
20	Air pollution	B			B	B	B		A B	B	B	A B
21	Infrastructure				B		B	A	A B	B	B	A C
22	Disaster risk reduction / Risk mngt.	A				A			A	A C D	A	A C
23	Early warning systems		A		A	A		A	A	C		C
24	Insurance schemes								A C			C
25	Policy & Strategy			D	D	D	D			D	D	D
26	Finance	D	D		D	D	D	D	D	D	A B D	D
27	Capacity Building					A D	D	D	D	D	B D	D
28	Technology	D	D			D	D	D	D	D	B D	D



Sr. No.	Sectors	South Asian Countries										
		Afghanistan (1st NDC)	Bangladesh (1st NDC)	Bangladesh (1st NDC updated)	Bhutan (1st NDC)	India (1st NDC)	Maldives (1st NDC)	Maldives (1st NDC updated)	Nepal (1st NDC)	Nepal (2nd NDC)	Pakistan (1st NDC)	Sri Lanka (1st NDC)
29	Implementation mechanism					D				D	D	D
30	Institutions					D	D	D		D	D	D
31	Framework (Monitoring)		D	D	D	D			D		D	D

As covered in the previous section on Thematic Analysis of NDCs, all countries had identified both short-term and long-term targets to be achieved under Adaptation; while some targets under the identified sectors were clear and achievable, there were also many targets that seem brief and in need of guidance. Resilience building in the South Asian region was highlighted by all the NDC reports as a key adaptation requirement for the region. Also, one of the recurring sectors under adaptation across the region was agriculture and water, possibly due to the heavy reliance on agriculture-based livelihoods in this region and the increasing demand globally and in South Asia for clean drinking water. A majority of the countries presented targets regarding sectors such as urban, city planning and human settlements as well as resilience to hazards and risk management as key adaptation requirements. This is also on par with the increasing intensity and frequency of disasters affecting the South Asian region because of climate change.

In reference to mitigation sectors, it was evident that all countries developed their targets mainly based on emission reductions as mentioned above. In general, there was a heavy focus on energy, forestry and transport and waste sectors as key targets to reduce emission as identified in the NDC reports across the region. All the eight countries have highlighted the need to increase the share of renewable energy to their national energy supply and while some sectoral targets are very specific and entail measurable parameters, there are also targets which are very vague and unmeasurable. The transport sector targets heavily addressed the need to move toward low emission transport technologies which will require infrastructure advancements as well. Countries such as **Afghanistan, Bhutan, India, Nepal and Sri Lanka** focused on the forestry sector targets possibly as a result of the remaining forests in their respective countries and the need for its conservation to achieve the Paris agreement targets. Waste was an interesting sector that was highlighted by the region, specifically in terms of converting waste to energy and implementing better waste management mechanisms. Waste is a significant issue in the South Asian region, plaguing people and wildlife within terrestrial and marine ecosystems.



In terms of unique sectors, the two island nations, **Maldives** and **Sri Lanka** had reported targets for coastal and marine protection as well as sustainable fisheries as key sectoral targets for their respective countries. Sectors such as Tourism and recreation were also only selected by **Maldives, Nepal** and **Sri Lanka** as their economies heavily depend on this sector for survival. Countries such as **Afghanistan, Bhutan, India, Nepal** and **Pakistan** also highlighted the need to address air pollution as a key sectoral target.

The most significant threat of climate change to the South Asian region is from disasters as mentioned before and it is reflected in the regional NDCs as **Bangladesh, Bhutan, India, Maldives, Nepal** and **Sri Lanka** had highlighted targets for early warning systems to be improved or developed. Similarly, insurance schemes were only identified by **Maldives** and **Sri Lanka** as well. This indicates that while there is a serious threat from hazards to the region, many countries have not identified targets to prepare for such disasters. Policies and strategies are important for countries to align their development agenda in the right direction, while most of the countries emphasized their plan to develop the National Adaptation Plan, only a few countries addressed the need for other policy tools within the NDC reports.

Means of implementation is a crucial component of achieving the NDC targets set by each of these countries. When analyzing the available reports, finance, technology, and monitoring framework were highlighted among the majority of the reports. Finance is imperative for the South Asian region and many targets have been identified as conditional upon financing by several countries. Technological advances are also crucial for these countries to adapt and build resilience. Well established monitoring mechanisms are a major gap for the South Asian and many of the countries have identified the need to develop such frameworks. Capacity building is also an important target as it will ensure the success of an implementation mechanism.

2.3. Challenges and Progress of the NDCs in South Asia

While countries in South Asia have made their commitments to the Paris Agreement by the way of NDCs, there is a gap in monitoring the commitments and evaluating the actual progress. Lack of established monitoring, evaluation, and review mechanisms for NDCs in these countries prevent regular and accurate follow-up and review.

Some of the challenges while analyzing the NDC reports stem from the lack of a uniform format in presenting the targets, therefore when clustering, a deeper understanding of individual targets was required. Another challenge was the lack of an updated NDC document from the following countries: Afghanistan, Bhutan, India, Pakistan, and Sri Lanka, making it difficult to understand the updated status of the NDCs from the majority of the South Asian countries. The updated status provided by the second NDC reports submitted by Bangladesh, Maldives and Nepal provides an overview of some of the achievements by the respective countries in relation to their first NDCs. The updated reports also highlighted positive milestones, but certain targets were clearer in the first reporting than the second. For instance, Bangladesh's updated report lacked clear targets for adaptation. Nepal and Maldives had identified new targets and removed previously mentioned targets.



Due to the lack of updated NDCs it is difficult to predict if the new targets on a regional level would be less ambitious because of the COVID-19 pandemic. However, Maldives updated NDC which was published last year during the pandemic stated that 'Maldives commits to reduce emissions by 26% (conditional) by 2030 compared to BAU and strives to achieve net-zero by 2030, with ambitious plans to increase their share of renewable energy in the energy mix through various initiatives. The submission also has an adaptation component. (Overall target has been enhanced from 24% to 26% reduction in GHGs). The updated NDCs are all conditional whereas the INDCs were both conditional and unconditional'. The important part to highlight here would be that conditional targets mean without the necessary financing frameworks; Maldives will not be achieving any of the targets presented in their updated NDCs.

Similarly, the updated NDCs from Nepal is more ambitious than its first NDCs, both in terms of net emission reductions and sectoral coverage.

The updated NDCs of Bangladesh highlighted 10 landmark initiatives, which included:

1. Mujib Climate Prosperity Plan up to 2030,
2. National Solar Energy Roadmap, 2021-2041,
3. National Action Plan for Clean Cooking, 2020-2030,
4. Forest and Carbon Inventories,
5. Bangladesh National Action Plan (NAP) for Reducing Short Lived Climate Pollutants (SLCPs), and a few other initiatives.

Moreover, even with a lack of adequate focus on adaptation, the updated NDC report for Bangladesh did highlight some of the key adaptation activities undertaken such as:

1. The Forest Investment Plan (FIP, 2017-2022) which identifies future investment opportunities to increase forest cover, reduce deforestation and degradation, while improving the livelihoods of forest dependent communities through participatory/social forestry.
2. The Bangladesh Climate Change Trust Fund (BCCTF) has undertaken 789 projects with investment of 443 million USD to implement strategic actions of the prepared Bangladesh Climate Change Strategy and Action Plan in 2009.
3. The Government has recently adopted the Bangladesh Delta Plan 2100, a comprehensive 100-year strategic plan aimed at attenuation of gradual sustainable development through adaptive delta management process.

Since the start of the year 2020, all the South Asian countries and the world had to channel large amounts of resources to combat the COVID-19 pandemic. As many of the NDCs require considerable resource allocation, all South Asian countries are estimated to struggle to finance the NDCs in the next few years and with an incoming recession, developed nations will find it difficult to support the region as well.



THE TRANSFORMATION CHALLENGE

Integrating the Climate Change and Sustainable Development Agendas in South Asia

The 2030 Agenda and the Paris Agreement presents two complementary frameworks for achieving ambitious sustainable development objectives. While the 2030 Agenda along with 17 Sustainable Development Goals (SDG) are to be universally achieved, the Paris Agreement expects countries to submit an NDC and demands urgent climate action. While many of the climate actions highlighted in the NDCs have the potential to generate mutual benefits across the 17 SDGs, the SDG targets also have the potential to contribute towards achieving NDC commitments. The two agendas are interlinked and aligning their implementation provides a great opportunity to accelerate progress across both agreements. The alignment of these two agendas will help to reduce duplication and increase efficiency as well as maximize resources, technical capacity, information, and expertise sharing.

3.1 Challenges in Achieving the Two Agendas in South Asia

2030 Agenda for Sustainable Development is a structured and all-encompassing agenda, presenting universal goals and target that include a global indicator framework; however, many countries are yet to localize the SDGs and mainstream them into the national policy frameworks. In comparison, the NDCs are based on a localized list of targets identified by individual countries to achieve the global targets set out in the Paris Agreement. NDCs already have several international financing mechanisms, financing the SDGs are more focused on domestic resource mobilization. International climate financing availability works as an incentive for many of the developing nations to prioritize the implementation strategies required to enhance adaptation and mitigation action. However, countries need to realize that both agendas promote climate action and that these two agendas need to be achieved together; the mainstreaming of both agendas in South Asian countries is required with greater urgency.

Countries are more likely to meet these goals and targets if they enhance policy coherence between the two agendas and resolve the synergies and conflicts between NDCs and SDGs. Institutional measures, such as reducing government institutional fragmentation, can increase policy coherence; but underlying factors that are at the root of policy incoherence, such as the values, norms and vested interests are unique to each country and needs to be addressed according to their own situations. While both agendas are expected to be mainstreamed into national policy frameworks and localized, the two processes have largely operated in silos at the national levels. Moving forward with implementation of these two agreements, countries are expected to create greater convergence between the two agendas and transform them into collective action and tangible results. Therefore, even with limited information, the study expanded into analyzing the potential linkages between the NDCs and the SDGs in South Asia.

3.2 Overview of the SDG-NDC Linkages in South Asia

The comparative analysis of the NDC targets in South Asian countries provides an understanding that there are clear linkages with the SDG targets. As the NDC target selection by countries have not attempted full convergence between the two agendas, there are clear linkages between

national SDG and NDC targets. To understand the interlinkages between the NDCs and the SDGs, a linkages mapping was conducted where NDCs of the South Asian countries were mapped with the targets of the 17 SDGs. This is not an ideal linkages mapping, but a mapping between NDC targets selected by the countries and the global SDG targets. Only the direct linkages are shown and not the interlinkages between the targets.

Table 03: Direct Linkages between NDC Targets in South Asian Countries and the SDG Targets

SDG	SDG Targets	South Asian Countries' NDCs										
		Afghanistan (1st NDC)	Bangladesh (1st NDC)	Bangladesh (1st NDC Updated)	Bhutan (1st NDC)	India (1st NDC)	Maldives (1st NDC)	Maldives (1st NDC Updated)	Nepal (1st NDC)	Nepal (2nd NDC)	Pakistan (1st NDC)	Sri Lanka (1st NDC)
SDG 1	SDG 1.1	✓			✓							
	SDG 1.4				✓		✓					
	SDG 1.5	✓	✓		✓		✓	✓	✓	✓	✓	✓
SDG 2	SDG 2.1						✓	✓				
	SDG 2.3						✓		✓			
	SDG 2.4						✓	✓	✓	✓	✓	✓
	SDG 2.5							✓	✓	✓	✓	✓
	SDG 2.a						✓	✓	✓	✓	✓	✓
	SDG 2.c						✓					
SDG 3	SDG 3.3				✓		✓	✓				✓
	SDG 3.8				✓	✓	✓	✓				✓
	SDG 3.9						✓		✓			✓
	SDG 3.b											✓
	SDG 3.d		✓		✓				✓			✓
SDG 4	SDG 4.7	✓	✓					✓	✓	✓	✓	✓
SDG 5	SDG 5.5								✓			
	SDG 5.c								✓			

SDG	SDG Targets	South Asian Countries' NDCs										
		Afghanistan (1st NDC)	Bangladesh (1st NDC)	Bangladesh (1st NDC Updated)	Bhutan (1st NDC)	India (1st NDC)	Maldives (1st NDC)	Maldives (1st NDC Updated)	Nepal (1st NDC)	Nepal (2nd NDC)	Pakistan (1st NDC)	Sri Lanka (1st NDC)
SDG 6	SDG 6.1	✓	✓		✓	✓	✓	✓		✓		✓
	SDG 6.2				✓							
	SDG 6.3	✓										✓
	SDG 6.4	✓			✓	✓		✓			✓	✓
	SDG 6.5											✓
	SDG 6.6	✓						✓	✓			✓
	SDG 6.b											✓
SDG 7	SDG 7.1	✓			✓	✓		✓				
	SDG 7.2				✓	✓			✓	✓	✓	
	SDG 7.3	✓					✓	✓				✓
	SDG 7.a				✓	✓		✓		✓	✓	✓
	SDG 7.b	✓		✓	✓	✓			✓	✓	✓	✓
SDG 8	SDG 8.2				✓		✓	✓			✓	✓
	SDG 8.3				✓							
	SDG 8.4	✓			✓	✓		✓	✓	✓	✓	
	SDG 8.9					✓	✓	✓			✓	✓
	SDG 8.10						✓	✓		✓	✓	✓
SDG 9	SDG 9.1		✓		✓	✓	✓	✓			✓	✓
	SDG 9.2				✓					✓		✓
	SDG 9.4	✓	✓			✓			✓	✓		✓
	SDG 9.5								✓	✓		
	SDG 9.a	✓										
SDG 10	-	-	-	-	-	-	-	-	-	-	-	

SDG	SDG Targets	South Asian Countries' NDCs										
		Afghanistan (1st NDC)	Bangladesh (1st NDC)	Bangladesh (1st NDC Updated)	Bhutan (1st NDC)	India (1st NDC)	Maldives (1st NDC)	Maldives (1st NDC Updated)	Nepal (1st NDC)	Nepal (2nd NDC)	Pakistan (1st NDC)	Sri Lanka (1st NDC)
SDG 11	SDG 11.1				✓							
	SDG 11.2			✓	✓	✓		✓	✓	✓	✓	✓
	SDG 11.3				✓	✓				✓		✓
	SDG 11.4					✓						
	SDG 11.5	✓										✓
	SDG 11.6				✓	✓			✓			✓
	SDG 11.7					✓				✓		✓
	SDG 11.b	✓	✓			✓		✓			✓	✓
	SDG 11.c								✓	✓	✓	✓
SDG 12	SDG 12.3									✓		✓
	SDG 12.4	✓				✓			✓	✓		✓
	SDG 12.5	✓		✓	✓	✓	✓	✓		✓	✓	✓
	SDG 12.6											✓
	SDG 12.a							✓				✓
	SDG 12.b											✓
SDG 13	SDG 13.1	✓	✓		✓		✓	✓	✓	✓	✓	✓
	SDG 13.2	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
	SDG 13.3	✓	✓					✓	✓	✓	✓	✓
	SDG 13.a						✓	✓				
	SDG 13.b				✓					✓		
SDG 14	SDG 14.1						✓	✓				✓
	SDG 14.2						✓	✓				✓
	SDG 14.3							✓				✓
	SDG 14.4						✓	✓				✓

SDG	SDG Targets	South Asian Countries' NDCs										
		Afghanistan (1st NDC)	Bangladesh (1st NDC)	Bangladesh (1st NDC Updated)	Bhutan (1st NDC)	India (1st NDC)	Maldives (1st NDC)	Maldives (1st NDC Updated)	Nepal (1st NDC)	Nepal (2nd NDC)	Pakistan (1st NDC)	Sri Lanka (1st NDC)
SDG 14	SDG 14.5					✓	✓	✓				✓
	SDG 14.7							✓				✓
	SDG 14.a							✓				✓
	SDG 14.b						✓					
SDG 15	SDG 15.1	✓	✓		✓				✓	✓		✓
	SDG 15.2				✓				✓	✓		✓
	SDG 15.4				✓					✓		✓
	SDG 15.5	✓			✓		✓	✓				✓
	SDG 15.8											✓
	SDG 15.9				✓			✓				
SDG 16	SDG 16.6						✓				✓	✓
SDG 17	SDG 17.1					✓	✓	✓			✓	✓
	SDG 17.3		✓									

Overall linkages mapping depicts that the South Asian NDCs can be mapped along with all the SDGs except for SDG 10, as the NDCs in the sub-region do not necessarily address inequality to an extent of significance. A deeper analysis of the linkages between SDG 02, SDG 06, SDG 07, SDG 08, SDG 09, SDG 11, SDG 12, SDG 13 and NDCs is presented in the following section.

With regard to SDG 01, all countries except India presented targets to build resilience but in terms of directly addressing poverty, Afghanistan and Bhutan were the only countries that presented poverty alleviation targets in their NDCs. SDG 02 was a goal that was highlighted among many of the NDCs across the South Asian region as the region heavily depends on agriculture for livelihoods as well as food security.

Afghanistan and Pakistan did not have any NDCs contributing to SDG 03, but the other 6 countries had NDCs that could be linked to target 3.3, 3.8, 3.9, 3.b and 3.d. SDG 04 was an interesting goal to map with the NDCs because the countries that presented educational NDCs are mostly related to climate change and not necessarily sustainability. However, for the purpose of mapping, all the NDCs related to knowledge enhancing and capacity building were mapped with SDG target 4.7. Nepal was the only country out of the 8



countries studied that highlighted gender based NDCs, therefore it was the only country that could be mapped with SDG 05. Due to the increasing need for clean water globally and in South Asia, targets related to water within SDG 06 could be mapped with the NDCs of all the countries in the study, however there are no NDCs related to sanitation and therefore that aspect was not mapped.

All South Asian countries had identified clean energy as a priority sector in their NDCs and thereby could be easily mapped with the targets under SDG 07. Economic growth is a key indicator of progress for South Asian countries and thereby many of the targets under SDG 08 could be mapped with the respective NDCs. South Asian countries fall under the category of developing nations and hence SDG 09 becomes important for these countries, all 8 countries presented NDCs related to SDG 09. Inequality is not addressed in the context of the SDGs within the NDC reporting mechanism, therefore there were no NDCs that could be mapped with SDG 10. For South Asian countries sustainable cities must be the way forward and all the countries highlighted NDCs that contribute towards most of the SDG 11 targets. Sustainable consumption and production are addressed in the NDCs of all the countries in the study but only a few of the targets can be mapped.

Most of the NDC targets mapped with SDG 12 were related to waste. NDCs in the South Asian region could be mapped with all the SDG 13 targets as it contributes to the Paris agreement directly. The only two island nations being Maldives and Sri Lanka presented NDCs which could be mapped with SDG 14 targets. Specifically, NDCs comprising of fisheries, coastal and marine ecosystem conservation, tourism activities related to SDG 14 were mapped with the relevant targets under SDG 14. The forestry and wildlife sectors receive the least amount of attention from the governing bodies of most of the developing nations and is the same in South Asia, Bhutan being an exception. However, in terms of NDCs related to forestry, countries such as Afghanistan, Bangladesh, Bhutan, Nepal, and Sri Lanka submitted related NDCs which have been mapped with the relevant targets under SDG 15. In terms of the biodiversity target under SDG 15, only Bhutan's and Maldives' NDCs could be mapped as they are the only countries that presented it in their NDCs.

For SDG 16, Maldives, Pakistan, and Sri Lanka presented NDCs that could be related to SDG 16.6 target which is on developing effective, accountable, and transparent institutions at all levels. The last Goal to be mapped was SDG 17 and two targets 17.2 and 17.3 were mapped. SDG 17.1 was on the financing instruments within the countries to achieve the goals and it was mapped with the financing mechanisms identified by India, Maldives, Nepal, Pakistan, and Sri Lanka on climate financing to achieve the NDCs. Bangladesh also highlighted mobilizing funding from external sources for the NDCs and that was mapped with SDG 17.3.

3.2 Prominent Linkages Between SDGs and NDCs in South Asia

The NDCs have sectoral targets which were mapped with the SDG targets as explained above. The interlinkages mapping revealed that across the eight countries, some NDCs have stronger linkages with certain SDGs over others. For instance, SDG 02, SDG 06, SDG 07, SDG 08, SDG 09, SDG 11, SDG 12, SDG 13 seem to have stronger linkages with the NDCs of the 8 countries.

SDG 02 which focuses on hunger, nutrition and agriculture has 8 targets, NDCs had interlinkages with 6 of the targets. The interlinkages were mainly related to agriculture (including livestock) and community livelihoods. All the 8 countries contributed to SDG 2.4 because it refers to resilient agricultural practices which were highlighted in all the respective country NDCs. NDCs have a strong focus on climate smart agriculture and improving vulnerable livelihoods through the adoption of technology and indigenous knowledge on resilient crop varieties and sustainable fishing practices.

The eight South Asian countries highlighted the need for clean water across the region through their respective NDCs. While sanitation was not mentioned in the NDCs, access to clean water and need for irrigation infrastructure were key highlights. SDG 06 comprises 8 targets, the NDCs were mapped with 7 of those targets. Across the region, most of the countries addressed the need for water security and access to clean drinking water. Maldives highlighted the need for desalination to achieve water security. Reducing and eliminating pollution from the water ways was also highlighted in some countries such as India. Water management including wastewater treatment was also highlighted by most of the countries.

Clean and affordable energy which is SDG 07 comprises of 5 targets in total, the energy sector related NDCs were mapped with these 5 targets across the 8 countries. The South Asian region has identified the necessary renewable energy technologies that would be ideal for their respective countries. All the NDCs highlighted the emission reduction capacities of these renewable energy alternatives as contributing towards mitigation goals for the Paris agreement. Energy efficiency was also highlighted in several NDCs in the region and was mapped with SDG 7.3 which relates to improving energy efficiency. In terms of infrastructure related NDCs, Sri Lanka provides three NDCs specifically on renewable energy establishments which are mapped across 7.a.

Economic growth is crucial to the South Asia, but business as usual economic growth is not sustainable, hence the 8 countries have highlighted green and sustainable economic pathways in their NDCs. Out of the 12 targets under SDG 08, 5 targets were mapped with the NDCs. Except for Bangladesh, all other countries highlighted climate resilient and self-reliant economies as a part of their NDCs. Most of the countries also highlighted the need for resource efficiency within their NDCs which were mapped with SDG 8.4. Sustainable tourism target under SDG 8.9 had interlinkages with NDCs from India, Maldives, Nepal, and Sri Lanka.

South Asian region is currently undergoing rapid infrastructure and technological developments. The NDCs of the 8 countries recognized the need for sustainability during these developments to achieve the Paris agreement targets. The NDCs mapped with SDG 9.1 were mostly on climate resilient infrastructure requirements and climate proofing of existing infrastructure. There are 11 targets for SDG 09 and the NDCs were mapped with 5 out of the 11 targets across all the countries. A significant portion of the NDCs for SDG 09 highlighted the need for reduced emissions within the development industries. Improving technology and disaster preparedness was also included.

SDG 11 has 10 targets altogether; the linkages mapping was able to align NDCs with 9 of those targets. In general, all NDC reports consisted of targets towards sustainable urban planning which includes resilient



human settlements, waste management and sustainable transport infrastructure which relates many of the targets under SDG 11. Sustainable production and consumption which is SDG 12 has 11 targets altogether. Six of those targets were mapped with the relevant NDCs across the South Asian region. All countries could be mapped with SDG 12. Majority of the linkages were with waste management and improving efficiency in production lines.

Climate change goal which is SDG 13 had interlinkages with most of the NDCs across the 8 countries. The key points presented across the NDCs for SDG 13.1 was regarding improving early warning systems, enhancing disaster risk reduction and management at a local level across each of the countries. NDCs already contribute closely towards SDG 13.2 which is regarding the national policies strategies and planning. All five targets under SDG 13 were mapped with NDCs from South Asia. Preparedness for climate induced disasters take precedence over the targets within SDG 13.



THE PANDEMIC CONTEXT

Scenarios of COVID-19 Impact on the NDCs

Initially reported to the World Health Organization (WHO) on 31 December 31, 2019, WHO declared the COVID-19 outbreak a global health emergency on 30 January 2020. On March 11, 2020, COVID-19 was declared a global pandemic - the first such designation since declaring H1N1 influenza a pandemic in 2009. As of 6th April 2021, over 3 million deaths had been recorded worldwide because of the COVID-19 pandemic. Coronavirus Disease 2019 (COVID-19) is defined as illness caused by a novel coronavirus and is now called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Despite inconclusive evidence of the cause of this viral outbreak, the reality is that human action has been creating the optimal conditions for the spread of diseases by reducing the natural barriers between host animals and themselves. Wildlife populations across the planet are enduring greater stresses, and major landscape changes are causing animals to lose their natural habitats. This is resulting in species overcrowding and greater contact and mix between different animals and humans, thus creating complex forms and conditions. Therefore, a new normal must be evolved based on such historical understanding and realization that answers to prosperity and sustainable development must be based on a green and fair recovery; many COVID-19 recovery responses in South Asia and across the world does not demonstrate such profound transformation.

4.1 COVID-19, Multiple Global Impacts and the New Normal

COVID-19 pandemic has impacted the entire world including South Asian nations in numerous aspects that could translate into short-, medium-, and long-term effects. The lockdowns, curfews, work limitations, social restrictions, poor health, death, etc. has impacted on social lifestyles and livelihoods at an unprecedented scale as never experienced before by the currently living populations on earth.

Economic and social disruption created by the pandemic has been extremely damaging. Many **social** issues were highlighted across the countries affected by the virus. Soon after the lockdowns, the fear of unemployment loomed large. Many jobs were lost. At the same time, by adapting to the concept of 'work from home' (WFH) many jobs were protected. Essential services, sometimes with essential human contact, had to be continued which therefore, put the concerned people at great risk. In addition to impact on employment, COVID-19 led to other restricted economic activity, school closures, reduced access to health, social and legal services, and social distancing measures. Border closures and trade restrictions led to significant changes in social movements. On account of these reasons, human behavior also saw significant changes. For long periods of time family members were confined to their respective homes. Studies found that numbers as high as 5-10 people of a single household were forced to remain indoors most of the time within small compounds during the lockdowns; this led to people feeling challenged with handling confined spaces and continuous interaction with family members, something not experienced before. Working from home, ensuring continuity in children's education, with household chores being carried out in parallel for many people, made it further challenging to the families. In addition, during the initial stages of the pandemic, there were widespread fears of inadequate supplies of food and other essentials, further adding to the stress of the people. Soon after the lockdowns were announced, many countries



reported an increased number of domestic violence cases. The disruption of social and protective networks exacerbated intimate partner violence and its consequences. Instances where those employed in essential services had to work long hours during the pandemic, also placed tremendous stress on the family, further increasing tensions and conflict within the family.

A report by Childhood Trust states that children from low-income families were left extremely vulnerable and are likely to develop anxiety especially when at least one parent is an essential worker. The education system was disrupted and many students, especially in the developing countries, were left with minimal options when the classes turned online. The missed opportunity to learn and continue their academics has negatively impacted the students. After the lockdowns were eased, many people have now started leaving their homes to work and children are also back at schools or universities. However, the impacts of trauma, degraded mental and physical health, and lack of access to social services, education, and healthcare still exist in children and young people in many communities.

Looking at the **economic** activity, studies have pointed out that COVID-19 could affect the global economy by directly affecting production, by creating supply chain and market disruption, and by its financial impact on firms and markets. Factory closures in China and other key producing countries led to a contraction in macroeconomic supply of goods and services. This has led to lower output, and higher prices. Furthermore, companies across the world, irrespective of size, who were dependent upon inputs from China experienced contractions in production. At the same time there were many reports of panic among consumers and firms which led to distortions in usual consumption patterns. These occurrences created market anomalies which also put people's lives at risk.

Limitations in transport further crippled economic activities. Economies which depended on tourism suffered immensely. Using data from the World Travel and Tourism Council and The World Bank, a study looked at countries with the biggest tourism revenue loss due to COVID-19 and the impact it had on the contribution that travel and tourism made to their GDP. The United States, Spain, and France showed the biggest revenue losses. Macao, Aruba, and Turks and Caicos Islands had lost the highest percentage of revenue due to loss of tourism.

Similarly, sectors like sports, and entertainment suffered heavily. A record number of job losses and bankruptcies of companies were observed across the world. It was reported in many case studies that millions of people around the world are at a risk of falling into extreme poverty. A study by the International Labor Organization (ILO) estimates between 9 and 35 million new working poor (at the higher World Bank poverty line of US\$3.20 per day). Another estimate by IFPRI shows that a global gross domestic product (GDP) slowdown of 1 percentage point would increase poverty (at the lower World Bank poverty line of USD1.90 per day) by between 14–22 million people.

While adverse impacts were reported from all parts of the world, it should be noted that rural households were already struggling economically compared to their metropolitan counterparts even before the pandemic. Rural areas are also heavily reliant on industries that are highly susceptible to

pandemic-related closures, such as outdoor recreation, tourism, and factory work. Therefore, long-term economic impacts are expected to be seen in rural areas.

In addition to the social and economic impact, significant **environmental** impacts were also observed. It is generally recognized that the state of the environmental conditions can drive the impacts of pandemics. Recent studies have already pointed out that the emergence and spread of SARS-CoV-2 can be related to urbanization, habitat destruction, live animal trade, intensive livestock farming and global travel which are sectors also driving large amounts of global emissions. Therefore, a close monitoring of environmental impacts is extremely important.

Due to the shutdowns across the world, there have been improvements in air-quality owing to reduced emissions, and these instances are well documented. The reductions of emissions are directly related to the closures of commercial, industry, and transportation sectors and related reduction in energy demand. Air travel was significantly reduced. For example, China reduced almost 50–90% capacity of departing and 70% domestic flights due to the pandemic which ultimately deducted nearly 17% of national CO₂ emissions in China. Overall, 96% of air travel dropped from a similar time last year globally at a certain point during 2020. In addition to reductions in air pollution, reductions in water, solid waste and noise pollution has also been observed. These reductions are also driven by the shrinkage of human transport, industrial, and commercial sectors. Additionally, it has been evident that decreased human activity led to wildlife restoration. However, these effects only seem to be temporary as there were increased energy consumption reports after the recovery began. Among the negative impacts recorded during the pandemic are reduced recycling efforts, increased use of plastics and the accumulating medical waste, destruction of species due to the huge number of disinfectants used to clean the outdoor premises.

The **governance** decisions in response to COVID-19 were extremely important in defining the path to a possible recovery. Governments across the world had to take extreme measures as soon as the virus was declared a pandemic. Country level shutdowns, identifying populations at risk, rapid testing, social distancing, strong contact tracing, evaluating health system capacity, providing PPE and other essential supplies, providing immediate monetary support to most vulnerable communities were some of the immediate actions taken by the countries across the world. Delays and drawbacks in taking these actions by countries led to adverse impacts and was reflected in waves of cases and mortalities due to COVID-19. Countries who took aggressive decisions on the above actions early on have had relatively less cases and deaths. New Zealand, Taiwan, Singapore, South Korea are some globally recognized examples to date as successful responders.

Another key element of the response was the social protection measures taken by the governments to reduce the socio-economic impacts on the people. A Real-Time Review of Country Measures conducted by the World Bank reported that as of April 23, 2020, a total of 151 countries had planned, introduced or adapted 684 social protection measures in response to COVID-19. These measures included cash transfers, wage subsidies, subsidized sick leave, and various forms of subsidized social security contributions and unemployment insurance. Specifically, countries like Denmark excelled at



protecting people economically and socially. India, the European Union, and Australia, responded soon to provide income supplements to lower-income people using electronic cash transfers.

The COVID-19 pandemic has alerted societies across the world to potential breakdown scenarios such as anthropogenic climate change. While the concept of a “new normal” has gone viral, the actual switch to more ecologically sound lifestyles and livelihoods away from “business as usual” is yet to be seen. With the introduction of multiple approved vaccines, there are early signs that countries may start to go back to a normal lifestyle in a lengthy recovery process; if so, what happens to the new normal? In a scenario of COVID-19 recovery, how will the world address climate change that is expected to multiply already-existing challenges and heighten competition for resources such as land, food, and water, in turn fueling socio-economic tensions across the world?

A report by UNEP warns of three planetary crises: climate instability, nature loss, and increasing levels of pollution. Suggesting that efforts to recover from the pandemic must take account of these crises or risk further shocks and take us farther from achieving sustainable development, it raises critical questions.

- What is at risk if we fail to build back better?
- Can recovery spending bring strong economic and employment impacts while securing environmental progress?
- Have countries been using COVID-19 spending to tackle climate change, nature loss, and pollution? How can countries better leverage recovery spending to accelerate the transition to a sustainable and more equitable world?

4.2 COVID-19 Impact on Achieving Sustainable Development in South Asia

From a broader approach to analyzing the COVID-19 impact on achieving sustainable development in South Asia, this study focused on the social, economic, environmental, and governance dimensions. This section analyses the impact of COVID-19 as well as some responses by South Asian nations.

4.2.1 Social Impacts

South Asian countries also immediately went into lockdown around the time COVID-19 was announced as a global pandemic by the WHO although there were fewer cases reported by the 20th of March 2020. This section surveys the social impacts observed across the countries in South Asia during and aftermath of the strict lockdowns. Loss of employment and livelihoods, marginalized people at extreme risk, disproportionate impacts on women during layoffs, inequalities in access to health, domestic violence, limited access to education, and social protection were generally observed across the South Asian region.

Afghanistan reported that it observed signs of anxiety within its population about how deep and prolonged this crisis could be and its probable impacts on people's livelihoods, mainly due to the possibility of recurring and long-term lockdowns. The more commonly reported coping mechanisms in response in Afghanistan centered around selling existing assets (39%) and borrowing money (35%)

This has posed long-term challenges to households' economic wellbeing, as households lose means of income. On the other hand, Afghani communities identified increase of social sympathy, new experience of distance education, decrease of social crimes, rise of health awareness as some of the positive aspects. Also, Afghan people observed that there were many organizations who voluntarily continued services such as distributing masks, food, raising health awareness, which showed examples of social sympathy and helped reduce the stress on the community.

In **Bangladesh** there were indications that people instead of maintaining social distancing guidelines continued to travel outward from the capitol. This had angered many of the community in the urban areas. Furthermore, the lack of PCR machines, proper biosafety labs, insufficient testing kits, and unprepared health workers had further worsened the situation according to the reports. Bangladesh also observed a drastic drop in employment rates. It was highlighted that mainly the garment workers faced immense suffering from the lack of transportation, lodging, and food amidst the lockdown. Furthermore, there are nearly 855,000 Rohingya refugees, who currently reside in 34 makeshift camps in Cox's Bazar, Bangladesh. This is one of the world's biggest and most densely populated refugee camps and has faced severe vulnerability to COVID- 19.

Lockdown in **Bhutan** had affected the school feeding programs with schools remaining closed for almost the entire academic year. It was reported that out of the 90,000 school children entitled for school meals, almost 71% missed out on the fortified school meals. While the children had been most affected, food security in general was a large concern of Bhutan due to it being a landlocked country. Bhutan relies heavily on food imports– which account for almost half of households' food expenditure and about 17 % of total imports. Moreover, a rapid Socio-Economic Impact Assessment of COVID-19 on the tourism sector carried out in Bhutan showed around two-thirds of the households surveyed rely on tourism for livelihood and three in four households saw their income fall by 50 to 100 percent. Low social insurance coverage was identified as another considerable shortcoming against facing unemployment in the country.

India observed severe resource depletion at households during the lockdown. This had led the people to undergo anxiety, depression, stress, lack of confidence, and state of confusion during this period. As a result, there were reports of increase in violence against women and children at home. The violence against women had resulted in injuries and serious physical, mental, sexual, and reproductive health problems, including sexually transmitted infections, and unplanned pregnancies. Migrant workers were also heavily affected due to the lockdown in India. With factories and workplaces shut down, they were left with no livelihood. Migrant workers walking miles to go back to their native villages was a common sight during the immediate aftermath of the lockdowns and was widely telecasted in the region's media. However, reports also indicated that in some cases the lockdown helped many people to refrain from unhealthy habits like smoking and drinking. In addition, it provided the people a common “WE” time or “family time” therefore, leading to contrasting circumstances.

In **Maldives**, where tourism plays a major role in its economy, youth (aged 18–34 years) and women,

many of whom are own-account workers, were at higher risk of unemployment. 20%–40% unemployment in the tourism sector and 13%–27% in transport services in 2020 compared to 2019 was expected as indicated by a report by ADB at the early stages of the pandemic. Another study pointed out that 22,000 local payroll employees of resorts were being affected as a direct result of COVID-19. With the inclusion of foreign payroll employees, more than 45,000 employees in tourist resorts alone were being affected.

Nepal also had concerns on the food security during the pandemic like Bhutan, being another landlock country in the region. Studies revealed that the lockdown and transport restrictions have had severe consequences, raising questions on the achievement of SDGs 1 and 2 thereby indicating severe adverse effects on the poverty and food sectors. The crisis unleashed by the pandemic led to wage labourers, indigenous people, and women from marginalized groups and regions already vulnerable in food security and malnutrition to suffer further.

Studies in **Pakistan** found that although men and women considered themselves equally susceptible to a COVID-19 infection, women were more likely to perceive the disease to be fatal. This may have had consequences on the rise of cases. The study also suggested that men were twice as likely as compared to women in reporting that either they might start smoking cigarettes and using recreational drugs or their usage might increase indicating the contrasting behavioural response from different genders toward the lockdown situation. It was also found that despite being at lower risk, women were more likely to conform to preventive measures in Pakistan. Another study conducted in Pakistan showed that the cost of personal protective equipment (PPE), social isolation, and loss of intimacy have favourable positive effects on the psychological problems of individuals through the mediation of fake news and misinformation during COVID-19.

Sri Lanka observed that owing to the shortages of raw materials and reduction in low global demand, there were the shutdowns of many apparel industries and resultant job cuts and job losses. A study revealed that most of the SMEs operators reported that they have not removed any of their permanent employees which is a positive aspect. In Sri Lanka, the shift to online learning received mixed reactions amplifying the already existing socio-economic inequalities entrenched in the state's educational framework including those children living on tea plantations.

4.2.2 Economic Impacts

Economic impacts due to the collapse of production, supply chain and market disruption, and financial impact on firms and markets has been observed in South Asia as well. As a result, Micro, Small and Medium Enterprises (MSMEs), which are the pillar of economic activity in South Asia have been forced to shut down leaving millions unemployed. Furthermore, South Asian expats are working across the world and remit significant amounts of foreign exchange. In April 2020, the World Bank stated that global remittances are projected to decline sharply by about 20 % in 2020 due to the economic crisis induced by the COVID-19 pandemic and shutdown. Tourism in South Asia also dried up during the lockdown, which generally contributes 9% of the GDP of the region. Due to above reasons and the collapse of international trade, closure of international borders, and restriction of

international flights, South Asian economies are likely to shrink for the first time in decades. The cumulative output loss during 2020 and 2021 is to be nearly \$8.5 trillion wiping out nearly all output gains of the previous four years according to UN DESA.

Afghanistan reported that its economic growth has been set back by several years by the pandemic. Afghanistan has seen a sharp decline in revenues in 2020 due to low economic activity, trade disruption and weaker compliance. The country had to reallocate resources from long-term development priorities to fighting this health crisis. Afghan government had to adjust the revenue estimates downwards from Afs 209 billion (USD 2.71 billion) in 2019 to Afs 144 billion (USD 1.87 billion) during the mid-year budget review. Afghanistan was already in a difficult place when COVID-19 struck due to the uncertain political climate and beginning of a tenuous peace process. Therefore, the economic fallout from lockdowns has added to the unpredictability the community has faced.

In **Bangladeshi** cities, the average income in the slums and among the rural poor has dropped by more than 80% since the outbreak. It was reported that a total of 63% of slum dwellers became economically inactive during this time, and per capita income in the slums dropped by 82% from 108 BDT (\$1.30) to 27 BDT (\$0.32). Bangladesh is often affected by extreme precipitation events. Late May, Cyclone Amphan crashed into India and Bangladesh, two countries that had been hit hard by the pandemic. It caused 13 billion USD in loss and damage to infrastructure alone in Bangladesh.

Bhutan took quite aggressive containment measures against the pandemic in the early days. Therefore, despite the limited number of cases, pandemic has affected the economy through two primary channels according to the reports. Firstly, the tourist arrivals into Bhutan dried up, and secondly the industrial activities were disrupted. The main reasons for the disruptions in industrial activity were stated as reduction in demand for goods exports, and foreign labor.

The **Indian** economy was showing slow progress after the implementation of the demonetization and goods and services tax (GST), and the government was identifying ways to bring the economy back on track. COVID-19 occurred during this process and now the studies suggest revival of the economy may take a longer time. Tourism, hospitality, aviation, textile, agriculture, construction, gems and jewellery, and start-ups which contribute mainly towards economy and employment generation have reported huge losses. The halting in economic activities and closed borders across the world resulted in decline of India's exports by 34.6% and imports by 28.7%.

Due to heavy reliance on the tourism sector, **Maldives** has become one of the hardest hit countries in the region. Tourism makes up 38.9% of the Maldives' GDP. The Government of Maldives had forecasted a drop of 50 percent of tourist arrivals in 2020. The actual tourists' arrivals in 2020 amounted to little over half-a-million tourists which is a 67.4% drop in tourist arrivals from 2019. Maldives reopened its borders in mid-July, but reports indicate that tourist arrivals have yet to reach pre-pandemic levels.

Nepal's economy is largely dependent on agriculture which contributed about 26.98 % to the country's GDP in 2019. After agriculture, remittances contribute substantially. The economic conse-



quence in Nepal is expected to be most adverse towards informal workers or those without social security or assistance. Informal businesses make up around 50 percent of enterprises in Nepal and are the main source of income for most of the labor force. Most informal enterprises operate with limited savings; therefore, the choices remained were to keep the business open while risking infections or to shut down and face severe losses.

A recent study shows that **Pakistan** has lost one-third of its revenue and exports dropped by 50% due to the lockdown. Pakistan's real GDP growth in FY20 is expected to contract by 1.3% as national and global economic activity slowdowns. This study further indicates that in case the outbreak of COVID-19 worsens further and continues longer than expected, Pakistan's real GDP growth for FY20 may contract by 2.2%.

The pandemic struck the **Sri Lankan** economy more than what was expected. Exports, tourism, foreign employment SMEs and Industrial sectors were heavily affected. Apparel industries have also been forced to limit their production due to the shortage of raw materials. The COVID-19 outbreak is expected to reduce 0.359 of GDP (319.4 million USD) in Sri Lanka.

Despite the adverse observations above, due to the administration of the vaccines, most of the South Asian countries are expected to have positive economic growth during the recovery according to the World Bank. Afghanistan, a one percent growth is expected in 2021. Bangladesh's GDP is expected to increase by 3.6% in 2020-21. Bhutan, GDP will fall further 1.8% in FY 2020-21. India's economy is expected to grow 10% in 2021-22. Maldives, real GDP is projected to grow by 17.1 percent in 2021. Nepal's GDP is projected to grow by 2.7 percent in the fiscal year 2020-21. Pakistan's growth is expected to reach 1.3 percent in fiscal year 2020-21. Sri Lanka, the economy is expected to grow by 3.4 percent in 2021. The World Bank further claims that the regional growth of South Asia is set to increase by 7.2% in 2021 and 4.4% in 2022, climbing from a historic GDP decline of 5.4% in 2020. However, a lot depends on the forthcoming waves of COVID cases.

4.2.3 Environmental impacts

The environmental impact of the pandemic has not been discussed extensively in South Asia. Within the limited studies evaluating the environmental impact, several studies have looked at the possible emission reductions due to the lockdowns. A study conducted at the Indira Gandhi Delhi Technical University for Women on the effects of COVID-19 lockdown on ambient air environment across the South Asian region shows improvements in air quality over Afghanistan, Bangladesh, India, Nepal, Pakistan, and Sri Lanka during the lockdowns when different pollutant gases and particulate matter are monitored and analyzed.

Studies showed that **Afghanistan** observed reduced air pollution, especially in the capital city of Kabul, while also benefiting from the regional reductions of emissions. The current indicators show that the air quality is again depreciated and unhealthy for the sensitive groups. This is commonly observed in the South Asian countries which observed initial air quality benefits during the lockdowns.

In **Bangladesh** the results of a recent study show that overall, 26, 20.4, 17.5, 9.7 and 8.8% reductions were observed in PM 2.5, Nitrogen Dioxide - NO₂, Sulfur Dioxide - SO₂, Ozone - O₃, and Carbon Monoxide - CO concentrations, respectively, in Dhaka city during the partial and full lockdown compared to the period before the lockdown. Bangladesh also witnessed cleaner beaches and even rare dolphin sightings which were verified by the popular media. On the downside, it was also reported that around 206 metric tons of medical waste is generated per day in Dhaka due to COVID-19.

Bhutan also reported that all four air quality monitoring stations reported about 50% drop in the particulate matter during the nationwide lockdown. The records by the National Environment Commission (NEC) showed comparative improvement in the air quality in 2020. In Thimphu, the lowest concentration was recorded on August 17, 2020, since the country went into lockdown later in the year compared to the neighboring countries.

India particularly has focused heavily on evaluating the potential reductions in emissions. A study focused on Indian cities shows that the lockdown in India has resulted in improving the air quality and the water quality. India saw a significant dip in air pollution levels across the cities like Delhi, Bengaluru, Kolkata, and Lucknow. The Central Pollution Control Board of India's Environment Ministry has reported a 71% decrease in nitrogen dioxide levels. The energy mix in use indicated reduction in the gap between the Coal and renewable based electricity generation during the lockdown time. About the water pollution, the Central Pollution Control Board (CPCB) of India has indicated that the water quality of the Ganga has improved and has the average water quality of 27 points which can be suitable for bathing and propagation of wildlife and fisheries.

On 12 February 2020, **Maldives** passed a resolution to declare a climate emergency in the country. However, to date there has not been any action in connection with this declaration. Reports show that this is owing to the COVID19. This is an indication that certain environmental protections that should have come into effect might have been delayed due to the pandemic.

Nepal has also reported reductions in emissions levels. However, at the same time, illegal extraction, either timber or other forest products, were recorded in the one-month period immediately following the lockdown in Nepal. WWF-Nepal report says, there were 483 cases reported in 11 months prior to the lockdown and the first 10 days of April saw a further 610 cases. Another study in Nepal indicates that COVID-19 has created impacts in the forestry sector operations and management targets due to the lockdowns. Particularly Plantations, forestation, and reforestation have slowed down thereby further deepening the adversities.

During the lockdown period, the air quality data obtained from major cities of **Pakistan** has shown considerable decrease in the concentration of primary air pollutants, e.g. NO_x, SO_x, CO₂ and PM_{2.5} and PM₁₀, while a gradual increase has been observed after the lockdowns. Another study that supports this information states that air quality improvements from the commercial and industrial areas we observed when the decrease in air pollutants monitored in the selected areas highly influenced by vehicular traffic was considered.

In **Sri Lanka**, the cabinet's recently announced plan to revoke Circular No. 5/2001, which protects the country's Other State Forests (OSFs), and transfer jurisdiction for these protected areas from the Forest Department to the authorities at the divisional and district levels. This is feared to be leading to a reduction of the national forest cover and has caused significant resistance from the environmentalists in the country. This decision by the government has no relevance to COVID-19 social-economic impacts, but a political determination based on a narrow comprehension of inclusive prosperity.

4.2.4 Governance Impacts

Governments in South Asia have responded to the crisis utilizing the resources at hand to the best of their capacity. Early strict lockdowns were implemented and therefore it was seen that the rise of the cases was quite slow in the region in the first few months of the pandemic. However there has been drawbacks of the governance also identified. Studies highlight that South Asia's slow progress in achieving SDGs has affected their preparedness to deal with the pandemic, when the COVID-19 pandemic hit the subregion was gaining traction towards achieving some of the SDGs such as SDG 4 and SDG 7. This progress has been further slowed down. Another key observation is that the region has been failing in strengthening governance and building strong institutions. As a result, South Asia entered the COVID-19 crisis with a low level of preparedness and only options seemed to be strict lockdowns rather than collaborative management strategies. Most coalitions had to be formed after the virus had already caused some damage.

South Asia spends less than a percent of GDP on health compared to the global average of 5.8%, and 4.5% for East Asian countries which could have made the countries more vulnerable once the cases started to rise. Furthermore, South Asian governments have poor fiscal space to take care of the employees/workers in the communities. Pakistan, Sri Lanka, India, and Maldives have high fiscal deficits and high public debt limiting room to achieve the sustainability targets, and also putting the countries further at risk during the a pandemic situation. The pandemic has depressed economic activity and business operations in the region which further reduced public revenue. In addition to above concerns there are reports that although South Asian countries went into strict lockdowns early, they took significantly risky steps later on during time the global cases were rising rapidly. Having noted the above, the next section looks at some key governance action taken by the South Asian countries.

To cover immediate expenses in the health sector due to the pandemic **Afghanistan** government allocated \$25 million in the budget which amounted to 0.1% of its annual GDP. About the donor support, the World Bank approved a \$100.4 million grant for Afghanistan's COVID-19 Emergency Response. The UN Humanitarian Coordinator had also allocated \$1.5 million to go towards urgent preparedness and the in-country response. Afghan Ministry of Foreign Affairs helped nearly 91,486 Afghans stranded in different countries to return home. This included 70,000 people from Pakistan, 13,600 from the UAE, 5,400 from India, 2,000 from Turkey, 300 from Qatar, and 186 people from Kazakhstan. Also, 634 inmates from different countries were released and helped return to Afghanistan.

The **Bangladesh** government declared lockdown throughout the country starting from March 18, 2020 which was extended until 31st of August 2020. A featured application used in the country is COVID-19 DSS (Digital Surveillance System). It is useful to make awareness, digital screening, patient identification, and referral, identify risky zones, safety of health workers, and to amalgamate and analyze information. Furthermore, the required COVID-19 related information has been provided through cell phone text messaging services (SMS), and recorded voice services by the government. However, studies have indicated that workers were stressed to ensure their safety due to PPE shortages, compounded by fake supplies of protective equipment. Consequently, the number of COVID-19 deaths of physicians, members of law enforcement agencies and journalists has been the highest in Bangladesh.

Bhutan was able to contain a large-scale domestic outbreak of COVID-19 thanks to aggressive domestic pandemic mitigation measures. The government imposed a two-week restriction on all incoming tourists as of 6th of March. On June 19, the government announced reopening plans for Phase I, including new health-related measures and a limited reopening of schools. It was only on August 11, 2020 the country recorded its first case outside of managed quarantine. On August 11, the government announced the first nationwide lockdown indicating that the country had ample time to prepare for a lockdown situation. WHO in Bhutan has been supporting the government with regular technical updates on preventive measures and patient management guidance and protocols since the detection of COVID-19. In addition, to enable effective and efficient response, Bhutan prepared the National Preparedness and Response Plan (NPRP) to enhance the health sector's capacity in surveillance, early detection, control and prevention, response, and recovery.

Indian government took early steps to improve healthcare facilities, develop quarantine centers, shelter homes, and cater to the needs of the communities across the states. India's management of the COVID-19 outbreak during the very outset has been well appreciated by the World Health Organization (WHO) and several other international organizations. This early response enabled the country to face the rising cases later. It was reported that states took different approaches during lockdown. Kerala used its experience with the Nipah virus in 2018 to use extensive testing, contact tracing, and community mobilization to contain the virus and maintain a very low mortality rate. Odisha used the experience from natural disasters and activated the crisis precautions that were already in place. Maharashtra used drones to monitor physical distancing during lockdown. With these measures taken, India maintained which is known as the world's largest national lockdown until May 3 of 2020. It was also stated that Indian government's sudden enforcement of the lockdown seemed hastily prepared and immediately disadvantaged already vulnerable populations.

Maldives declared a State of Public Health Emergency on 12 March 2020. The government seek support from India to establish testing labs and train local medical professionals. They further established a COVID-19 task force led by the National Disaster Management Authority, including the President's Office and the ministries of Health, Tourism, Defense, Maldives Police Services, and other government agencies. Maldives also laid out five aspects of spending and saving during the pandemic to reform spending during the pandemic.

In **Nepal**, the health surveillance desk at Tribhuvan International Airport was initially authorized to screen all incoming passengers from affected regions at the very outset of the pandemic. In May 2020, the government formulated the Health Sector Emergency Response Plan (HSERP) to manage the spread of COVID-19 and formed Case Investigation and Contact Tracing Teams (CICTTs). The main functions of the CICTTs are to ensure trained human resources, follow standard operating procedure (SOP) for case investigation and contact tracing, mobilize volunteers, and ensure the resources are distributed accordingly.

Studies show that only 2% of the GDP in **Pakistan** is allocated for the public health sector, which is far below the worldwide average of 11.6%. Therefore, the country had to rapidly take measures for strengthening the public health system to effectively cope with the pace of pandemic spread. Although the public sector representatives claimed the spread of the virus was manageable limits, the health care officials pointed out financial and technical capacity was inadequate. The government however responded with a framework which included (i) Green jobs creation (ii) Launch of Ecosystem Restoration Fund (iii) Debt for Nature' swap scheme (iv) Designing a 'Green Euro Bond' in a plan to recover better.

Sri Lankan government took proactive measures for preventing the COVID-19 such as quarantining and thermal scanners at the airport even before the first reported case. It also provided social assistance of LKR 5000 to vulnerable groups, and kidney disease allowance and delivered food support such as “triposha” and other nutritious supplements during the first lockdown. Government also invested in modifying hospitals and creating new centers for COVID - 19 related functions which assisted in quarantining process during the early days of the lockdown. Sri Lanka put up a fund to support the virus prevention actions and a COVID - 19 Task Force was established to coordinate activities.

4.3. COVID-19 Impact on Achieving NDCs in South Asia

The previous section discussed the impact of COVID-19 on the thematic areas of sustainable development such as social, economic, environment, and governance. It is also important to investigate the effect of the pandemic on achieving the NDCs. As noted above the environmental impacts of the COVID-19 has not been widely studied in the region which indicates that it is of importance that this study looks into how the pandemic has affected the potential of the region to achieve its NDCs.

Studies indicate that the frequency of pandemics and outbreaks, are expected to become more common in the future. Additionally, as the adverse impacts of climate change increases across the already COVID-19 impacted world it is important to evaluate the impacts of the pandemic from the standpoint of the commitments to the climate change. It has been defined in the NDCs analysis in 'Chapter 2' that climate commitments fall under the thematic categories of adaptation, mitigation, loss and damage, and means of implementation. 32 key contributing sectors are also identified alongside the NDCs targets and are discussed under the thematic categories. NDC comparative

analysis identified which sectors predominantly align with each NDCs thematic. Therefore, this section discusses COVID19 impacts on South Asia under these thematic categories.

A. Impact on Adaptation:

The health sector is an important component in adaptation action which is also one of the most impacted sectors during pandemic situation. Sri Lanka, Bangladesh, India, Maldives, and Bhutan had discussed the health sector in their NDC targets. Due to the large number of COVID cases during the last year there was a significant utilization of hospital capacities and healthcare resources by the COVID patients. Therefore, there have been adverse impacts on the health programs that were targeted as adaptation measures. For an example, Dengue prevention programs were a part of adaptation measures in Sri Lanka as stated in its NDCs. However, regular vaccine programs and Dengue resilience programs have been adversely impacted in Sri Lanka because of resources being dedicated to COVID response and indicated by record numbers of Dengue patients.

Due to the fear of food shortages and food safety concerns, the food and agricultural sector was also affected by the pandemic. A regional study points out that in terms of food environment, at least in the early stages of lock-down, non-availability of food and non-affordability due to income shock appear to be bigger challenges than food being expensive relative to pre-COVID. These situations were observed in the region when food security has been highlighted in several NDCs in the region. Afghanistan indicated that COVID-19 left nearly a third of the population with food shortages and malnutrition and it has the second highest number of people in crisis or emergency food insecurity. Food system disruption was also reported in Bangladesh and key indicators for monitoring food system disruptions caused by the COVID-19 pandemic are looked at in a study at the International Maize and Wheat Improvement Center (CIMMYT). Bhutan also pointed out the impact on the food supply and the loss of food security due to the pandemic. In Maldives food import dependency was also exposed where the government had to charter flights to large importer countries such as Thailand, UAE and Sri Lanka to mitigate food shortages. In Nepal many already vulnerable communities in food security and malnutrition suffered further due to COVID-19 as they lost both external support and the coping mechanisms.

Tourism sector is another area in which countries define NDCs' targets under adaptation. Despite the adverse economic and social impacts, due to the significant reduction in tourism, the adverse environmental impacts reduced and there were reports of restoration of natural resources. For an example, Pakistan introduced an "Ecosystem Restoration Fund" to further encourage a better recovery and also help in achieving mitigation efforts in the country.

B. Impact on Mitigation:

Emission reductions are at the heart of mitigation plans of the South Asian countries. All member states in the region have expressed targets based on emissions reduction programs in their NDCs. Early research programs during the COVID lockdowns included the assessment of emissions on different greenhouse gases and particulates. COVID-19 has been troublesome and unprecedented

for countries worldwide, but still, the lockdown has proven to be a boom for the environment in terms of air quality. It was mentioned in the studies that Kabul's terrible air pollution and the respiratory diseases it has probably made far more people vulnerable to the virus than otherwise would have been. Therefore, the emission reductions due to the lockdown measures revealed a scenario where the region may be able to reduce GHG emissions and thereby reducing the respiratory health-related vulnerability.

Another key sector in mitigation is energy generation, transmission, and distribution. During the lockdowns consumption of energy reduced due to the closures in industrial, transportation, and commercial sectors. Fossil fuels, particularly, petroleum products consumption was reduced significantly in the region. India reported that the gap between coal-based electricity and renewables-based electricity recorded lowest values during the lockdown. Meanwhile Pakistan made a bold announcement to shift away from a coal-based pathway towards renewable energy by announcing a target of achieving 60% clean energy mix by 2030. This announcement was made during the pandemic.

Transportation is also a sector of importance related to mitigation. Due to the strict lockdowns in South Asia transportation sector came to an abrupt halt. Data demonstrating congestion levels including the South Asian cities of Bangalore, and Mumbai shows drastic drops after the 12th week of 2020. These effects are driven by the fact that high emitting unregulated vehicles were taken out of the operation for a few weeks. This presents an opportunity to rethink the urban mobility programs in the region and introduce fewer emitting vehicles and improve public transportation.

Nepal reported that there has been a significant increase of illegal extraction of timber or other forest products were recorded in the one-month period immediately following the lockdown there by reporting adverse impacts on the forestry sector. During the late 2020 and early 2021 there was much discussion on increased destruction of forestry in Sri Lanka which led to development projects near environmentally sensitive areas such as Sinharaja forest reserve had to be halted for further review. About the policy decisions made potentially putting forestry sector in Sri Lanka, Government of Sri Lanka issued a gazette notification which permits provincial and district secretaries to allow “residual land”, land lying in between protected lands like wildlife reserves, protected forests, which by themselves are not protected, to be used for agriculture or for cattle grazing.

C. Impact on Loss and Damage:

Under loss and damage, NDCs focus on disaster risk reduction, insurance schemes, and policy sectors. These sectors have been tested and forced revaluations due to the COVID-19 pandemic. Disaster preparedness in the health sector was useful when the cases were rising, and hospitalizations were increasing. Disaster insurance schemes were a useful tool to extend support to most impacted families and marginalized communities. Therefore, loss and damage policies already in place were useful as the economic losses and social impacts were ravaging through the South Asian countries due to pandemic.

Cyclone Amphan hitting India and Bangladesh during the COVID-19 pandemic has been cited as an instance where the alignment of disaster risk reduction and building back better concepts were put into test in the context of available policy instruments and their implementation. Build back better has become a powerful narrative used by governments and international aid agencies to embody disaster recovery ambitions of all shapes and sizes from rebuilding homes, building public infrastructure, to implementing renewable energy generation plans. Reports highlight the importance of better alignment in these two concepts to enable positive outcomes for the communities.

D. Impact on Means of implementation:

Financing, technology, implementation mechanisms/frameworks, and policies are contributing sectors identified under the means of implementation. The concepts like “green recovery” and “build back better” have urged countries to present environmental conscience recovery plans. A study at Massachusetts Institute of Technology (MIT) claims that the reduced economic activity resulting from Covid-19 lowers the cost of meeting the climate targets, making such commitments more politically palatable. Moreover, they point out that the fiscal stimulus measures used to accelerate economic recovery present an opportunity for major investments in emissions reduction efforts. Therefore, a green fiscal stimulus can be the key building block of the means of implementation for the South Asian region.

In **Bhutan**, a joint SDG Fund will support the Royal Government to create strategies to increase and make effective use of investments to manage the impact of the COVID-19 crisis, respond to climate change threats, and advance the country's sustainable development agenda. This program is financed by the Secretary General's UN COVID-19 Response and Recovery Fund. In **India**, data analytics is used as a part of the World Bank Technical assistance program on air quality management to better understand the impact of the lockdown on air quality and build a blueprint for a green fiscal stimulus program for the country. A policy brief put forward by World Vision to the Government of **Nepal's** National Planning Commission (NPC) discusses the possibility to re-design the social protection systems that are responsive to shocks, including climate shocks and include strengthening of the primary health care systems.

Pakistan has given the unemployed wagers employment opportunities as “jungle workers” in the 10 Billion Tree Tsunami program, a plantation initiative of the country. These “green or eco-friendly stimulus” human capital investments present an example of efficiently utilizing the monetary resources for helping the communities while proactively preparing the country to cope up with the next big threats ahead including climate change. Pakistan also launched the 'Ecosystem Restoration Fund' as a part of its COVID-19 recovery strategy. Substantial support funds of \$180 million have been secured through multilateral partners including the World Bank.

The study on 'Climate Change Ambition in South Asia and COVID-19 Recovery Affecting the NDCs of South Asian Countries' was conducted during a two-month period. One of the main challenges of the



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study was the lack of access to centralized information at regional and country levels; this reflects the difficulties for sustainable development and climate action planning in the sub-region. In fact, there is a serious lack of data and critical information pertaining to the progress made on NDCs by South Asian countries. As monitoring and reviewing the progress of the NDCs are not conducted in a methodological manner and the progress made prior to the pandemic is not properly assessed and transparently published, to assess the impact on climate ambitions during COVID-19 becomes harder. The progress of the NDCs cannot be scientifically assessed in the absence of indicators and established monitoring and evaluation mechanisms; this is an inherent problem of the global NDC process and not limited to South Asia. The conclusions and recommendations are drawn from the understanding that South Asia needs to design and adopt methodological NDC process design and implementation strategies supported by monitoring and review mechanisms to track progress and follow-up as required. NDCs should not merely be considered as an international documentary commitment that does not hold any accountability and transformation.

5.1 Challenges for Achieving Climate Change Ambitions in South Asia

The study reveals that challenges for achieving climate change ambitions prior to COVID-19 and irrespective of the pandemic have been significant and needs to be address by policy makers, policy shapers and policy influences.

A. Providing process clarity: One main observation of the study was the lack of clarity on the processes determining climate ambitions and targets at national level in South Asia. While the NDC documents would make claims to have been conducted in an inclusive manner, the process and methodology for such is not well defined and described. In general, the formulation of the NDCs do not appear to be a whole of government effort; also, there is low stakeholder engagement in formulating and implementing the NDCs. There is no uniform approach to NDCs across the countries leaving contracted experts to propose or even determine the structure and content of the NDCs. The challenge, now progressing from the readiness phase till 2020, would be to define and adopt methodological, inclusive and transparent processes towards the identification and defining the national climate ambitions.

B. Strengthening knowledge and understanding: Resulting from a low engagement model for determining the national climate ambitions, NDCs have limited national level knowledge and understanding. There is low knowledge amongst political leadership and public sector officials who are responsible for the determination of the climate ambitions of the country and turning them into policies and action programs. Also, private sector and other stakeholder groups including CSOs, academics and professionals appear to have limited exposure to the NDCs and lacks critical understanding; public knowledge and understanding on the NDCs is minimum in the South Asia. Lack of whole of government engagement and low stakeholder engagement from planning to implementation is an obstacle for the distribution of knowledge and prevent critical understanding for collective will for climate action in the South Asian countries.

C. Creating convergence between NDCs and SDGs and ensuring policy coherence: Effort to create convergence between the NDCs and SDGs in South Asian countries appears low; the mainstreaming of the SDG and NDC agendas into national policies has not been properly planned. The two international agendas are approached as two different program tracks within government institutional processors; the fragmented public institutional structures prevent integrated action. This fragmentation is visible across annual national budgets, limiting integrated action between the key ministries and public sector agencies related to different climate action across the thematic categories and sectors. The lack of comprehension by policy makers on NDCs and SDGs prevents the integration and also the acceleration of implementation. Despite such appetite for integration by policy makers, the preliminary mapping conducted by the study team demonstrates that NDC and SDG targets have clear linkages (see sub-chapter 3.2). A conscious effort to conduct cross-linkage identification and policy integration is a key challenge that cannot be further postponed.

D. Ensuring the science-policy interface: An appropriate “science-policy interface” (SPI) approach is required to translate climate change scenarios into transformative climate policies and action. Looking at the annual national budgets, investment on strengthening climate science in South Asian countries is not convincing; low scientific research and development towards strengthening the climate action results in a weak science-policy interface. In the absence of scientifically proven data and information, the NDCs appear to be drawing information from inadequately established data and information systems more as justification of the stated climate ambitions and targets. Even in the limited processes, NDCs do not demonstrate an appetite for the recognition of indigenous knowledge in climate change and biodiversity science-policy. Policies dealing with mitigation and adaptation should consider the important role of biodiversity in terrestrial system recovery and management, including forests, agro-forests, and agricultural systems. In production landscapes, policies need to consider the large landscape scale and be cross-sectoral in application, including among forest, agriculture, transportation, energy, and human health sectors. While adequate evidence is there linking biodiversity to ecosystem resilience and goods and services, policy makers are yet to place serious consideration on local ecological knowledge and scientific information towards forming the basis for transformational policies.

E. Establishing proper monitoring, evaluation, follow-up and review mechanisms: Unlike the SDGs, the NDCs do not provide a universal indicator framework. The NDCs leave each government to define their own targets and reporting. All countries have not provided clear indicators for all NDC targets. One of the main observations of the study is the lack of clarity on tracking mechanisms for the targets; it is not clear in many targets as to how the governments are actually monitoring the progress of their ambitions. Also, there is no evidence of continuous monitoring and review conducted on the commitments. The study also raises the question if national NDC processes are truly engaged in evidence-based planning and in communicating and updating their climate commitments based on actual scientific evidence and data. The challenges facing access to data as well as availability and generation of appropriate data is a continued key concern. National statistical systems are far behind in providing verified environmental and climate data and needs a whole of government approach in regular monitoring and review. Also, lack of centralized information within the sub-region as well as

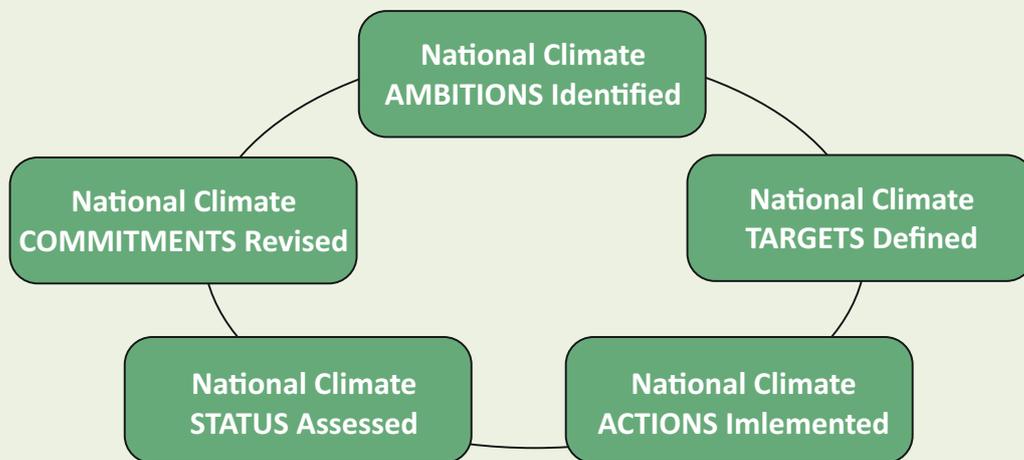
in countries continues to challenge the actual progress of the climate action; transparency of decision making also stems from both the availability and access to information.

F. Strengthening Roles and Responsibilities: The critical need for 'Independent Monitoring, Evaluation & Review (IMER)' stems from the low capacity of national statistical systems to provide continuous and up to date climate and ecological data and statistics. Independent researchers and policy influences, from academic or civil society sectors, must strengthen regular collection of data and provide strong analysis to influence the formal NDC processes. This will keep the policy makers accountable and strengthen the decision-making abilities of politicians and policy makers as well as the public service delivery. IMER mechanisms and processes should be established for NDC process in all countries in South Asia; such IMER processors are seen as an emerging trend for the SDGs as demonstrated by the 'Voluntary Peoples Review for SDGs' in Sri Lanka and 'Peoples Scorecards for SDGs' in numerous countries. These processors should not be limited to few CSOs or academics but must be driven by full stakeholder engagement including national and sub-national level officials and politicians. Such processors will provide greater opportunity for inclusive and transparent NDCs to evolve in the countries and provide greater ability to evolve more representative national climate ambitions.

5.2 A Methodological Approach to Climate Action in South Asia

Irrespective of COVID-19 impacting on the climate change ambitions in South Asian countries, formulating and managing of national climate ambitions and commitments as presented in the NDCs requires a methodological approach. Following is a possible methodological approach that can be adopted by policy makers, policy influences and stakeholders of the national and sub-regional climate action process.

Figure 01: A Methodological Approach to Climate Action in South Asia



The following approaches may help ensure that the national climate actions are properly designed, implemented, assessed and revised.

A. National Climate AMBITIONS Identified: Each country in South Asia continues to adopt different approaches to identifying their climate ambitions. While NDCs must reflect national objectives, the study could not find well-defined methodological processes being adopted in most countries. National climate ambitions must demonstrate 'Political Commitment' and must be in line with the governments mandate and policy framework. National climate ambitions must represent the aspirations of the people of the nation and must adopt inclusive processes to determine the climate ambitions. Therefore, authorities appointed by governments to formulate the NDCs must adopt an inclusive and transparent process towards co-creating a collective agreement; a whole of government approach and stakeholder engagement must be a main criterion.

B. National Climate TARGETS Defined: A major gap identified by the study is the process of defining NDC targets without clear indicators to assess and measure its progress. While some targets are specific, some continue to be loosely defined without proper indicators. Unlike the SDGs, NDCs do not have a global list of targets supported by indicators to be localized. If targets cannot be clearly monitored and assessed during defined timeframes, then commitments would have no accountability. It is critically important that all countries presenting NDC targets also provide a 'Monitoring, Evaluation, Follow-up and Review (MEFR) Mechanism'. The process will also require national statistical systems to define the baselines for indicators and continuously work on verifying the data and statistics to support the MEFR mechanism. Also, countries need to define and devise proper progress tracking mechanisms for NDC targets.

C. National Climate ACTIONS Implemented: Another major gap identified is the lack of engagement in implementing climate action as defined by the NDCs. The absence of a whole of government approach and stakeholder engagement has kept NDCs a very limitedly known and understood policy process. There is low knowledge on NDCs amongst vital sections of government, including both political and policy levels, as well as amongst stakeholders and the public. There is very limited evidence that NDCs are mainstreamed into national policy frameworks, preventing a whole of government and whole of society approach to climate action. Furthermore, there is limited understanding of the actual action plans and strategies to be implemented, preventing critical stakeholder engagement. The action plans do not provide clarity of the implementation process and also leaves too many gaps; the institutional architecture for public service delivery is not clear in the NDCs and does not spell out clear roles and responsibilities. The action plans must provide greater engagement space for all stakeholders, be transparent, and transformative.

D. National Climate STATUS Assessed: There is limited evidence that climate commitments are properly assessed with accountability and transparency assured. With inconsistencies in adopting proper systems and processes, the actual achievement of the climate ambitions is not guaranteed. The process of NDCs has design gaps and loopholes that needs to be closed if climate ambitions are

to be responsibilities of governments and their citizens. It is important that a MEFR Mechanism for NDCs is backed by an Institutional Mechanism and process for Policy Coherence. Also, stakeholder information and data need to be considered with access to information being assured. In this regard, independent monitoring, evaluation & review processors would be highly important.

E. National Climate COMMITMENTS Revised: Only a few South Asian countries have already presented their updated NDCs that were due in 2020 while other countries are currently in preparation. There is little evidence that a proper stocktaking has been conducted on the climate ambitions presented during the readiness phase 2017-2019. Lack of a clearly defined MEFR mechanism prevents countries to conduct proper stocktaking and honest reviews. In this regard, revised commitments without formal MEFR mechanisms does not provide any hope for progress of climate commitments to be transparently communicated. Also, the revision of the climate commitments needs to be conducted in a proper process that can generate political leadership, policy coherence, institutional responsibility, stakeholder engagement and budgetary allocations. Revision must be able to clear provide lessons learned from the readiness phase and be based on verified scientific data and comprehensive rationale.

5.3. Action Towards COVID-19 Recovery Affecting the NDCs of South Asian Countries

COVID-19 has impacted South Asian countries and the recovery will be hard and require transformational action. However, even without such a devastating pandemic, the actual commitment to addressing climate changes and taking transformative action for sustainable development has not been overwhelmingly progressive. Business as usual scenarios will not help South Asia achieve prosperity and COVID-19 should not be another escape clause to further delay the already pending transformative action. Yet, as the pandemic has created deeper socio-economic issues for countries and threaten the progress of transformative action, its pertinent that South Asian countries adopt strategic action for a sustainable recovery. A South Asian recovery needs to be based on defining a new normal scenario that promotes climate futures advancing sustainable development.

A. Adopting COVID-19 green recovery strategies: There is no doubt that the South Asian countries are seriously affected by the COVID-19 pandemic. Social, economic, environmental as well as governance dimensions have critically affected creating serious doubt of recovery. The unprecedented challenges faced by governments and citizens in these countries may affect the short, medium and even long-term sustainable development aspirations in the post pandemic period. The question is, can South Asian countries respond well to the call for a green recovery? Would the decision makers in these countries realize that cleaner air quality, healthier water, effective waste management, and enhanced biodiversity protection not only reduce the vulnerability of communities to pandemics and improve resilience, but have the potential to boost economic activity, generate income, create jobs, and reduce inequalities? Would South Asian nations be able to step up actions for a green and inclusive recovery, speed the transition to a low-emissions economy, track progress through pertinent, comparable, and timely data, leverage

finance to invest in the green recovery? Unfortunately, there is no critical evidence to show that South Asian governments are adopting a green recovery strategy; more evidence is directed towards many governments turning towards business-as-usual scenarios for brown economic growth strategies for short term gains. This will aggravate climate change challenges and would create greater challenges for achieving sustainable development.

B. Financing and Resource Mobilization: Green investment against brown investment for a COVID-19 recovery will determine the outcomes to be climate friendly and sustainable or not. Like the European Green Deal, South Asian Countries will need to devise a new growth strategy that aims to transform the nations into fair and prosperous societies, with circular economies that can ensure that the climate ambitions are met. The European green deal is focused on decarbonizing the energy sector through renewable energy projects, investing in environmentally friendly technologies, supporting industry to innovate, rolling out cleaner, cheaper and healthier forms of private and public transport, and ensuring buildings are more energy efficient and supporting the circular economy; the European Commission in May 2020 had committed €750 billion recovery instrument. South Asian countries also can be inspired by South Korea's Green New Deal of July 2020 which is part of a wide national strategy to create 659,000 jobs and help the country overcome the economic crisis while addressing climate and environmental challenges. South Korea has committed around USD 61 billion in five years (2020-25) to boost renewable energy capacity to 42.7 GW by 2025 from 12.7 GW in 2019 and expand the green mobility fleet to 1.33 million electric and hydrogen-powered vehicles; the plan also promises refurbishment of public rental housing and schools to make them zero-energy, and transformation of urban areas into smart green cities. Unfortunately, the debt and economic crises looming across many South Asian countries does not make green and sustainable investment an automatic choice for governments. In fact, some reports suggests that many countries in Asia reverting to brown development policies as measures of desperation. Moving away from liner brown growth economic strategies and adopting innovative sustainable investment strategies will need to be promoted in the upcoming national budgets if a green recovery is to be achieved. By committing to the 2030 Agenda, South Asian countries had agreed to domestic resource mobilization as a responsibility of all countries committed towards implementing the Sustainable Development Goals (SDGs). The United Nations (UN) has estimated that US\$5 trillion to US\$7 trillion per year is needed between 2015 and 2030 to achieve the SDGs globally, and \$3.3 trillion to \$4.5 trillion per year in developing countries. Estimates also show that achieving the SDGs could open USD 12 trillion of market opportunities and create 380 million new jobs, and that action on climate change would result in savings of about US\$ 26 trillion by 2030. The COVID-19 pandemic may have increased the challenge for domestic resource mobilization for the transformation. South Asian nations will need to engage public, private, civil society and all stakeholders at national, subnational and community levels in reimagining domestic resource mobilization, reorganizing the resource flows and reinvesting in transformational pathways towards the recalibration of the context of implementing the SDGs and NDCs and affecting a sustainable recovery.

C. Shifting to an Ecosystems Services-Driven Circular Economic Model: Climate change is one of the many challenges that have arisen because of an economy's metabolic organism becoming too large. The biophysical realities, mainly entropy constraints, indicate that our activities should not go beyond the nature's capacity in receiving waste and extracting biological resources. The life-sustaining systems have an influence on the composition of the atmosphere, the water cycle, the nutrient cycle, plant pollination and soil fertility. In defining its COVID-19 recovery, South Asian nations have several options at hand that will define its fate in prosperity; (a) to attempt to continue business as usual (BAU), pursuing the conventional economic growth paradigm that has dominated global economic policy since the end of World War 2 (b) to pursue an environmentally sensitive version of that model and attempt to achieve Green Growth (c) to pursue a more radical approach of sustainability that can create high quality of life for all while staying within the safe environmental space. Countries truly committed to the 2030 Agenda and adopting transformative action will take the third option. Therefore, it is important to discuss an ecosystem services driven prosperity model in South Asia. Staying within biophysical limitations while optimizing the benefits of ecosystem services would be a critical pathway that South Asian countries could seek its prosperity. The Millennium Ecosystem Assessment (MA), which analyzed the impact of human actions on ecosystems and human well-being, identified four major categories of ecosystem services: provisioning, regulating, cultural and supporting services. A regulating service is the tangible benefit provided by ecosystem processes that moderate natural phenomena; plants clean air and filter water, bacteria decompose wastes, bees pollinate flowers, and tree roots hold the soil in place to prevent erosion. All these processes work together to make ecosystems clean, sustainable, functional, and resilient to change while regulating services including pollination, decomposition, water purification, erosion, flood control, carbon storage and climate regulation. Therefore, South Asian countries will need to recalibrate their approaches to resource governance and redesigning of the policy frameworks and institutional structures towards facilitating a ecosystems services driven circular economy.

D. Advancing the Transformation: Climate change ambitions are an integral component of the transformation towards sustainable development. A green recovery approach in South Asia must address environmental as well as social, economic and governance aspects adversely impacted by the COVID-19 pandemic. A New Normal in South Asia would not mean just survival till the pandemic threat lasts, and then increasing consumption to overcompensate on lost economic growth opportunities; nations must develop foresight into an ecosystem services driven prosperity model. The New Normal would depend on a journey through an inclusive transformation that leads to a prosperous and sustainable recovery. There are concerns on achieving the SDGs and NDCs but changing the goal post as proposed by some is not a transformative approach. Transformation requires addressing the root causes that generate and reproduce economic, social, and environmental problems and inequities, not merely their symptoms. Transformation is also about the processes of change needed in society and the economy to achieve greater equality, empowerment, and sustainability. Planning for a transformation requires consideration of multiple scenarios that impact sustainable development; scenarios that might lead to breakdowns creating chaos or instability, scenarios that will help prepare for alternative futures and greater sustainability, as well



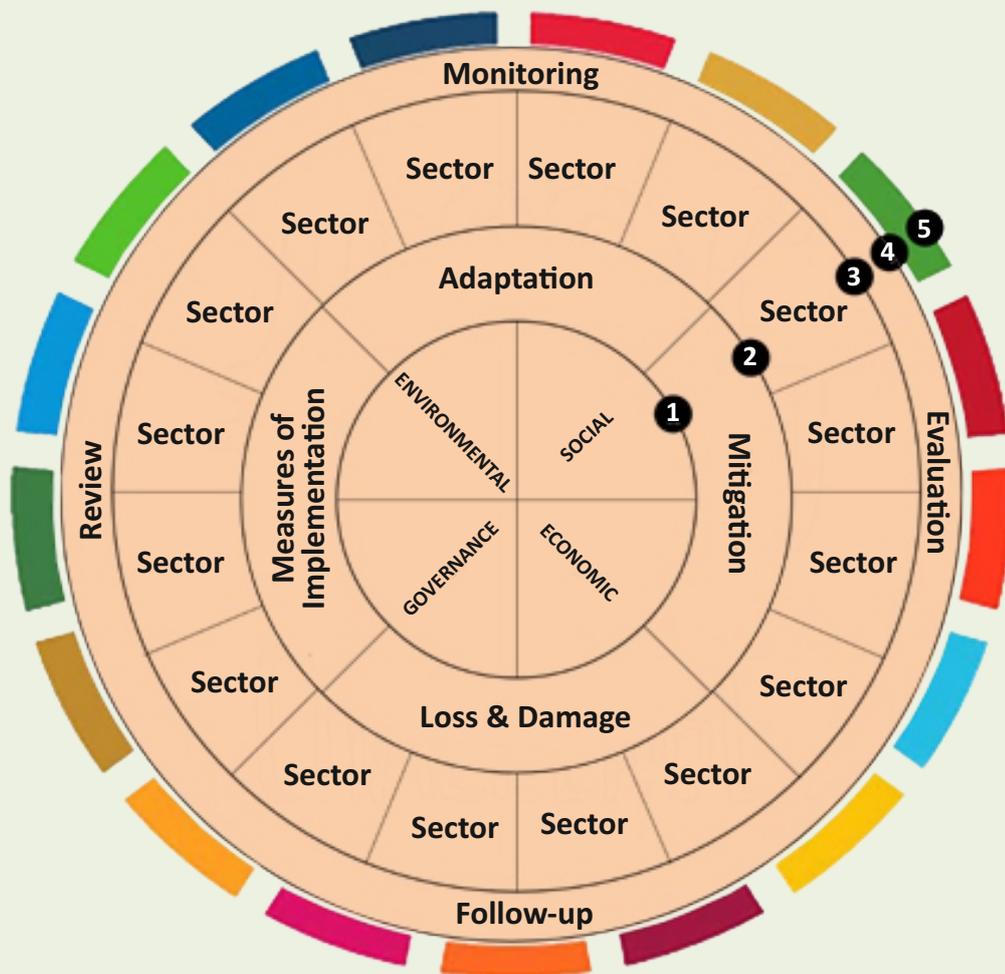
as scenarios that can help establish favourable conditions for prosperity through policy and regulatory measures. A COVID-19 pandemic is a highly potential breakdown scenario and South Asian nations will need to seek other alternative pathways from business-as-usual scenarios.

5.4 A Framework for Managing the Climate Ambitions in the Context of a COVID-19 Recovery in South Asia

NDCs appear as a fragmented and siloed activity within South Asian governments; these are not adequately mainstreamed into national policy frameworks, not implemented across the public service delivery mechanism, poorly engaging the stakeholders, inconsistently monitored for its progress, and without much transparency and accountability. Lack of a systems approach to managing climate ambitions needs to be addressed by South Asian countries as a response to a sustainable climate recovery.

The COVID-19 recovery demand countries to adopt transformative approaches. National Climate ambitions cannot be placed in a separate track from their sustainable development ambitions. Therefore, a framework is proposed to address the limitations of siloed and fragmented approaches by the current NDC processes. The framework below proposes a systems approach with multilevel integrations between managing the climate ambitions with an overall transformation towards sustainable development. The framework attempts to present an integrated approach to NDCs and SDGs at national level while providing greater process clarity and ease of navigation. The Framework also provides a transformative approach for regional cooperation, where relevant and common in their challenges; such cooperation could enhance sharing of knowledge, information, technology, and strengthen financing for the region.

Figure 02: A Framework for Managing the Climate Ambitions in the Context of a Covid-19 Recovery in South Asia



- 1 = SD Dimensions
- 2 = Thematic NDC Clusters
- 3 = Development Sectors
- 4 = Monitoring, Evaluation, Follow-up & Review Mechanism
- 5 = Sustainable Development Goals

The figure 02 framework proposes five levels for integration as follows:

A. SD Dimensions (level-1): Environmental, social, economic dimensions as well as the enabling governance dimensions of sustainable development provides the main foundations for a transformation by 2030. As explained in sub-chapter 4.2, COVID-19 impacts on social, economic, environmental and governance aspects compels South Asian countries to design their recovery strategies towards addressing the multiplying sustainable development challenges. While the four dimensions have separate specific impacts and challenges, the recovery strategies must also be able to address these in an integrated manner. Linear and siloed recovery strategies are considered as business-as-usual and would not provide the requisite transformation. A recovery must be able to advance the transformation; therefore, the framework places sustainable development dimensions at the core of the framework for transformational response.

B. Thematic NDC Categories (level-2): As explained in sub-chapter 2.1, The framework integrates the four thematic NDC categories; adaptation, mitigation, loss and damage, and means of implementation. These four categories form the main climate ambitions of the South Asian countries and therefore needs to be closely integrated with the sustainable development aspirations. By integrating the four thematic categories of climate ambitions with environmental, social, economic and governance dimensions forming the sustainable development ambitions, countries will be able to overcome the challenges in achieving their commitments to the two global agendas (see sub-chapter 3.1). This will help an integrated mainstreaming of the two global agendas effectively into national policy frameworks and implement them with an integrated approach.

C. Development Sectors (level-3): The next level is to integrate specific sectoral NDC targets that represent specific national ambitions. As explained in sub-chapter 2.2, many of the NDC sector targets tend to address climate ambitions set out within the four thematic NDC categories, particularly adaptation and mitigation. However, the NDC design processors must take into consideration the sustainable development dimensions of each sector and shape their climate interventions and action accordingly. NDC targets could be aligned with relevant SDG targets and be localized according to national realities and ambitions. In doing so, multiple linkages between the different targets will need to be mapped towards balancing the positive and negative outcomes.

D. Monitoring, Evaluation, Follow-up & Review Mechanism (level-4): One of the main proposals of the framework is to address the gaps of monitoring, evaluation, follow-up & review (MEFR) as highlighted in sub-chapter 2.3. Proper MEFR mechanisms at country level will keep the climate ambitions in check and help strategising for continuous progress. As explained in sub-chapters 3.2 and 3.3, mapping the linkages between the NDCs and SDGs demonstrates the need for critical integration. Therefore, the SDG target-based indicators can provide inspiration towards formulating NDC indicators. For that localising the targets and indicators will be necessary at national, sub-nation and local levels. This process will require upgrading the national statistical systems to include better and accurate climate and ecological data, as well as establish independent monitoring, evaluation and review processes that can advance the science-policy interface.

E. Sustainable Development Goals (level-5): As explained in sub-chapters 3.2 and 3.3, the SDGs provide the NDCs a larger framework for integrating the climate ambitions. While SDG13 directly addresses the need for climate action, other thematic goals and targets provide the rationale for sectoral target-based integration. As climate change is a great multiplier of all global crises, it is important that South Asian countries manage their climate ambitions within the global sustainable development framework for an inclusive transformation. The SDGs provides a structured approach to localising national ambitions for sustainable development including climate aspirations. Therefore, it will help the NDCs to be planned and managed more methodically, effectively, and efficiently. The integration will also help mainstreaming and localizing the climate commitments and gain greater political support, administrative commitment, and stakeholder engagement in achieving the climate ambitions.

A Framework for Managing the Climate Ambitions in the Context of a COVID-19 Recovery in South Asia essentially provides governments and stakeholders an approach towards recalibrating their approaches to establishing and achieving climate and sustainable development ambitions in an integrated manner. It addresses the main challenges and realizations derived from the study on 'Climate Change Ambition in South Asia and COVID-19 Recovery Affecting the Nationally Determined Contributions of South Asian Countries'. This framework also provides a methodological approach to integrate their dual commitments to the Paris Agreement and 2030 Agenda.

Challenged by COVID-19, governments have been pushed into a survival mode; the pandemic has caused panic of a potential collapse of the global and national economies, or at least to enter a deep recession and possibly a great depression. In adversity, some countries are resorting to taking easy routes that could result in increased national debt, destruction of their ecological asserts, harming their social and environmental resilience, etc. This framework is presented within the realisation that the current COVID-19 pandemic is a result of humans creating t optimal conditions for the spread of diseases by reducing the natural barriers between host animals and themselves. Similarly, climate change is one of the many challenges that has arisen as a result of human activities going beyond earths biophysical limitations. Therefore, business-as-usual as a response to COVID-19 recovery is unacceptable and needs to be rejected in the context that all countries have agreed to the 2030 Agenda for transforming our world.

The study reveals that there are alternative pathways to a green recovery adopted by other regions and countries that South Asia needs to consider. Also, countries in South Asia have their own unique cultural and ecological asserts that can be reconvened in a new normal scenario. In a global pandemic where the usual international trading and borrowing have become harder, South Asian nations will need to see the opportunities to strategically develop domestic resource mobilisation frameworks using their strengths in ecosystems services and local indigenous knowledge systems. By taking transformative action towards a sustainable recovery, countries can advance an inclusive prosperity in the aftermath of the COVID-19 pandemic.



Towards adopting the framework for a COVID-19 recovery, it is important to engage public, private, civil society and all stakeholders at national, subnational and community levels in reimagining domestic resource mobilization, reorganizing the resource flows and reinvesting in transformational pathways towards the recalibration of the context of implementing the SDGs. Reimagining domestic resource mobilization is about recalibrating the approach to strategic foresight and transformative action towards advancing sustainable development. Reorganizing the resource flows is about recalibrating the approach to resource governance and redesigning of the policy frameworks and institutional structures towards facilitating a circular economy. Reinvesting in transformational pathways is about recalibrating the approach to ecosystem services and innovative financing towards facilitating a new state of inclusive prosperity.

The framework should be adopted according to national conditions and aspirations. In doing so, all stakeholders should be engaged in a foresight driven process affecting a just and green recovery for an inclusive transformation and advancing sustainable climate futures.



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