

Engaging Nepalese businesses in climate change adaptation

December 2023





Kathmandu, Nepal

Prime Minister

Message

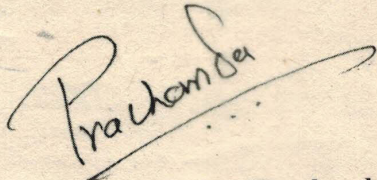
Private sector in Nepal is recognized as one of the three basic pillars for economic growth and prosperity. Nepali private sector plays an integral role in the social and economic development of our country and is inextricably linked to the country's prosperous future. However, the growing climate crisis in Nepal is a matter of serious concern for businesses as they continue to face substantial impacts on their operations and value chain. Businesses have reported significant revenue losses, heightened input costs and disruptions in the market in recent years, thereby putting short-term growth and long-term sustainability at high risk. Such devastating climate impacts on businesses not only threaten their own financial stability and long-term sustenance, but also have negative implications on wider economic growth and social well-being.

Therefore, it becomes imperative for businesses to recognize the urgency of adaptation efforts and undertake measures to safeguard themselves from climate change. As a first step towards our nation's collective action for building the climate resilience of businesses, I am happy to present this report 'Engaging Nepalese businesses in climate change adaptation', developed under a collaboration between the Confederation of Nepalese Industries (CNI) and PricewaterhouseCoopers Pvt Ltd. (PwC India).

The report deep dives into the complex challenges faced by Nepalese businesses in the wake of anthropogenic climate change. It presents the problems related to climate change in our country and discusses how it impacts our business. This report is also a call for action as it presents a highly nuanced perspective on the indispensable role that businesses can play as agents of change to adapt to climate change and capitalize on adaptation related opportunities. It outlines a strategic roadmap to transform challenges into opportunities and empower businesses to become catalysts for climate resilience. The time for action is now and the cost of inaction is too high to be ignored.

I hope Nepal's business community takes this message forward and integrates adaptation actions into their business practices. I also hope that these actionable recommendations for businesses can help them build their resilience to current and future climate impacts. I would also call upon them to extend their efforts to support our national level adaptation efforts to safeguard Nepal's environment and communities.

07 December 2023


Pushpa Kamal Dahal 'Prachanda'

Foreword

Businesses in Nepal, now more than ever, need to acknowledge the substantial impact that climate change has on their operations and the wider value chain. The adverse effects of climate change ranging from extreme weather events to shifting market demands threatens the very sustenance of Nepalese economy and the sustainability of businesses.

We are pleased to present our report on '**Engaging Nepalese businesses in climate change adaptation**', developed under the partnership between the Confederation of Nepalese Industries (CNI) and PricewaterhouseCoopers Pvt Ltd. (PwC India). This report serves as a significant milestone in our collective journey towards understanding and reducing the risks associated with climate change. The comprehensive study offers insights into the vulnerabilities and climate risks faced by various business sectors. It also details targeted solutions in the form of a strategic roadmap to guide businesses on climate change adaptation, resilience building and sustainability. The roadmap outlined herein highlights actions that businesses and other relevant stakeholders can take to adapt to the evolving climate reality, emphasising the vital role they play in fostering a sustainable future for all.

We urge business leaders, policymakers, think tanks, not for profits, development agencies, multilaterals and other stakeholders to consider the insights presented in the report to build a supportive environment where businesses can thrive while safeguarding the natural and social systems.

Jaivir Singh

Managing Director

PwC India

Leader of the Global Office for Humanitarian Affairs

Nirvana Chaudhary

Vice President

Confederation of Nepalese Industries





Table of contents

- 1. Climate change in the context of Nepal 11
- 2. Climate change and Nepalese businesses 23
- 3. Role of Nepalese businesses in climate adaptation 30
- 4. Roadmap to build the resilience of Nepalese businesses 38
- 5. Way forward 46



List of figures

Figure 1: Future climate trends in Nepal	12
Figure 2: Impacts from climate extreme events and climate induced disasters.....	13
Figure 3: Impacts of climate change in Nepal	14
Figure 4: Key milestones/policies to resolve climate crisis.....	15
Figure 5: The impact of climate change on businesses	23
Figure 6: The impact of climate change on industries.....	24
Figure 7: Response of stakeholders to climate change events which are affecting their business	27
Figure 8: Framework for business action on climate adaptation	31
Figure 9: Supporting country-level adaptation efforts – action areas for business	33
Figure 10: Adaptation plan for Nepalese businesses	38
Figure 11: Approach for adaptation transition	41
Figure 12: Private sector engagement platform for climate change adaptation.....	43
Figure 13: Description of the private sector engagement platform for climate change adaptation	43

List of tables

Table 1: Adaptation goals and targets in the NDC	16
Table 2: Nepal’s climate adaptation policies	18
Table 3: Current level of adaptation action by Nepalese businesses	35
Table 4: Illustrative examples of adaptation measures	39
Table 5: Different levels of adaptation to climate risk.....	40

Abbreviations

ADB	Asian Development Bank
BUs	Business units
CIF	Climate investment funds
CSO	Civil society organisations
CSR	Corporate social responsibility
DOA	Department of Agriculture
DRR	Disaster risk reduction
EPCCMNC	Environment Protection and Climate Change Management National Council
ESG	Environmental, social and governance
FNCCI	Federation of Nepalese Chambers of Commerce and Industry
GESI	Gender equality and social inclusion
GDP	Gross domestic product
GLOF	Glacial lake outburst floods
HDI	Human development index
HI-AWARE	Himalayan Adaptation, Water and Resilience
HVAC	Heating, ventilation and air conditioning
IFC	International Finance Corporation
ILO	International Labor Organisation
IMCCC	Inter-Ministerial Climate Change Coordination Committee
IPPAN	Independent Power Producers' Association, Nepal

IRRI	International Rice Research Institute
LAPA	Local Adaptation Plans for Actions
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NARC	Nepal Agricultural Research Council
ND-GAIN	Notre Dame Global Adaptation Initiative
NDC	Nationally determined contribution
NRREP	National Rural Renewable Energy Programme
PPCR	Pilot Programme for Climate Resilience
PWS	Public Weather Services
REDD+	Reducing Emissions from Deforestation and forest Degradation in Developing Countries
SME	Small and medium enterprises
TCFD	Task Force on Climate-Related Financial Disclosures
TNFD	Taskforce on Nature-related Financial Disclosures
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
VRA	Vulnerability and Risk Assessment
WBG	World Bank Group
WBGCKP	World Bank Group Climate Change Knowledge Portal
WEF	World Economic Forum

Executive summary

Business is an important contributor to the Nepalese economy. However, due to climate change and the disruptions it brings to the operations and value chains of the business, long term sustainability of businesses is at risk. Therefore, it has become critical for Nepalese businesses to adapt to climate change. They must take necessary actions to respond and adjust to the effects of climate change and build resilience to handle the disruptions caused by it. However, this journey is not without challenges and governments and development organisations have a role to play in promoting business action on adaptation.

This paper published by PricewaterhouseCoopers Private Limited (PwC India) in collaboration with Confederation of Nepalese Industries (CNI) aims to catalyse business action on climate adaptation by Nepalese businesses. The paper intends to achieve the following objectives:

- to build awareness of Nepalese businesses on climate risks, the need for climate adaptation, their role in the adaptation process and the specific steps they have to take.
- to inform policy makers and other key stakeholders involved in climate action in the country, the challenges businesses face regarding adaptation and the support that they can provide to facilitate greater business participation in this agenda.

The first section of this paper discusses how climate change is impacting the economy and the people of Nepal, and the efforts undertaken by the Nepalese government to reduce the impact of climate change on the country. It also highlights the various challenges Nepal faces in scaling up their adaptation efforts and building their resilience such as lack of financial resources and technical expertise, gaps in coordination between the various government bodies at the local and national level. Limited coverage of business in adaptation efforts and the absence of a clear role for businesses limits the ability of the country to build resilience of the economy.

Next, the report highlights how climate change impacts key industries in Nepal such as agriculture, tourism and handicrafts. Climate events directly or indirectly disrupt the assets and operations as well as the upstream and downstream value chain of businesses. Lack of awareness of how climate change impacts businesses and the measures to mitigate climate risks combined with structural challenges such as weak governance and poor infrastructure that limit the growth of Nepalese businesses increase the impact of climate risk for Nepalese businesses. The predominance of SMEs in the Nepalese economy, presence of business operations in areas with higher exposure to weather events and insufficient technical risks and knowledge add to the vulnerability of the businesses.

The paper then discusses how businesses can address climate risks to themselves using the World Economic Forum's Climate Adaptation Framework launched in January 2023.¹ They can do so in two ways:

1. by adapting themselves to climate change to minimise risks, and
2. by contributing to both community and ecosystem-level adaptation efforts thereby, supporting national development priorities.

Adaptation as a risk mitigation strategy or as an opportunity to contribute to national development – following these approaches will help Nepalese businesses ensure their business continuity and long term growth and sustainability.

The final section of the paper provides a roadmap to build the resilience of Nepalese businesses. Both the government and the private sector need to come together to tackle the increasing climate threats and to ensure that business operations can thrive sustainably in the country. The paper talks about the steps businesses in Nepal can take to scale up their adaptation efforts and how governments, development organisations and industry associations can enable business action on adaptation.

¹ The World Economic Forum, 2023. "Accelerating Business Action on Climate Change Adaptation". Available at <https://www.weforum.org/whitepapers/accelerating-business-action-on-climate-change-adaptation/>

While some Nepalese businesses are looking into addressing climate risks, most are yet to start their climate adaptation journey. This paper presents an approach for climate adaptation of different businesses keeping in mind their different levels of maturity in terms of their understanding of the problem and solutions they have adopted. Broadly, businesses should understand their exposure to climate hazards and develop an adaptation strategy to address the risks to businesses. They should set up procedures and systems to consider climate risks and opportunities into their business decision making.

For businesses to build their climate resilience, it is essential to have a conducive environment which builds collective awareness and knowledge on climate risks and adaptation measures, enables access to and encourages collaborations and partnership between different stakeholders. This paper details four measures taken by the Nepalese government and development organisations which can galvanise business action:

- **a private sector engagement platform** to encourage dialogue and partnerships between various stakeholders such as private sector representatives, industry associations, multilaterals, government agencies, research institutes and civil society to collaborate on gathering resources, sharing knowledge and adopting technologies that can strengthen their collective response to climate change.
- **an open-source decision support system** to help businesses understand climate risks and support resource allocation and decision making for developing effective and contextualised adaptation strategies.
- **adaptation financing facility** to facilitate the flow of funds towards adaptation for and by the private sector.
- **multi-stakeholder adaptation initiatives** for key adaptation sectors such as agriculture, water and tourism that pools in resources and capabilities and enables collective action.



1. Climate change in the context of Nepal



Nepal is a least developed country comprised of the Himalayas, mountains and the plains known as the Terai. We (Nepal) have been bearing the brunt of disproportionate impacts of climate change despite being a low carbon-emitting country.²

- Rt. Hon. President Mrs. Bidya Devi Bhandari at the COP 24, Katowice, Poland

There has been a significant rise in the occurrence of climate events in the last few decades and the increase in the frequency and severity of extreme weather events such as hurricanes, heatwaves, wildfires, droughts, floods and precipitation are increasingly being attributed to human-induced climate change. This has caused substantial damage and irreversible losses to people and nature, especially the vulnerable communities and fragile ecosystems.³ The Synthesis Report of the Sixth Assessment Report (AR6) published by Intergovernmental Panel on Climate Change (IPCC) in March 2023 warns that humanity has a rapidly closing window of opportunity to mitigate the threat to human well-being and planetary health and secure a livable and sustainable future for all.⁴ The report underlines that our choices and actions today will have an impact on the present and the future.

As a country which has minimal contribution towards climate crisis, Nepal is disproportionately affected by climate change and needs to adopt a climate action plan to mitigate the impact of climate change. If left unchecked, climate change will have a considerable impact on the people and environment of the country which may put the developmental goals of the country at risk.⁵

1.1. Climate profile of Nepal

Nepal has a unique physiography due to varying altitude which ranges from less than 500 m above sea-level in the Terai region in the south to the high Himalayan region in the north. As a result, Nepal experiences a wide range of climates across the country – the country experiences a decline in the average temperatures from over 24 °C in the south to sub-zero temperatures up north in the Himalayas. Precipitation is spatially variable with some central and northerly pockets of the country receiving more rainfall as compared to high-altitude areas in the north.

Climate change is impacting Nepal's climate increasingly. An increase of 1.0°C–1.3°C is estimated to have occurred in the country between 1900–2017 with variations between different climate zones of the country.⁶ The Himalayas region reports higher rates of warming, with average temperatures increasing by 1.5°C between 1982–2006.⁷ Unlike temperature, annual precipitation rates in the country have seen both positive and negative developments. Historically, these trends vary from one region to another. Some regions experienced a higher increase in the frequency and intensity of extreme precipitation events compared to others. It is also reported that wet areas have become wetter and dry areas have become drier.⁸

² Government of Nepal, 2018. Statement by the President of Nepal Rt. Hon. Mrs. Bidya Devi Bhandari at the 24th Conference of Parties to The United Nations Framework Convention on Climate Change (UNFCCC) Katowice, Poland, 3 December 2018. Available at https://unfccc.int/sites/default/files/resource/NEPAL_cop24cmp14cma1-3.pdf

³ IPCC, 2022. Climate Change 2022 Impacts, Adaptation and Vulnerability: Summary for Policymakers.. https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf

⁴ IPCC, 2023. AR6 Synthesis Report - Climate Change 2023. Available at https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf

⁵ Government of Nepal,, 2022. "Climate Change Related Indicators of Nepal. https://unstats.un.org/unsd/envstats/compendia/Nepal_ClimateChangeRelatedIndicatorsofNepal_2022.pdf




⁶ The World Bank Group and the Asian Development Bank, 2021. Climate Risk Country Profile: Nepal. Available at <https://www.adb.org/sites/default/files/publication/677231/climate-risk-country-profile-nepal.pdf>

⁷ Ibid

⁸ Ibid

The continual rise in greenhouse gas (GHG) emissions will further impact Nepal's climate significantly. Extreme weather events such as drought, heatwaves, river flooding and glacial lake outburst flooding are expected to intensify in the twenty-first century. While southern and urban municipalities are more likely to experience flooding and heat stress, northern regions would be affected by increased erosion, landslides, water stress and glacial lake overflow (Figure 1).

Figure 1: Future climate trends in Nepal^{9,10,11,12}

Hazard	Future changes	Trend
 Heat and cold		
Extreme heat	High confidence of increase	Upward trend
Mean surface temperature	High confidence of increase	Upward trend
 Wet and dry		
Landslide	High confidence of increase	Upward trend
Wildfire	High confidence of increase	Upward trend
Water scarcity	High confidence of increase	Upward trend
Urban flood	High confidence of increase	Upward trend
River flood	Medium Confidence of increase	Upward trend
 Snow and ice		
Snow, glacier and ice sheet	High confidence of decrease	Downward trend

⁹ See <https://thinkhazard.org/en/report/175-nepal/CY>

¹⁰ Government of Nepal, 2021. Third National Communication to the United Nations Framework Convention on Climate Change. Available at https://www4.unfccc.int/sites/SubmissionsStaging/NationalReports/Documents/986542371_Nepal-NC3-1-Nepal_TNC_Final.pdf

¹¹ The World Bank Group and the Asian Development Bank, 2021. Climate Risk Country Profile: Nepal. Available at <https://www.adb.org/sites/default/files/publication/677231/climate-risk-country-profile-nepal.pdf>

¹² IPCC, 2022. IPCC WGI Interactive Atlas: Regional synthesis. Available at <https://interactive-atlas.ipcc.ch/permalink/R7SIKLIn=>

1.2. The impact of climate change

Nepal has been consistently ranked among the ten most affected countries in the world according to Climate Risk Index in the past two decades.¹³ From loss of life to livelihoods, economic activities have been impacted by climate change along with loss of livelihood and damage to the infrastructure of the country.

Figure 2: Impacts from climate extreme events and climate induced disasters¹⁴

Number of deaths, missing people attributed to climate induced disaster in 2020 was **670**.

Loss of private properties (buildings, lands) due to climate induced disasters (NPR) in 2020 was **3143**.

Total direct economic loss to climate induced disasters as a proportion of GDP (NPR) in 2020 was **0.08%**.

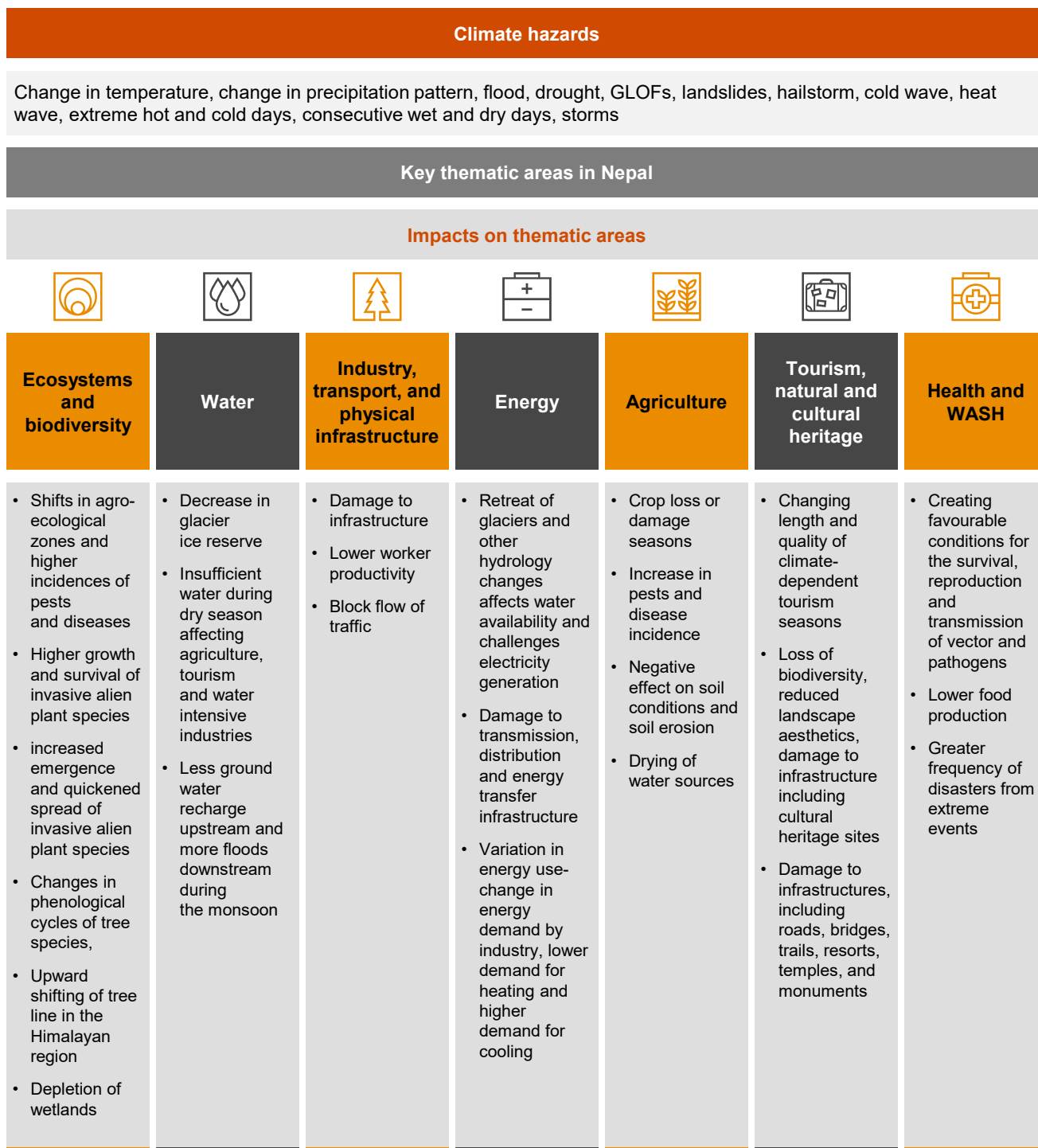
Any change in the climate of the country will have a negative impact on the business due to climate related losses and damages. Furthermore, the impact of climate change on agriculture, water and urban infrastructure could be detrimental to the country. Figure 3 summarises the possible impact of climate change on different thematic sectors of Nepal.



¹³ https://climateknowledgeportal.worldbank.org/sites/default/files/2021-05/15720-WB_Nepal%20Country%20Profile-WEB.pdf

¹⁴ Government of Nepal, 2022. Climate change related indicators of Nepal. Available at https://unstats.un.org/unsd/envstats/compendia/Nepal_ClimateChangeRelatedIndicatorsofNepal_2022.pdf

Figure 3: Impacts of climate change in Nepal



1.3. Increasing vulnerability

Nepal is ranked 125th out of 185 countries in the 2021 ND-GAIN Index which ranks countries in terms of their vulnerability to climate change and other global challenges as well as their readiness to improve resilience.¹⁵ One of the reasons for such a low rank could be the disadvantageous social and economic position of the country. At 143rd position out of 199 countries in the Human Development Index (HDI) and 113th position in global Gender Inequality Index, Nepal is among the least developed countries (LDC) of the world.¹⁶ While communities across the globe are exposed to climate change, LDCs face differential vulnerability due to socio-economic factors.

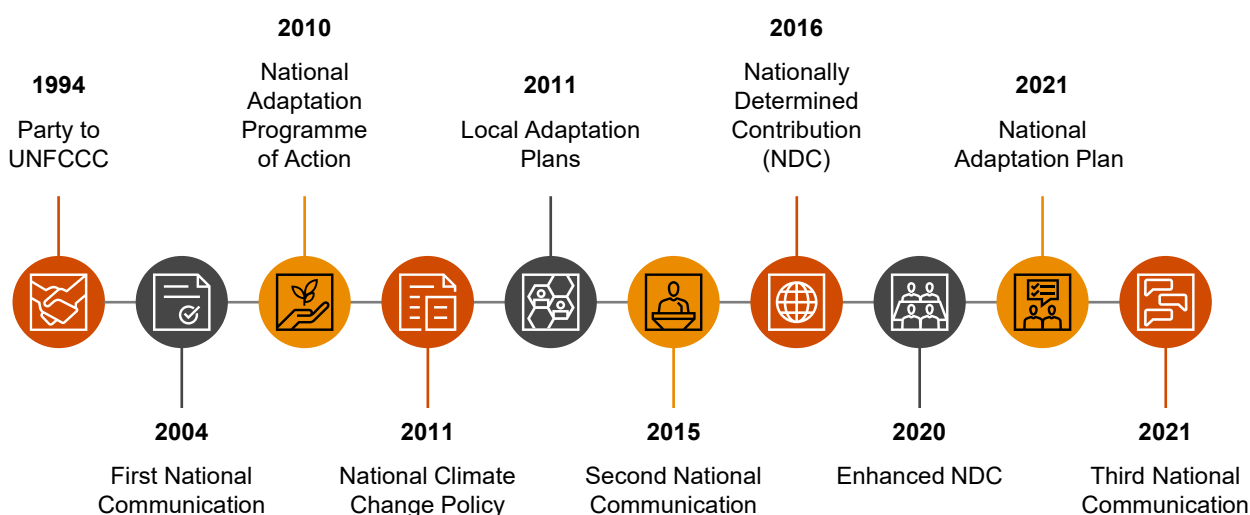
In the last few years, Nepal has seen many catastrophic events – the Gorkha earthquake and fuel crisis in 2015, floods in 2017, landslides, and the COVID-19 pandemic in 2020. While the country’s GDP grew at an average of around 4.9 percent between FY09–19 enabling the country to attain lower-middle-income status in 2020, these events have made it difficult for the country to have a sustainable growth.

Nepal is predominantly an agrarian society where 60% of the population is dependent of subsistence agriculture. The economic activities are largely dependent of climatic conditions. The country is also vulnerable due to its geography as the undulating topography and the fragile ecosystems affect the economic activities of the country. In recent times, unplanned urbanisation, encroachment of vulnerable areas and a lack of resilient infrastructure are further adding to the country’s vulnerability.

1.4. Responding to climate crisis

Nepal has realised the need to become a climate resilient country which fosters sustainable and inclusive growth. For this, the country has implemented various plans, strategies and policies which aim to mitigate climate risks. In 1994, Nepal became a party to the United Nations Framework Convention on Climate Change (UNFCCC) and set the tone for the country to start thinking and actively work towards enhancing the country’s resilience towards the impending climate crisis. Some of the important steps taken by the government of Nepal to mitigate climate change are given in figure 4.

Figure 4: Key milestones/policies to resolve climate crisis






¹⁵ The ND-GAIN Index ranks 181 countries using a score which calculates a country’s vulnerability to climate change and other global challenges as well as their readiness to improve resilience. The more vulnerable a country is the lower their score, while the more ready a country is to improve its resilience the higher it will be.

¹⁶ UNDP, 2022. Nepal moves up one place in human development, ranks 143rd. Available at <https://www.undp.org/nepal/press-releases/nepal-moves-one-place-human-development-ranks-143rd#:~:text=While%20Nepal%20improved%20its%20ranking,in%20global%20Gender%20Inequality%20Index.>

1.4.1. Commitments and goals

The Government of Nepal ratified the landmark Paris Agreement in 2016 and submitted the first Nationally Determined Contribution (NDC) communicating its climate related goals and targets to UNFCCC. In 2020, the country submitted its enhanced NDC for the period 2021–2030. The first and second NDC submitted by the country emphasises the need for adaptation and commits to take necessary efforts at the country level.¹⁷ An overview of the NDC is presented as Table 1.

Table 1: Adaptation goals and targets in the NDC

 Thematic areas			
Agriculture and food security	Water resources and energy	Industry, transport and physical infrastructure	Health, drinking water and sanitation
Forests, biodiversity and watershed conservation	Rural and urban settlements	Tourism, natural and cultural heritage	Disaster risk reduction and management
 Cross-cutting areas			
Gender equality and social inclusion, livelihoods and governance		Raising awareness and building capacity	
Climate finance management		Research, technology development and extension	
 Goals and targets			
<ul style="list-style-type: none"> • Develop local level-specific integrated climate action plans, based on individual climate profiling (assessment of climate changes, vulnerabilities and risks). • Climate-proof all its provinces by establishing a multi-hazard monitoring and early warning system by 2030. • Implement climate resilient and gender responsive adaptation plans by 2030. • Focus on climate change-related courses in secondary schools and engage 2000 local climate change adaptation resource persons by 2025 to build public awareness. • Adopt climate smart technologies and practices such as establishment of climate-sensitive diseases surveillance systems, strengthening of PWS, including the agro-meteorological information system by 2025. • Update strategic plans and scientific assessments to inform climate resource allocation policies – NAP to be revised every ten years and National level Vulnerability and Risk Assessment (VRA) to be revised every five years. • Establish institutional mechanisms such as the EPCCMNC and IMCCC as well as thematic and cross cutting groups to operationalise climate change issues at the national, provincial and local levels by 2050. 			

¹⁷ Government of Nepal, 2021, Second Nationally Determined Contributions (NDC). Available at [https://climate.mohp.gov.np/attachments/article/167/Second%20Nationally%20Determined%20Contribution%20\(NDC\)%20-%202020.pdf](https://climate.mohp.gov.np/attachments/article/167/Second%20Nationally%20Determined%20Contribution%20(NDC)%20-%202020.pdf)



Goals and targets

- Devise a national strategy and action plan on the losses and damage associated with climate change impacts by 2025.
- Build resilience of the water sector by:
 - increasing the size of population with access to basic water supply from 88% to 99%
 - improving the water supply from 20% to 40% of the population
 - integrating climate risk assessment measures into WASH programmes for effective planning and implementation by 2025.

Source: Second Nationally Determined Contributions (NDC) of Nepal

One of the main targets of the first NDC was to lay the path for the NAP and subsequently in 2021, the country launched its first NAP for 2021–2050. NAP focuses on building the ability of the country to respond to the impacts of climate change on sectors that are dependent on the natural environment. It aims to facilitate the integration of adaptation in a coherent manner into relevant new and existing policies, programmes and activities within all relevant sectors and at various levels as appropriate in Nepal.¹⁸

The NAP shares the same thematic areas as Nepal's NDC. Under each of these areas, the NAP has set out 64 strategic priority adaptation programmes. Some of the programmes discuss creating an enabling environment to promote private sector engagement in providing insurance products for farmers and communities to cope with climate risks. Similarly, one of the objectives of the strategic priority adaptation programme for tourism is to facilitate private investments to improve climate resilience of tourism infrastructure.

Many objectives of the NAP focus on strengthening the resilience of economic activities by developing digital forecast systems, diversifying energy mix, relocating vulnerable infrastructure and designing climate resilient construction technology, among others. Since businesses are integral to these economic activities, they also benefit from the NAP's initiatives.



¹⁸ Government of Nepal (2021). National Adaptation Plan 2021-2050 – Summary for Policy makers”. Available at https://unfccc.int/sites/default/files/resource/NAP_Nepal.pdf

1.4.2. The climate policy landscape of Nepal

Nepal has been trying to establish itself as a climate resilient country for a very long time. This started with the launch of the NAPA in 2010 which focused on reducing the risk of vulnerable households and communities and increasing their capacity/responses/measures to the changing climate (extreme events and increased temperatures, which affect agriculture, economy, transportation and other systems). Several policies and strategies which focused on mitigating climate change and adapting to its impacts followed soon after. Nepal has also worked on mainstreaming adaptation into several of sectoral policies, plans and strategies.

Table 2: Nepal's climate adaptation policies

 Climate change-focused policies and programmes introduced by the country
National Climate Change policy (2011, rev. 2019)
<ul style="list-style-type: none">• Aims to mobilise national and international financial resources to combat climate change impacts.• Focuses on a range of topics related to resilience building such as disaster risk reduction, promotion of low-capacity building, technology development and climate friendly natural resource management, among others.• Directed at enhancing adaptation capacity of individuals, families and communities and build resilience of the ecosystems.
LAPAs
<ul style="list-style-type: none">• Aims to integrate the adaptation actions and plans into sectoral, local and national development planning and representing government, non-government and private sector resources for adaptation efforts. More than 100 LAPAs were developed under these plans.• Community-based adaptation plan was introduced at the community level with the support of various organisations, civil society, private sector and other institutions.¹⁹
Climate Change Financing Framework (2017)
<ul style="list-style-type: none">• Introduced to strengthen the mainstreaming of climate change into planning and budgeting processes.<ul style="list-style-type: none">- As part of this framework's implementation, climate budget codes and guidelines were reformed and planning, budgeting and expenditure tracking systems were introduced at various levels.- An inter-ministerial committee and capacity building training for a structured climate change budget allocation and expenditure was also set up.

¹⁹ National Climate Change Policy (2019) https://www.icimod.org/wp-content/uploads/2021/07/National-Climate-Change-Policy_english_2019_compressed.pdf



Climate change-focused policies and programmes introduced by the country

Climate Change Health Adaptation Strategies and Action Plans for Nepal (2016–2020)

- Envisions several action policies to build a climate resilient health system by 2020 by:
 - conducting public awareness programmes about climate change and its effect on health in 75 districts of Nepal.
 - building capacity of at least 500 health professionals on this subject.
 - increasing country wide surveillance of vector, water and food-borne diseases.

National Strategy for Disaster Risk Management in Nepal (2008)

- Aimed at increasing disaster preparedness of Nepal and supporting quick recovery.
- Emphasises creating better channels for education, awareness, technology, and innovative ideas to strengthen assessment, identification and monitoring for the development of safety and disaster resilient culture at all levels.



Existing policies and programmes into which climate change has been incorporated

National Forest Policy (2019)

- Focuses on improving livelihoods of forest dependent communities by enhancing forest-based economic, social and environmental benefits.
- Links adaptation and mitigation targets to biodiversity conservation.
- Proposes development of monitoring, reporting and verification (MRV) system for REDD+ activities.

National Urban Development Strategy (2017)

- Emphasises the development of a multi-hazard approach for dealing with disasters including climate change in urban regions.

Nepal National Biodiversity Strategy and Action Plan (2014–2020)

- Presents a strategic framework for the conservation and sustainable use of Nepal's biodiversity for enhancing local livelihoods and eco-friendly national development, and equitable sharing of the benefits accrued from utilisation of biological resources among all sections of the society.

Forest Sector Strategy (2016–25)

- Identifies climate change mitigation and resilience as one of the eight pillars for sustainable management of the forest ecosystems.



Existing policies and programmes into which climate change has been incorporated

National Water Resources Strategy (2002)

- Includes adaptation measures such as managing and mitigating water induced disasters and sustainable management of watersheds and aquatic ecosystems towards ensuring access to potable water, sanitation and hygiene awareness.

1.4.3. Ongoing adaptation projects and initiatives

Nepal has invested in several adaptation projects and initiatives in the last decade to enhance the country's climate resilience. These adaptation efforts are spread across four primary areas:



Generating and disseminating knowledge about vulnerability, adaptation and mitigation among stakeholders across levels.



Building the capacity of local communities to increase resilience and reduce vulnerability by imparting technical training, conducting seminars/workshops and strengthening social networks.



Creating linkages between communities and local institutions for protecting agriculture, water and forest resources, and urban and rural communities.



Developing climate smart technologies such as drone farming, resilient seeds for cropping, HVAC systems, climate proof infrastructure and early warning systems.

An example of such a project is the introduction of **drought tolerant (Sukha Dhan)** and **submergence tolerant (Swarna Sub1 and Sabha Mahsuri Sub1) rice varieties** by the International Rice Research Institute (IRRI) and Nepal Agricultural Research Council (NARC)/Department of Agriculture (DOA) to improve rice production. The programme is designed to make the agriculture sector of the country climate resilient and enhance the output of the sector.²⁰

²⁰ Tripathi, B., Sah, S., Yadaw, R., Mahato, R., Mishra, K., Gauchan, D., & Adhikari, B., 2014 Highlights of IRRI-Nepal Collaboration. Proceedings of the 27th National Summer Crops Workshop. Available at https://opac.narc.gov.np/opac_css/index.php?lvl=notice_display&id=14136

1.5. Challenges to adaptation

Although Nepal has committed to ambitious climate action plans, policies and implemented many frameworks to mitigate the impact of climate change, the country still faces multiple challenges arising mainly from existing gaps in financial resources, technical expertise and coordination between various institutions.²¹ Let's look at them in detail:



Financing gap

According to UNEP's Adaptation Gap Report 2022, international adaptation finance flows to developing countries are 5–10 times below estimated needs.²² Although Nepal receives development finance from several multilateral and bilateral organisations such as the World Bank, UNDP, Green climate fund and ADB, there is a lack of funding for the country's climate change projects. The country also faces challenges in accessing funds from multilateral/bilateral agencies. One of the reasons for the irregular nature of the disbursement of funds is the absence of an overarching climate adaptation institution which can streamline the process of allocation of the funds and monitor the progress of the projects. Furthermore, the country's private sector, including financial institutions, plays a very small role in financing climate adaptation projects due to limited understanding of the climate risk and the need to develop plans to mitigate these risks.



Limited technical expertise and resources

Like most LDCs, Nepal, too, lacks the technical knowledge and skilled workforce which can work on projects related to climate change. There is a growing need to address these gaps as the threat of climate risk increases. Awareness is limited at all levels – from government to businesses to communities.



Weak institutional coordination mechanism

There is a communication gap between various levels of governance – local, provincial, and national – which needs to be addressed to work towards the common goal of developing resilience to climate risks. Lack of clarity on the roles and shared responsibilities related to the implementation of sectoral plans and policies, and on the budget and institutional architecture further weakens the coordination between various governing bodies. There is a need to develop a comprehensive institutional framework where government and various stakeholders such as the private sector, CSO's, media, research and development, academia and think tanks can come together.

²¹ The World Bank, 2022. "Country Climate and Development Report". Available at <https://openknowledge.worldbank.org/bitstream/handle/10986/38012/FullReport.pdf?sequence=11>

²² United Nations Environment Programme, 2022. Adaptation Gap Report 2022: Too Little, Too Slow – Climate adaptation failure puts world at risk. Available at <https://www.unep.org/adaptation-gap-report-2022>



Limited coverage of businesses in current adaptation efforts

The numerous climate adaptation initiatives have not yielded any significant results to businesses so far. The government, which is focusing more on community-based adaptation, has launched very few programmes/projects which are designed to address the climate adaptation needs of businesses and even the existing programmes which are tailored for business growth lack a climate lens to build the resilience of businesses. For instance, the project 'Start and Improve Your Business'²³ is an enterprise development programme introduced by the ILO with the support of UNDP Nepal, Ministry of Industry of Nepal and other organisations.²⁴ The project aims to build the capacities of budding and existing micro enterprises on various thematic areas and has impacted a sizable number of individuals/communities. The initiative has the potential to build adaptive capacities of the participants towards climate change by incorporating various themes such as riverbed farming, cropping techniques, drought resilient crop varieties and soil moisture conservation methods into their training curriculum.



²³ SIYB Nepal- who we are. Retrieved from SIYB Nepal website. Available at: <https://siybnepal.iedi.org.np/who-we-are/our-partners/>
²⁴ SIYB Nepal- our partners. Retrieved from SIYB Nepal website. Available at: <https://siybnepal.iedi.org.np/who-we-are/our-partners/>

2. Climate change and Nepalese businesses



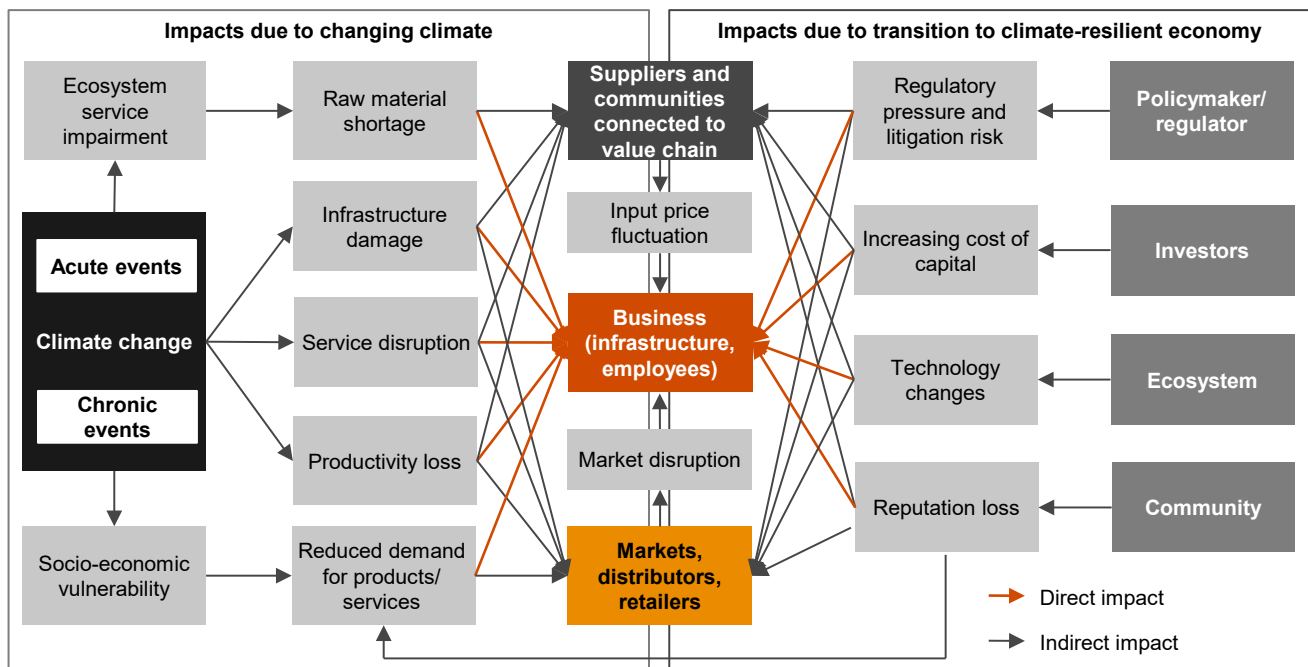
We are being punished for the crime we never committed. Developed countries must help check the effects of global warming on the Himalayas.²⁵

- Deepak Bohara, Former Forest Minister, Nepal

Businesses are exposed to complex challenges due to climate change. Many of these risks arise from extreme weather events and long-term shifts in climate patterns (referred to as physical risks). Some risks also arise when businesses shift towards adopting climate-resilient strategies through changes in policy and regulatory framework, the evolving technological landscape and market responses (referred to as transition risks).

As illustrated in the World Economic Forum and PwC's white paper 'Accelerating Business Action on Climate Change Adaptation', climate change impacts can be observed across the value chain of the business – sometimes directly on business operations (Figure 5). The effect of climate change can also be noticed on the upstream and downstream value chain partners and on the communities on which businesses depend for workers, raw materials and natural resources.²⁶

Figure 5: The impact of climate change on businesses



Source: The World Economic Forum, 2023. 'Accelerating Business Action on Climate Change Adaptation'

Climate change may lead to other challenges such as gaps in governance and poor infrastructure which Nepalese businesses are already grappling with. As a result, businesses which are operating in Nepal are highly vulnerable to climate change and risk facing economic losses which can impact their financial performance and long-term sustainability.

²⁵ Sharma, G., 2009. Nepal cabinet meets at Everest to send climate message. Available at <https://www.reuters.com/article/us-nepal-cabinet-everest-idUSTR5B30SH20091204>

²⁶ The World Economic Forum, 2023. "Accelerating Business Action on Climate Change Adaptation". Available at <https://www.weforum.org/whitepapers/accelerating-business-action-on-climate-change-adaptation/>

2.1. Climate impacts on key industries

Various climate events can impact businesses by damaging the infrastructure, disrupting the supply chain and affecting the health and well-being of the employees. These changes can further influence consumer and investor preferences and alter the regulatory environment of the country. Increased expenditure, decreased asset value and credit worthiness can also affect the long-term operations of business in a particular region.






Nepal is an agrarian economy and a majority of the country's workforce is engaged in agriculture activities. The services sector in the country contributes to more than two-thirds of GDP of basic value while the primary and secondary sectors contribute approximately 25.5% and 13.1% respectively.²⁷ The climate risk exposure of the industries depends largely on the nature of their activities though the effect of climate change is felt more by businesses which rely on natural resources. For example, cement and hydropower plants in Nepal are water-intensive sectors which makes them extremely vulnerable to climate change and the decline in water supply not only impacts their production but also has a cascading effect on the entire value chain.

An overview of how different industries in the country are impacted by climate change is given in Figure 6.

Figure 6: The impact of climate change on industries

Energy	Services (Health)	Services (Banking and financial services sector)	Services (Retail)	Tourism
Variation in rainfall, floods, erosion, landslides, storms	Hot and cold waves, floods, erosion, landslides, storms	Landslides, floods, erosion, storms	Landslides, floods, erosion, storms and hot and cold waves	Landslides, floods, erosion, storms temperature variation
<ul style="list-style-type: none"> • Risk to energy security due to the variation in water availability which has direct impact on power generation • Disruption of service and recurrent repair and maintenance costs due to damage to transmission and distribution and energy transfer infrastructure • Higher energy demand due to change in customer heating and cooling needs 	<ul style="list-style-type: none"> • Rise in vector-borne diseases (Chikungunya, Dengue Fever, etc.), heat-related morbidity and mortality, malnutrition and mortality and injury due to climate induced disasters • Higher demand for health services which exerts greater pressure on health infrastructure 	<ul style="list-style-type: none"> • Infrastructure damage caused by climate change significantly devalues investments, which leads to higher credit and insurance risks for banking and finance sector 	<ul style="list-style-type: none"> • Disruption of supply chain due to impacts on other sectors such as manufacturing, and agriculture and forest-based industries • Variation in extreme temperatures will lead to higher energy demands to meet heating and cooling needs in the retail establishments 	<ul style="list-style-type: none"> • Lower tourist inflow due to reduced attractiveness of travel destination in Nepal • Challenges in accessing tourist destinations due to the damage to infrastructure such as roads, tourist sites reduce • Tourism activities will become more expensive due to higher energy expenses heating and cooling needs, and the reduced availability of raw materials for restaurants.

²⁷ Government of Nepal. 2022. Economic Survey of Nepal (2022). Available at: https://www.mof.gov.np/uploads/document/file/1674635120_Economic_Survey_2022.pdf

 Agriculture and forest-based	 Manufacturing	 Mines and minerals	 Construction	 Information and communication technology
Variation in rainfall, flooding of cultivated area, landslides and erosion	Hot and cold waves, floods, erosion, landslides, storms, energy/water shortage	Hot and cold waves, landslides, floods, erosion, storms	Landslides, floods, erosion, storms and hot and cold waves	Landslides, floods, variation in temperature, erosion, storms
<ul style="list-style-type: none"> • Direct and indirect impacts on crop and livestock production and their quality • Resultant impact on raw material availability which in turn causes input price fluctuations 	<ul style="list-style-type: none"> • Negative impact on production levels due to climate change induced water and energy shortage • Damage to physical assets resulting in higher repair cost burden • Disruption of movement of raw materials and finished goods • Worker productivity loss due to difficult working conditions • Higher energy demands as heating and cooling requirements may change 	<ul style="list-style-type: none"> • Risks to production in mining industry due to climate change induced energy/water shortage • Recurring repair costs due to damages to mining infrastructure • Worker productivity loss due to difficult working conditions 	<ul style="list-style-type: none"> • Delay in transporting raw materials to construction sites due to damage to transport infrastructure, which are associated with costs • Raw material supply is a challenge due to climate impacts on mining and manufacturing sectors • Worker productivity loss due to difficult working conditions 	<ul style="list-style-type: none"> • Damage to ICT infrastructure disrupts service quality and availability • Recurrent repair and maintenance cost • Overheating in data centres leading to higher operational business costs to meet air conditioning requirements

Source: PwC analysis

2.2. Factors contributing to climate risk

The severity of climate impacts varies from one business to another within sectors and sub-sectors as well. Some of the determining factors for this are:



Size of operations

SME businesses have limited resources and lack the capacity to assess and manage climate risks which makes them highly vulnerable to climate change. In Nepal, SME businesses collectively form the majority of the total registered businesses and provide employment to a many people in the country.²⁸ According to the 2018 National Economic Census, in 2018, there were 9,23,356 establishments operating in Nepal, about half of which were registered. 2.74 million individuals were employed in the SME sector with 69.3% of those working for micro, 25.2% for small, and 5.5% for medium-sized businesses.^{29, 30}



Geographic footprint

The geographic location of a business is often one the primary factors which determines the level of climate risk. For instance, businesses located in areas with higher exposure to extreme events such as floods or landslides are likely to be affected more by climate change. Several districts of the Bagmati province – a province which contributes to more than one-third of the country's GDP – are identified to be at a high risk from climate change. Many parts of the province are most likely to experience incidences of climate extreme events in 2030 even in moderate scenarios of emissions growth.^{31, 32}



Technical skills and resources

Businesses in Nepal face constraints related to limited technical resources and experience. The extent of digitalisation in the country is also limited. This is especially true for SMEs. Understanding and managing climate risks requires technical knowledge and skills in the absence of which the vulnerability of businesses is high and adaptive capacity is low.

²⁸ Government of Nepal, 2021. Economic Survey of Nepal (2021)

²⁹ Government of Nepal, 2018. National Economic Survey of Nepal (2018) available at: https://nepalindata.com/media/resources/items/12/b4_NEC2018_Final_Results_National_Report_No._1-1_190625.pdf

³⁰ United Nations. 2020. Micro, Small and Medium-sized Enterprises' Access to Finance in Nepal, Available at: <https://www.unescap.org/resources/micro-small-andmedium-sized-enterprises-access-finance-nepal>

³¹ Government of Nepal, 2021. Economic Survey of Nepal (2021)

³² Government of Nepal, 2021. Vulnerability and Risk Assessment and Identifying Options: Summary for Policymakers. Available at <https://reliefweb.int/report/nepal/vulnerability-and-risk-assessment-and-identifying-adaptation-options-summary-policy>

2.3. Current level of awareness among Nepalese businesses regarding climate crisis

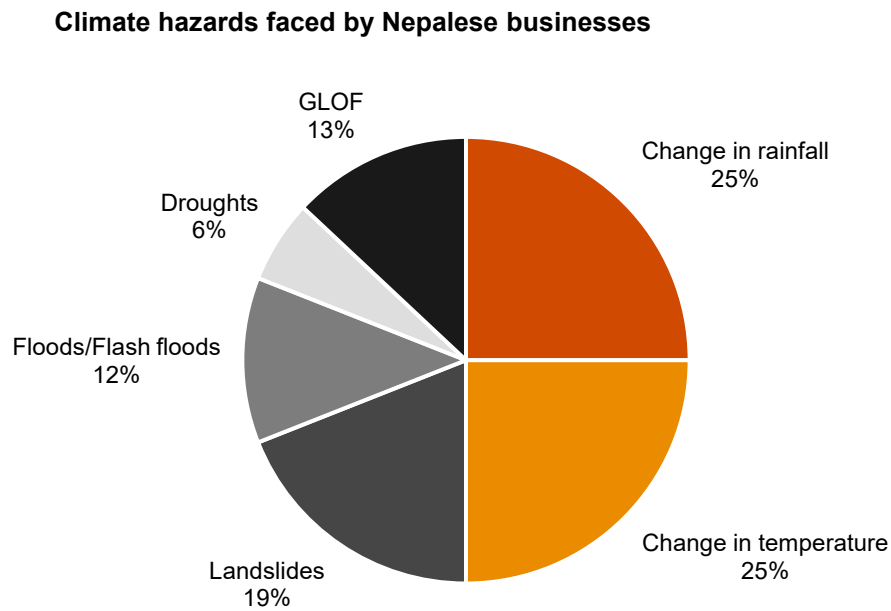
Consultation with key stakeholders

PricewaterhouseCoopers (PwC) in collaboration with the Confederation of Nepalese Industries (CNI) organised virtual roundtables as well as in-person meetings with approximately 45 representatives across different companies and sectors. Further, an online survey was conducted which saw participation from 10 companies from the tourism, agribusinesses, healthcare, energy, hospitality and consumer products sector.

Consultative meetings were also held with stakeholders from government, multilateral agencies and civil society to gather insights on specific climate impacts, risks faced by businesses and possible solutions.

Nepalese businesses are increasingly becoming aware of climate change and its impacts on their operations. Majority of the industry participants reported that they have felt climate change impacts on their businesses and change in temperature and rainfall were the key climate hazards faced by them (Figure 7).

Figure 7: Response of stakeholders to climate change events which are affecting their business



Source: PWC-CNI survey

Nepalese businesses and climate impacts – Learnings from the stakeholder consultations held as part of this study



Experience of the hotel industry

Travel and tourism industry is integral to Nepal's economic development as the country is home to eight out of the ten highest mountains in the world. The tourism industry of Nepal is famous for adventure sports such as trekking, rock-climbing and river rafting, and hosts thousands of adventure seekers who visit the country for special treks to the Mount Everest. However, climate change has affected this as well as variations in the temperature has impacted high altitude tourist activities and subsequently reduced the popularity of Nepal as a travel destination.

A participant representing the hotel industry in the stakeholder's consultation discussed how climate change is affecting the travel and tourism industry and his business. Kalinchowk, where his hotel is located, is famous for winter tourism and is visited by tourists who come to see snow covered mountains. Organising hikes and treks is a source of revenue for the hotels in the region. In the last few years, snowfall has reduced during winters and the weather has also become unpredictable due to which, bookings have gone down and cancellations have become quite common. The declining inflow of tourists is leading to revenue loss for the hotels and tour operators in the area and affecting the livelihoods of the people of the tourism industry.

The participant believes that there is a pressing need for investing in climate risk assessment modules for building the capacity of businesses such as his. He also urged the government to step in and introduce municipal level climate adaptation plan for small businesses.



Experience of the handicraft industry

Nepal's handicraft industry provides employment and entrepreneurial opportunities to many people in the country. Increasing climate change can disrupt the operations of SME industries.

An owner of a handicraft factory, discussed how excessive rains due to climate change in Nepal impacts her business. Her business is dependent on forests for raw materials such as tree bark, resin and wood. Excessive rains cause landslides and damage forests which reduces the supply of raw materials and increases the price of the products. The handicraft industry is already struggling due to inflation and lack of labour are finding it difficult to sustain their business as increasing the price of the products further declines the possibility of sales in a market which has low demand of handmade items.



Experience of the food and beverages industry

During the stakeholder consultation, a representative from a leading food manufacturing company provided insights into the specific climate related challenges the company is currently facing. According to the participant, the company sources approximately 75% of wheat locally from Nepal and the remaining 25% is imported from India. The participant shared that in the recent years, wheat production has declined in Nepal due to factors such as heat waves and unseasonal rain which has caused a shortage in wheat supply for the company by approximately 20–25%. As the company's reliance on imported wheat increased, India imposed a wheat export ban due to a decline in their own production. Since the ban led to a severe shortage of raw materials, the company now keeps a buffer stock of approximately nine months instead of the three months.

The increase in buffer stock quantity has led to an almost three-fold increase in the working capital and an increase in the warehousing cost as the company has rented additional space and set up storage facilities. They also diversified their suppliers as they now have to source a larger volume of raw materials. Conducting quality checks for multiple suppliers has further increased to their operational cost. The representative also discussed how labour productivity is affected by heat waves, and raw material movement and last mile of products are affected by landslides and recurrent floods which damage the transport infrastructure.

3. Role of Nepalese businesses in climate adaptation



Climate change is the single greatest threat to a sustainable future. But, at the same time, addressing the climate challenge presents a golden opportunity to promote prosperity, security and a brighter future for all.³³

– Ban Ki-Moon, Former Secretary-General of UN

In the past, businesses focused mainly on reducing their GHG emissions. However, as the intensity the impact of climate change is increasing, companies are realising the need to adapt to climate change for their long-term growth. Businesses are modifying their approach to climate change by adapting and mitigating impacts to achieve net zero emissions and improve their value chain to become climate resilient.

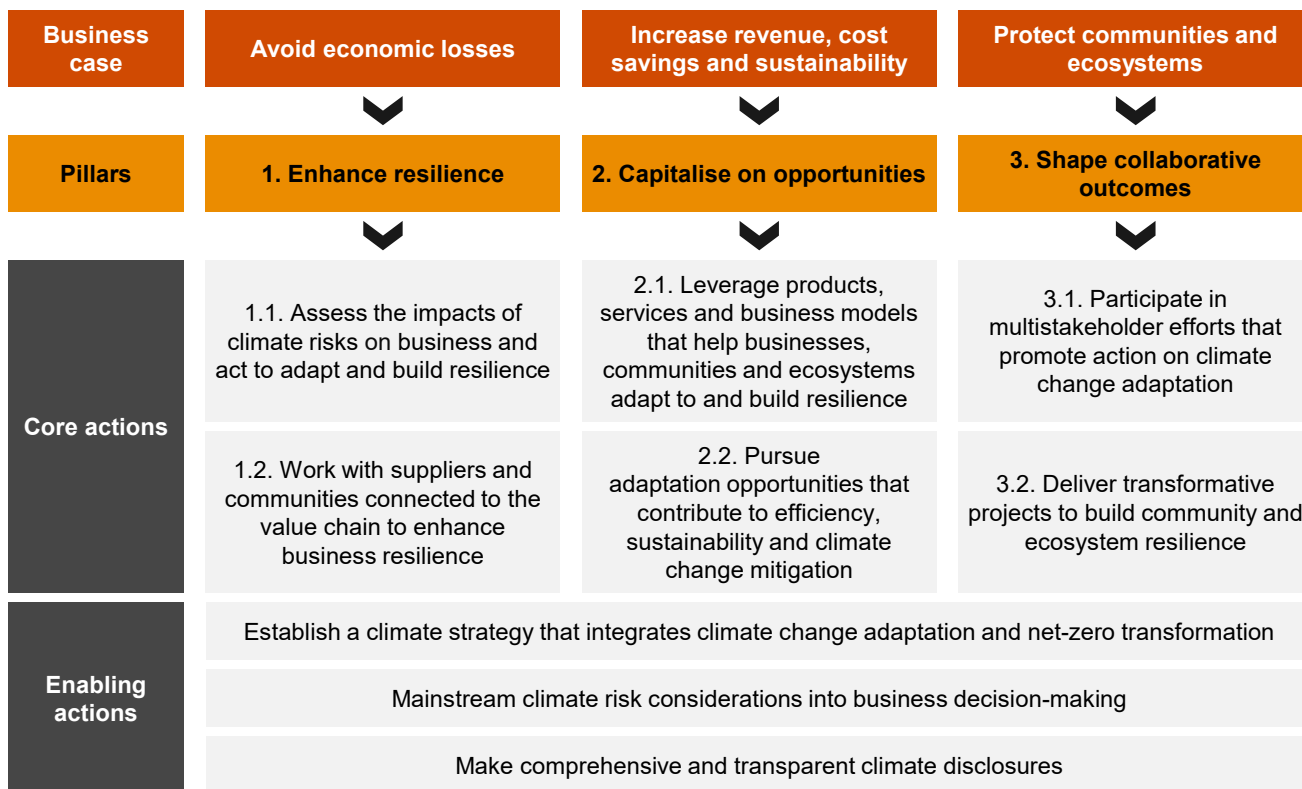
Businesses are using scientific methods to assess climate risks and opportunities and developing strategies to address them. Several companies across sectors are beginning to mainstream climate risk considerations into business decision making and establishing climate change-related policies, goals, targets and practices within their businesses. There is a shift towards taking a holistic approach to climate change, and comprehensive and transparent climate disclosures are becoming more common.³⁴ Additionally, businesses are working on supporting communities and ecosystems to combat climate change. However, adapting to climate-related changes is not being practiced as widely as mitigation strategies as many businesses are not aware of the business opportunities and benefits which can arise from climate adaptation.

To catalyse business action on adaptation, the World Economic Forum in collaboration with PwC has developed a framework for business action on adaptation (Figure 8) which provides a structured approach to guide decision making on the subject. According to this framework, businesses can pursue actions around three pillars. Firstly, they can enhance the resilience of their business by assessing and managing risks to their operations and value chain. Secondly, businesses can capitalise on opportunities thereby, achieve revenue gains, cost savings and sustainability outcomes. Lastly, businesses can play a role in shaping the collaborative efforts of various sectors as adaptation requires a system wide response.

³³ United Nations, 2014. Secretary-General's remarks at Climate Leaders Summit. Available at <https://www.un.org/sg/en/content/sg/statement/2014-04-11/secretary-generals-remarks-climate-leaders-summit>

³⁴ The World Economic Forum, 2023. Accelerating Business Action on Climate Change Adaptation. Available at <https://www.weforum.org/whitepapers/accelerating-business-action-on-climate-change-adaptation/>

Figure 8: Framework for business action on climate adaptation



Source: The World Economic Forum, 2023. 'Accelerating Business Action on Climate Change Adaptation'

3.1. Opportunities for Nepalese businesses

In the last two decades, Nepal’s private sector has played an important role in driving the economic growth of the country and this sector, which is projected to further expand in future, may increase the developmental benefits of the country in the coming years. However, businesses are not immune to the impacts of climate change, which can impact the growth of both business and economy at large. This necessitates the involvement of the private sector in the climate adaptation efforts of Nepal. Which can be done in two ways:

- Businesses can adapt themselves to climate change to minimise risks.
- They can contribute to both community and ecosystem-level adaptation efforts to support national development priorities which will help their long-term viability.


3.1.1. Adaptation as a risk mitigation strategy

Businesses can implement adaptation measures within their operations and beyond to minimise risks and enhance their climate resilience. This way of looking at adaptation as a risk mitigation strategy will allow business continuity and long-term viability by:

Reducing operational risks	Protecting the value chain
Investment in adaptation actions will reduce the vulnerability of their facilities and people to climate change impacts and ensure business continuity. Moreover, it will reduce damage to their assets and infrastructure and avoid loss of productivity.	Building climate-resilient value chain will reduce the exposure of businesses to climate risks by ensuring a reliable supply, quality of raw materials and continuity of transportation services.

By minimising operational risks and protecting their value chain, businesses will:

Avoid financial losses	Reduce reputational damage
Adaptation measures taken by businesses help avoid climate-induced financial losses such as loss of revenue, depreciation of asset value and increased insurance premiums.	Investors and consumers often expect businesses to take greater responsibility in addressing climate change-related issues. Failure to do so may result in loss of reputation.



Case studies: Businesses enhancing their climate resilience by de-risking operations and value chain

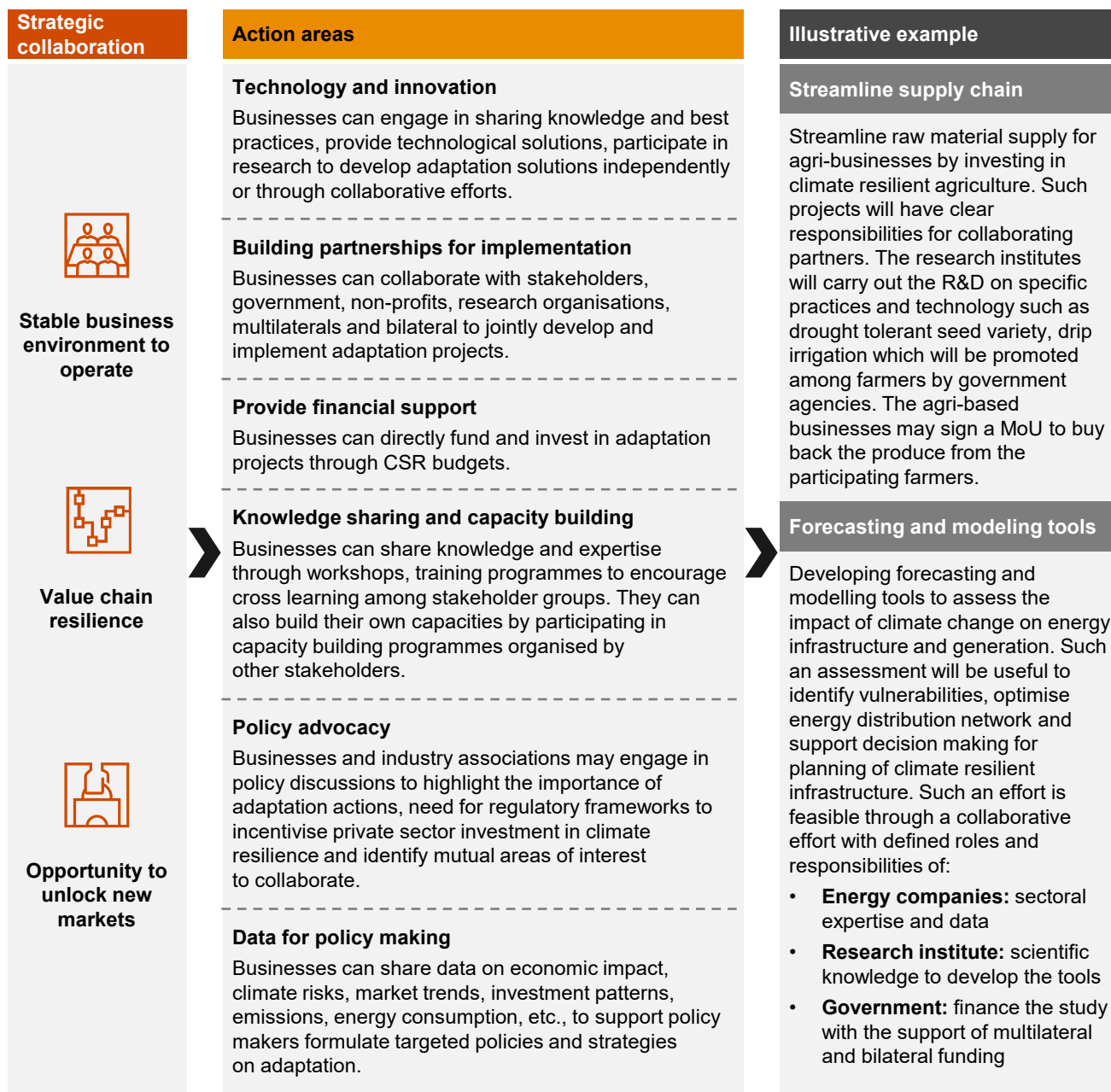
Vedanta Limited³⁵ – a leading global natural resources conglomerate operating across India, South Africa, Liberia and Namibia – has conducted a physical risk assessment of all their business units to evaluate the impact of climate change on their operations. Based on the results, the company has identified specific adaptation measures to address the risks their businesses face. Furthermore, Vedanta has started to evaluate the effects of climate change on the local communities residing near its operations and identified adaptation measures for the existing CSR programmes to enhance their adaptive capacity. These solutions will be implemented across multiple sectors namely water security, education, and livelihoods.

³⁵ Vedanta Limited. 2023.TCFD Climate Change Report (2023)- Available at: <https://www.vedantalimited.com/uploads/investor-overview/annual-report/TCFD-Report-FY23.pdf>

3.1.2. Supporting country-level adaptation efforts

Adaptation requires a holistic approach that cuts across sectors and addresses underlying structures that perpetuate vulnerabilities. Multi-stakeholder efforts, therefore, are crucial. Stakeholders should join hands to mobilise the required financial resources, technical expertise and innovative thinking to implement and scale up adaptation actions. Businesses can support and complement the adaptation efforts of the country that will help them manage risk, ensure business continuity and foster innovation. In this regard, activities in the following areas may be undertaken by private sector entities to contribute towards country-level adaptation.

Figure 9: Supporting country-level adaptation efforts – action areas for business



Businesses can benefit from strategic collaborations in the following ways:

Stabilising business environment to operate	Building value chain resilience	Unlocking new market opportunities
<p>Adaptation actions such as structural/physical measures, technological solutions and ecosystem management practices reduce risks to climate impacts thereby, creating a predictable environment for businesses to operate. For instance, climate-smart transport infrastructure reduces costs by allowing easy movement of raw materials and finished goods.</p>	<p>Businesses are dependent on inputs from local communities and ecosystems for sustaining their operations and supply chain to provide various goods and services. Disruption of these systems has a significant impact on the continuity of businesses. For instance, degradation of natural resources due to climate change can lead to the shortage of raw materials. Therefore, investing in resilience building of the larger community and ecosystems becomes important for safeguarding the businesses' value chain.</p>	<p>Country-level adaptation programmes address specific needs that have emerged from climate change impacts. Businesses can contribute their resources, expertise and innovation to develop products, services and technologies aligned with the objectives of these programmes to open up new market opportunities and drive economic growth. For instance, construction businesses can provide their services to design and implement nature-based solutions such as green infrastructure projects and develop climate smart construction material.</p>



Case study: Building resilience of Nepal’s agriculture sector through multi-stakeholder partnership between agribusinesses, farmers, government and international donors

Nepal’s climate resilient agriculture project, under the broader IFC-PPCR project (2013–2017) exemplified collaborative efforts to enhance resilience of the agriculture sector. This project focused on engaging private sector government, farmers and multilateral organisations to strengthen the sector’s ability to address climate change impacts.

The project activities included enhancing the skills and knowledge of participating agribusinesses from sugarcane, rice, and maize processing and on improved agronomic practices. These businesses received capacity building, and in turn trained 15,000 farmers growing rice, sugarcane and maize in their supply chains on agronomic practices. They also provided stress-resilient seeds, irrigation technologies and fertilisers to farmers.³⁶

Government bodies such as the Ministry of Science, Technology and Environment and several other agencies played oversight roles and were also involved in the monitoring, coordination and implementation of project activities at the grassroots level. They were also responsible for carrying out quality checks of the inputs provided by the agribusinesses. Financial support and technical assistance were provided by the PPCR, a multi-donor adaptation programme within the CIF and the IFC.

These businesses gained financially from this project by establishing a reliable supply of crops and improving crop quality. Furthermore, multiple roles of the agribusinesses as training providers and input/technology dealers also led to strategic benefits, as it helped reduce the number of intermediary buyers in the supply chain and strengthen their relations with farmers. Climate resilience of farmers due to improved farming practices through the project can potentially help them earn higher incomes in the long run.

³⁶ <https://climatepolicyinitiative.org/wp-content/uploads/2013/12/SGG-Case-Study-Pilot-Program-for-Climate-Resilience-in-Nepal.pdf>

3.2. Current level of adaptation action by Nepalese businesses

In Nepal, majority of the businesses are still at a nascent stage of their climate adaptation journey where information about climate change and its impacts on operations and financials of businesses are largely unknown. Adaptation by businesses is currently an ad-hoc exercise, as various measures are implemented in response to a particular disruption due to climate change impacts, rather than developing a comprehensive approach to adaptation.

During the stakeholder consultations, it was observed that the majority of the participants have not conducted a scientific risk assessment to evaluate their climate risks, nor have they disclosed their climate-related information. None of the participants have implemented any measures to adapt to climate change impacts. However, more than half of the participants (55%) did have plans for making such investments in future, around logistics and infrastructure management, integrating climate change strategies into business continuity plans, and introducing sustainable business practices.³⁷

There are a few notable businesses that have undertaken actions to reduce their losses. Such actions are either at **the business** level or routed **through associations, federations and networks of private companies**. Some of the key adaptation actions are discussed in Table 3.

Table 3: Current level of adaptation action by Nepalese businesses³⁸

Area of action	Description
Investment in technology	Several stakeholders in climate-sensitive economic sectors such as agriculture, energy, forestry and tourism have invested in technologies to systematically gather and communicate meteorological information in advance to plan climate adaptation activities accordingly. For instance, industry associations such as CNI and FNCCI have supported interventions on early warning systems for hazards such as floods, forest fires and GLOFs. to support sectoral activities such as harvest planning, logging, and transportation in forestry sector and crop planning in agriculture.
Resource sharing	Resource sharing at an industry level is an important adaptation action for businesses in Nepal. This is facilitated by the country's industry bodies such as associations, federations and networks of private sector to encourage cooperation within businesses to address common climate change issues and build resilience. For instance, the IPPAN supports technologies exchange, knowledge and expertise sharing, linkages with the insurance company, information sharing among its members or the independent power producers.
Awareness-raising and capacity building	Few businesses have undertaken awareness raising sessions for the staff about climate change and new technologies to reduce climate impact. Actions in this area are carried out by both individual businesses and industry bodies for its members.
Dialogue with the government	Dialogue with the government on climate change-related challenges and solutions are initiated by industry-level bodies to improve policies in the context of climate change and establish multi-sectoral collaboration on adaptation. Industry-level bodies such as IPPAN, CNI and FNCCI play a crucial role in order to liaison with different stakeholders and coordinate between them.

³⁷ PwC analysis

³⁸ Association of Family Forest Owners, Nepal, 2022. Stocktaking of private sector engagement in climate change adaptation business in Nepal. Available at: [http://www.dropbox.com/s/2t6i5m0eauuc2v6/Stocktaking%20of%20PS%20Engagement%20in%20CC%20Adaptation%20in%20Nepal-NAP%20MU-AFFON%20PDF-%2020220218%20\(First%20Revision\).pdf?dl=0](http://www.dropbox.com/s/2t6i5m0eauuc2v6/Stocktaking%20of%20PS%20Engagement%20in%20CC%20Adaptation%20in%20Nepal-NAP%20MU-AFFON%20PDF-%2020220218%20(First%20Revision).pdf?dl=0)

Area of action	Description
Climate-induced disaster risk reduction and management	Some Nepalese businesses have incorporated disaster risk reduction and management into their CSR and philanthropic endeavours.

3.3. Challenges faced by Nepalese businesses

Although climate change poses significant material risks for businesses in the country, many companies are yet to recognise the reality of the impact of climate change. As a result, they are yet to implement or even plan for any adaptation measures to reduce these risks. Even among the companies who acknowledge the issue, action areas are often limited to selective measures such as investing in logistics management and protecting infrastructure. An integrated approach, wherein adaptation strategies are mainstreamed into business strategy, model, systems and processes, is not a common practice yet. In terms of building community resilience, majority of the respondents (55%) said they do not engage with communities.³⁹

There are several challenges that Nepalese businesses face that limit action on adaptation. These are discussed below:

Limited awareness and knowledge	Lack of access to data and information	High cost of adaptation intervention and lack of clarity on return on investment (ROI)
Limited awareness and understanding of climate change's impacts on business among business executives, the board and the investors is a significant challenge for Nepalese companies to identify and implement appropriate adaptation solutions.	Even if technical knowledge and expertise is available within the company, access to reliable scientific data is a challenge for businesses to support decision making and effective long-term planning.	High costs associated with adaptation solutions such as building climate-resilient infrastructure, flood protection structures, and others are severe constraints for businesses to implement adaptation measures – especially the SME sector, which has limited resources. Limited knowledge regarding climate risks and benefits of adaptation action makes it difficult for business to estimate return on investment. Lack of data further contributes to this challenge. In the absence of strong business case, businesses find it difficult to access finance for adaptation investments. Financial institutions, including MDBs, look for robust business cases for adaptation investments.

³⁹ PwC analysis

Limited financial products that support adaptation	Lack of knowledge regarding financing options and modalities	Scale-related issues due to fragmented supply chain
There are no financial products that businesses can opt for to finance adaptation interventions. This is because financial institutions do not have a comprehensive understanding of the adaptation needs of businesses. This limits their ability to design effective financing programmes, schemes or products that focus on adaptation action for the business.	Although international funds supporting adaptation action are available, Nepalese businesses are not aware of these options. The process of accessing them is highly complicated and has several prerequisites such as a strong business case and qualifying criteria. Nepalese businesses have limited understanding of these processes and requirements to access such funding opportunities.	Given the scale of operations and fragmented nature of the supply chain, businesses in Nepal find it cumbersome and financially unviable to invest in adaptation interventions for their suppliers.

Lack of clarity regarding role of business in building community resilience	Policy related	Lack of dialogue
Businesses are unaware of the importance of building community resilience and how it can be linked to strengthening their own readiness to tackle the impact of climate change on their business. They do not see any role for themselves to combat climate impacts at the community level.	A few respondents (11%) during the stakeholder consultation pointed towards insufficient government support to scale their actions on community resilience building. ⁴⁰ Nepal has established a broad climate change policy framework, but it has little scope to engage the private sector. While many policies emphasise leveraging private sector capacities to design and implement adaptation solutions, there are no clear pathways defined to operationalise such engagements. Similarly, the current framework does not offer any incentives or support for the private sector to undertake adaptation measures.	Nepal has a few institutional coordination platforms such as the Industrial Promotion Board and Nepal Business Forum in place to encourage interaction between the industry and policymakers. Nepal also has industry associations such as CNI and FNCCI, which work as the voice of businesses in Nepal and facilitate building an environment that is favourable for growth and sustainability of businesses. However, climate change is not a priority for discussion on these platforms. As a result, there is no dialogue between businesses and policymakers or among businesses.

3.3.1. Differential effects on SMEs

As discussed earlier, SMEs bear the disproportionate brunt of climate impacts due to the size of their operations and limited technical skills and resources. Nepalese SMEs face the same challenges (as discussed in the last section), but with greater intensity due to broader societal vulnerabilities and regional, institutional, regulatory, infrastructural and technological factors. They also have limited opportunities for adaptation beyond their immediate environments.

The SME sector forms the base of the private sector pyramid. Many large companies work in accordance with MSMEs for running their business operations. Hence, it becomes crucial to safeguard MSMEs and tie it to the upper levels of private sector stakeholders to have sustainable adaptation measures practiced in the country.

⁴⁰ PwC analysis

4. Roadmap to build the resilience of Nepalese businesses

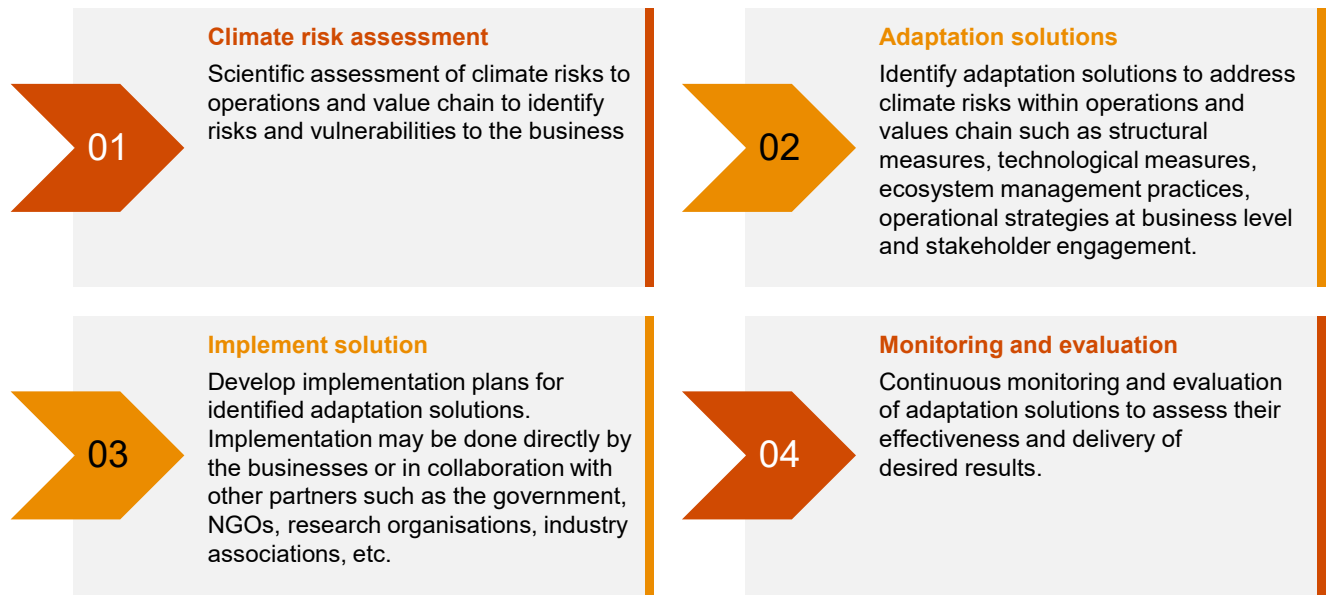


An LDC, Nepal is making sincere efforts to balance the development and climate actions. We have mechanisms to ensure that international climate finance is channeled to support transformational approaches in implementing adaptation, mitigation and disaster management actions together.⁴¹

– Rt. Hon. Prime Minister Sher Bahadur Deuba at COP 26

It is essential to climate proof businesses for the development of the country. For this, businesses should consider adaptation as a risk mitigation strategy. There are number of actions that Nepalese businesses can implement as part of its business practices for this strategy. These actions can be broadly categorised into – assessment of climate risks, identification of adaptation actions, implementation of adaptation actions, and monitoring and evaluation – as illustrated in Figure 10.

Figure 10: Adaptation plan for Nepalese businesses



A company-level adaptation plan should be developed which covers the different strategies and measures business would take to manage or mitigate climate risks. Business must commit resources towards each of these components to build their internal capacities for designing and operationalising adaptation plans in the short and long term. Such planning must be integrated across business functions and organisation layers.

The identified measures must reflect the nature of the risk and the magnitude of impact and should include structural/physical measures, technological solutions and ecosystem management practices as well as operational strategies.

⁴¹ https://unfccc.int/sites/default/files/resource/NEPAL_cop26cmp16cma3_HLS_EN.pdf1

Table 4: Illustrative examples of adaptation measures

Type of adaptation measures	Illustrative examples
Structural/physical measures	<ul style="list-style-type: none"> Engineering and building environment measures such as flood levees and culverts, and improved drainage which can protect buildings from flood damage.
Technological solutions	<ul style="list-style-type: none"> Water conservation and energy efficiency measures which can help businesses in reducing the impact of water and energy shortages.
Ecosystem management practices	<ul style="list-style-type: none"> Climate smart agricultural practices, water management practices and biodiversity protection measures could contribute to protecting the crop and enhancing the yield.
Operational strategies at business level	<ul style="list-style-type: none"> Maintaining buffer stocks will help address raw material shortage and input price fluctuations. Opting for crop insurance will help recovery from extreme weather events. Better workplace conditions including heating/cooling will increase productivity of employees.
Stakeholder engagement	<ul style="list-style-type: none"> Engaging with stakeholders in the value chain such as distributors, customer, employees, suppliers and communities operating in the vicinity of business operations or connected to the value chain will help understand cascading impacts of climate change on everyone. Further, it will also help in identifying maladaptive actions implemented by the business for adaptation. Stakeholder inputs will help design the interventions in a manner the probable unintended negative consequences of adaptation actions could be avoided. This could include building their awareness, considering their inputs while conducting risk assessments and planning for adaptation, and implementing adaptation measures that benefits businesses as well as the stakeholders.

4.1. Approach for adaptation transition by Nepalese businesses

As discussed in Chapter 3, businesses in Nepal are still at a nascent stage when it comes to adapting to climate risks. Businesses appear to have different levels of maturity in terms of their understanding of the issue and the efforts they are making to address it. As a result, different businesses will take varied amount of time and resources to work on adaptation given their differential abilities.

Figure 11 presents an approach for adaptation transition by Nepalese businesses in their context. This approach provides a general guidance on the steps businesses can take to build their resilience and involves a two-step process as discussed below:

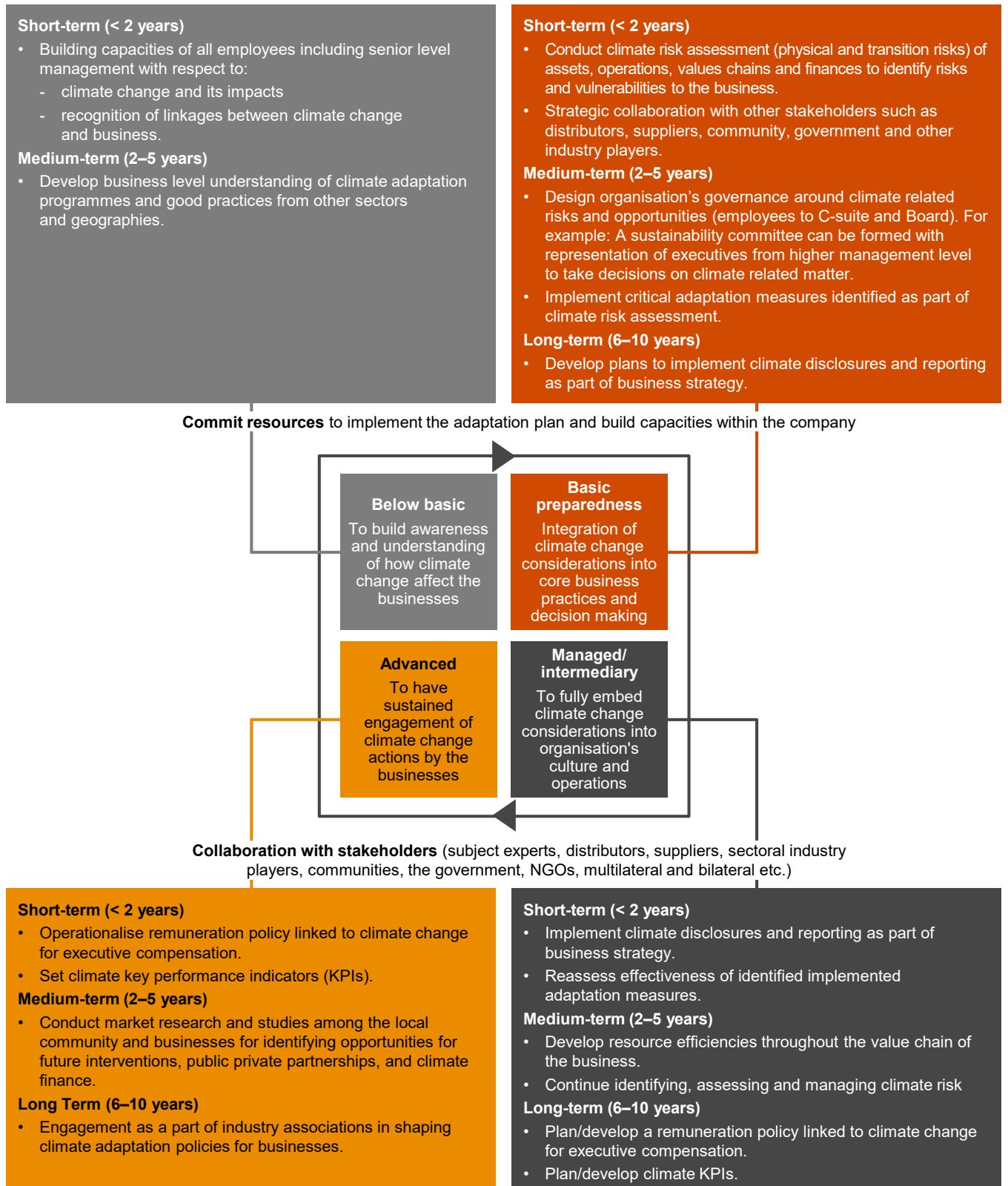
Step 1: Determine the maturity of the organisation: Businesses should assess where they stand in terms of their understanding of climate risks and actions to address the risks. Table 5 presented below summarises the characteristics of businesses and this could be used to determine the level of maturity of the business.

Table 5: Different levels of adaptation to climate risk

Level	Description of the stage
<p>Below basic</p> <p>Business has not undertaken any action on adaptation</p>	<ul style="list-style-type: none"> • Business lacks conceptual knowledge of climate change. • Business has no knowledge of how extreme weather events can impact them. • Business has no knowledge of climate change impacts pose physical and transition related climate risks to business. • Business has no knowledge of opportunities arising from adaptation that they can explore.
<p>Basic level of preparedness</p> <p>Business has basic level of awareness of climate change and its potential impacts to business</p>	<ul style="list-style-type: none"> • Business is aware of climate change and its impacts. • Business has identified climate threats affecting business. • Business lacks knowledge related to how potential risks could be mitigated or managed through adaptation actions.
<p>Managed/intermediary level of preparedness</p> <p>Climate change is formally recognised as an important issue and risks to business are identified and managed to some extent</p>	<ul style="list-style-type: none"> • Business has identified climate threats affecting business. • Business has identified adaptation actions to mitigate or manage climate risks • Business has established a climate governance structure and the board oversees management of climate related risks and opportunities • Business action on adaptation is limited to operations and does not cover risks to supply chain. • Business does not collaborate with communities, academia, research, multilaterals or government to engage on systemic adaptation.
<p>Advanced level of preparedness</p> <p>Climate change is fully embedded in the organisation's culture and operations</p>	<ul style="list-style-type: none"> • Business has incorporated the actual and potential impacts of climate-related risks and opportunities on the organisation's business, strategy and financial planning. • Business has developed an adaptation plan and allocated resources for its implementation. • Business as established processes to identify, assess, and manage climate related risks. • Business collaborates with communities, academia, research, multilaterals or government to manage climate risks.

Step 2: Identify the next steps to pursue adaptation journey: Once businesses determine the level of maturity, they can check if they have completed the steps for that level. Figure 11 presents the actions that are required from businesses for any particular level. Once they complete actions for the level they are at, they can transition to the next level by adopting actions/strategies required for that level. By following the gradual transition approach, businesses can enhance their ambition related to adaptation and enhance their preparedness to climate risks.

Figure 11: Approach for adaptation transition



4.2. Enabling actions to support the adaptation efforts of businesses

In order for businesses to develop their own adaptation plans to effectively manage and adapt to climate risks, an enabling environment which supports businesses in overcoming the challenges and scaling up their efforts is essential. Governments, development agencies and industry association such as CNI have a role to play in building such an environment. Given the challenges discussed in earlier chapters, enabling actions that could be pursued to support businesses fall in the areas of establishing an institutional coordination setup, awareness building and knowledge sharing, providing access to adaptation finance and facilitating collaborations and partnerships. The following sections discuss each of these in detail.

4.2.1. Private sector engagement platform for climate change adaptation

A multistakeholder institutional structure could play a great role in facilitating dialogue and collaboration among businesses and other stakeholders. It could also act as an engagement platform to enable knowledge sharing, awareness generation and capacity building, and partnerships. Hence, we propose setting up a private sector engagement platform for climate change adaptation in Nepal.

Objective: The platform may aim to strengthen collective response of businesses to climate change. They can do this by:

- enabling greater access to knowledge and information and building capacities of businesses
- facilitating dialogue to inform policy making
- forging multistakeholder partnerships to design and implement cross-sectoral adaptation initiatives.

Scope of activities: The platform may undertake the following activities:

- Develop flyers and communication products on climate risks, adaptation strategies, financing options and other related topics and disseminate these through print, electronic and social media.
- Conduct training sessions for business representatives on similar topics of interest to them.
- Organise industry roundtables and public-private dialogues.
- Prepare policy briefs and discuss key topics with government representatives.
- Develop project proposals and seek finance for adaptation initiatives.
- Convene multistakeholder groups to develop and invest in adaptation projects.

Membership: The platform may include representatives from the government at national, provincial and local levels, businesses, industry associations, MDBs, research institutions and civil society.

Governance structure: A government agency which oversees climate change action in Nepal may act as the central coordinating body and monitor the platform's functions. For instance, the Ministry of Forests and Environment which is the national focal point for UNFCCC or the Ministry of Finance which routes the flow of funds for climate action. This platform comprising a diverse group of stakeholders and a government agency will be ideal to coordinate the functioning of the platform as it is often perceived as a neutral entity and will enhance trust among stakeholders. Additionally, having a government agency will streamline the flow of funds from international donors as most multilateral, bilateral and development agency funds are routed through the government. The government agency could be supported by industry associations or representatives. Industry associations/groups may serve as the subsidiary organisation which will support the central coordinating agency by delegating its roles and responsibilities.

Operational structure: The platform may have three levels of operational hierarchy – at the top there could be a cross-sector and multistakeholder committee to provide strategic direction and oversee the functioning of the platform. Sector-specific working groups could be developed to identify topics for dialogues and opportunities for collaboration for key sectors/industries impacted by climate change. A research and knowledge support unit could provide input and support the operationalisation of these working groups. Lastly, project-level committees could be established once partnerships are agreed upon and projects are designed. An illustrative structure for this platform is presented in Figures 12 and 13:

Figure 12: Private sector engagement platform for climate change adaptation

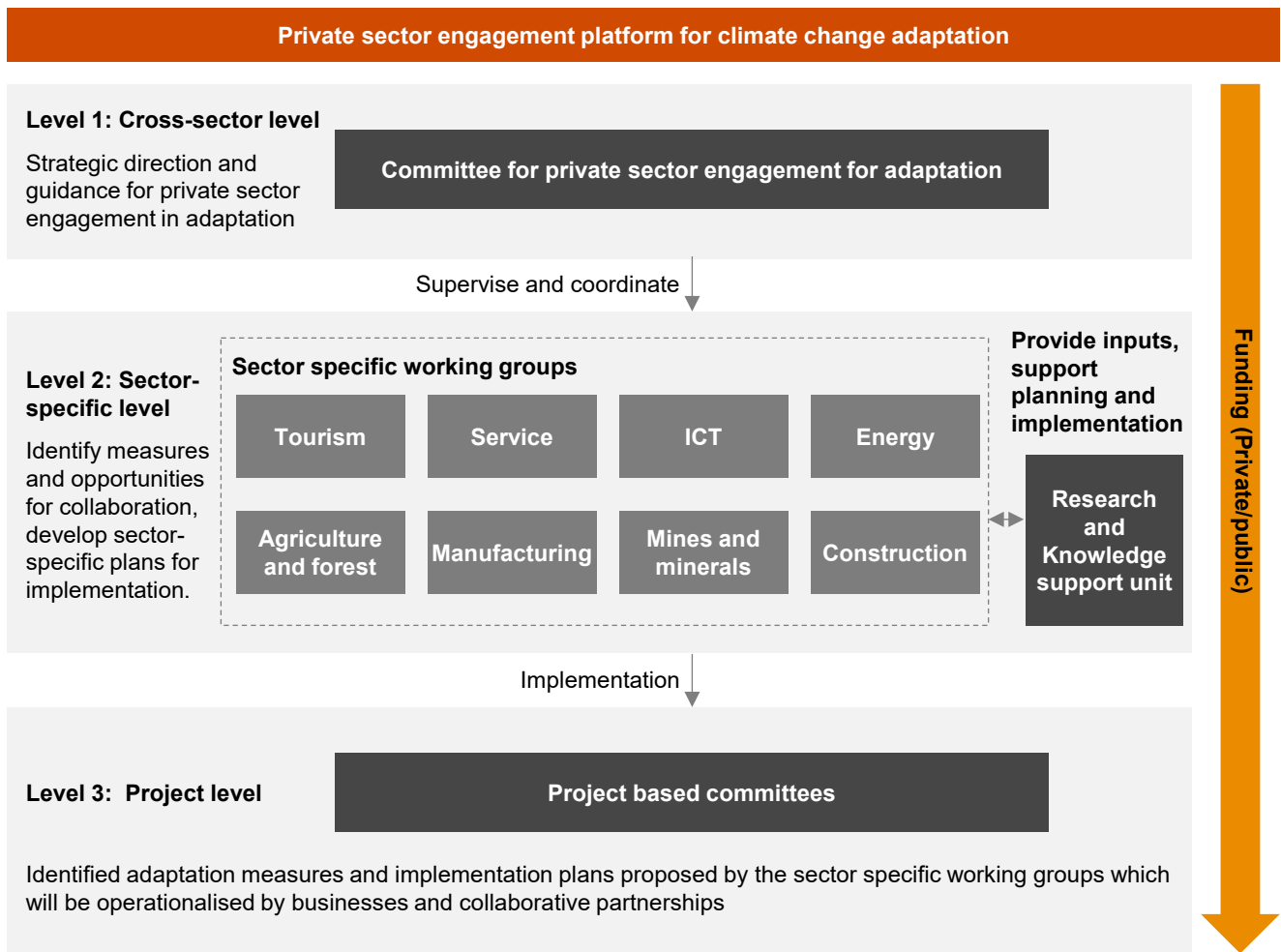




Figure 13: Description of the private sector engagement platform for climate change adaptation

Level 1: Cross-sector	
<p>Committee for Private Sector Engagement for Adaptation</p> <p>An overarching body responsible for strategic direction and guidance for private sector engagement in adaptation. This committee will comprise of representatives from private sector entities, industry associations, and relevant government departments, and will facilitate coordination, knowledge sharing and collaboration between different stakeholders.</p>	Frequency of meeting: Half-yearly
Level 2: Sector-specific	
<p>Sector-specific working groups</p> <p>The sector specific working groups will address adaptation needs and challenges in different sectors (agriculture and forest based, water, energy, tourism, service, manufacturing, ICT, construction and mines and minerals). These groups will consist of representatives from relevant government agencies, private sector entities, industry associations, research institutions, and non-profits. They will identify measures and opportunities for collaboration, develop sector-specific plans for implementation.</p>	Frequency of meeting: Quarterly
<p>Research and knowledge support unit</p> <p>This support unit, comprising of research institutes and academic organisations, will support the sector-specific working groups with scientific data and expertise to identify sector level challenges and develop adaptation solutions. This unit will conduct research on climate impacts, vulnerability assessments, and adaptation strategies specific to the sector. They will provide data, case studies and expert insights to the sector-specific working groups to guide decision-making and implementation planning.</p>	Frequency of meeting: Monthly

 Level 3: Project-level	<p>Project-based committees</p> <p>Project-based committees' will operationalise identified adaptation measures and implementation plans proposed by the sector specific working groups. Implementation will be carried out by:</p> <ul style="list-style-type: none"> • individual businesses, and/or • collaborative partnerships between stakeholders. 	<p>Frequency of meeting: Dependent on the nature of the project</p>
 Funding mechanism	<p>The platform may be financed through public and private sources. The government may allocate dedicated funds from the national budget to support this platform. Similarly, multilateral institutions could support activities at Level 2 and Level 3 through funding and technical support. Lastly, private sector entities and industry association may support the functioning of this platform through direct funds or partnerships in adaptation projects.</p>	<p>Frequency of meeting: Allocated across levels</p>

4.2.2. Open-source decision support system for adaptation

The significant limitations posed by insufficient financial resources, limited human capacity and knowledge, and a lack of a supportive policy framework collectively affects the ability of Nepalese private sector especially SMEs to identify and respond to climate risks to their businesses. In this context, government or international organisations may support Nepalese businesses by developing an open-source decision support system for adaptation.

An open-source, user friendly multi-hazard risk assessment tool could be useful for Nepalese businesses to support decision making and resource allocation for adaptation action. The assessment tool will help businesses develop a better understanding of the frequency, intensity, and distribution of climate hazards in Nepal and its impacts on their business and value chain as well as factors that contribute to their vulnerability. It will enable businesses to design effective and contextualised adaptation strategies to manage the identified risks. It can also help businesses in integrating climate change considerations into activities such as business strategy, investment planning and product development.

The 'Private sector engagement platform' proposed in section 4.2.1 could play a significant role in the development of this tool. The research and knowledge unit may take the responsibility of developing the tool while the sector-specific working groups may provide contextualised sectoral information and also help in the dissemination of the knowledge gained from using the tool.

The development and launch of the tool could provide an opportunity to build awareness on climate risks and the need for adaptation in the country. Awareness campaigns can be launched by businesses and both print and television media can play a role in running the campaigns.

4.2.3. Adaptation financing facility

Nepalese businesses require financing to invest in building their resilience to climate change. Financing should be available to them in the most economic and accessible manner. Establishing an adaptation financing facility for businesses may remove bottlenecks related to availability, accessibility and affordability of finance.

An adaptation financing facility may be established to finance adaptation projects by businesses. The facility may follow a consortium-based approach that brings together different stakeholders, including banking and financial institutions (BFIs) including venture capitalists, private equity (PE) firms, among others, MDBs, other development financial institutions (DFI), not-for-profits, government and the businesses.

The goal is to leverage the skills, networks, and resources of each stakeholder for financing and delivering systems or projects. This hybrid funding model would help in combining the strengths of the private sector, development assistance, and consortium-based networks resulting in enhanced efficiency and effectiveness of the businesses in Nepal. This approach would leverage the strengths and operational methods of three key actors – financing by different entities as mentioned above, facilitation through policies and regulations by the government for such investments to flow into Nepal with ease, and the efficient execution and delivery widely attributed to private sector by investing their own resources in climate adaptive inputs and technologies. This convergence would help in making businesses more adaptive and sustainable.

Simultaneously, the ‘funding mechanism’ proposed in the section 4.2.1 could play a significant role in enhancing the private sector investment. This platform would help in supporting activities at all levels (cross-sectoral, sector specific and project specific) by utilising the funds from the consortium for upgrading research, knowledge and technical expertise. Such a streamlined effort could lead to proper channelisation of funds for implementing various adaptation measures.

4.2.4. Multi-stakeholder adaptation initiatives for vulnerable Nepalese industries

Implementing adaptation initiatives at an operational level may not protect businesses from climate risks due to their dependence on natural resources. Working in silos does not deliver results and the efforts of different stakeholders could work against each other if they are not coordinated. Therefore, a systematic effort for investing in ecosystem level adaptation will help in pooling the resources and capabilities and businesses can work collectively towards a common goal of mitigating the impact of climate change on their operations.

Further, large scale multi-stakeholder adaptation initiatives for agriculture, water and tourism may be designed and implemented in Nepal. The sectors involved and the scope of the project may be determined keeping in mind the needs and priorities identified in the NDC and NAP of the country as well as the key risks to businesses. Private sector engagement platform may take the responsibility of identifying suitable project ideas, developing concept notes, convening partners, seeking finance, and overseeing implementation, monitoring, and evaluation. The adaptation facility discussed in section 4.2.3 may fund these initiatives.



5. Way forward

Climate change is a threat to businesses in Nepal and there is a need to invest in resilience building to mitigate this threat. This report highlights why climate adaptation is important for Nepalese businesses as it not only reduces risks to businesses, but also presents new opportunities for businesses to grow and subsequently contribute towards nation building. However, businesses in Nepal, especially the MSME sector, are constrained in many ways and require financial and infrastructural support for effective adaptation. This paper also discusses how policymakers and development organisations in Nepal can enable business action. With climate crisis already a reality, it is crucial for everyone to come together and work collectively to protect the economy and the society. A collaborative approach to leverage the resources and strengths of diverse stakeholders is what could result in transformative action.

The proposed roadmap outlines a collaborative journey to build the resilience of Nepalese businesses involving both the public and private sectors. The transition approach discussed in the paper provides guidance to businesses considering their current levels of knowledge on adaptation and capacities to act to ensure that no entity is left behind in this critical endeavour.

This paper presents tangible pathways for collective action by proposing specific measures that the government and development organisations can take. Establishing the private sector engagement platform can address the institutional gaps and facilitate greater dialogue and engagement among public and private actors. The decision support system can build awareness and knowledge and enable businesses to integrate adaptation as a part of their business decision making. Adaptation financing facility and multi-stakeholder initiatives can help businesses make transformative investments going beyond building resilience of their operations thereby, contributing to country level adaptation efforts.

Though significant measures have been taken by the Government of Nepal, development organisations and a few business leaders, it is evident businesses in Nepal have a long way to go in their climate adaptation journey. The responsibility for this transition rests on the shoulders of all stakeholders and the success of it lies in the collaboration, with a shared commitment to building resilience. The insights and recommendations of this report can guide the stakeholders in pursuing this challenging journey.

Acknowledgement

This whitepaper is jointly developed by PwC India and CNI, drawing upon inputs from a diverse range of stakeholders including businesses, government entities, multilateral agencies and INGOs/NGOs. We thank our stakeholders for participating in the consultations and sharing their valuable insights.

Advisory Committee

Arnaud Heckmann

Head of Portfolio Management Unit
- Focal for Climate Change and
Urban Development
Nepal - Asian Development Bank

Sneh Rajbhandary

Director of Public Affairs,
Communications, and
Sustainability
Coca-Cola, Nepal

Ghana Shyam Gurung

PhD, Country Representative
WWF Nepal

Rita Bhandhary

Founder
Mahi Enterprises, Nepal

Pawan Roy

CEO
Tripura Resort, Nepal

About CNI

The Confederation of Nepalese Industries (CNI) is a professionally led manufacturing and service sector industry centred apex body of the large and medium scale industrial community of Nepal. CNI has been continuously helping its member manufacturing and service industries in evolving and adapting to a rapidly changing political-economic landscape in the country. It works closely with Government and related agencies on policy issues and industrial development matters and offers member industries with a wide range of specialized services in order to enhance efficiency; build competitiveness and expand opportunities.

For more information about CNI visit us at [www. https://cni.org.np/](https://cni.org.np/)

Contributors

Confederation of Nepalese Industries

Nirvana Chaudhary
Vice President

Deepak Raj Joshi
Director General

Prajwal Nepali
Deputy Director

About PwC

At PwC, our purpose is to build trust in society and solve important problems. We're a network of firms in 151 countries with over 360,000 people who are committed to delivering quality in assurance, advisory and tax services. Find out more and tell us what matters to you by visiting us at www.pwc.com.

PwC refers to the PwC network and/or one or more of its member firms, each of which is a separate legal entity. Please see www.pwc.com/structure for further details.

© 2023 PwC. All rights reserved.

Contributors

PwC India

Madhura Mitra

Managing Director
Climate Change – Advisory

Kaveri Gogoi

Senior Associate
Climate Change – Advisory

Peer M Muna

Associate Director
Climate Change – Advisory

Shreya Basu

Senior Associate
Climate Change – Advisory

Syed A A Farhan

Manager
Climate Change – Advisory

PwC India Foundation

Jaivir Singh

Managing Director
PwC India
Leader of the Global Office for
Humanitarian Affairs

Neetika Goyal

Associate Director

Punyasil Yonzon


Senior Associate

Editorial support

Rubina Malhotra

Design support

Gnanaraj G



Data Classification: DC0 (Public)

In this document, PwC refers to PricewaterhouseCoopers Private Limited (a limited liability company in India having Corporate Identity Number or CIN : U74140WB1983PTC036093), which is a member firm of PricewaterhouseCoopers International Limited (PwCIL), each member firm of which is a separate legal entity.

This document does not constitute professional advice. The information in this document has been obtained or derived from sources believed by PricewaterhouseCoopers Private Limited (PwCPL) to be reliable but PwCPL does not represent that this information is accurate or complete. Any opinions or estimates contained in this document represent the judgment of PwCPL at this time and are subject to change without notice. Readers of this publication are advised to seek their own professional advice before taking any course of action or decision, for which they are entirely responsible, based on the contents of this publication. PwCPL neither accepts or assumes any responsibility or liability to any reader of this publication in respect of the information contained within it or for any decisions readers may take or decide not to or fail to take.

© 2023 PricewaterhouseCoopers Private Limited. All rights reserved.

GG – December 2023 - M&C 33585

