

DEVELOPMENT ADVOCATE
PAKISTAN

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**WALKING THE
CLIMATE TALK**





DEVELOPMENT ADVOCATE PAKISTAN

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Development Advocate Pakistan provides a platform for the exchange of ideas on key development issues and challenges in Pakistan. Focusing on a specific development theme in each edition, this quarterly publication fosters public discourse and presents varying perspectives from civil society, academia, government, and development partners. The publication makes an explicit effort to include the voices of women and youth in the ongoing discourse. A combination of analysis and public opinion articles promote and inform debate on development ideas while presenting up-to-date information.



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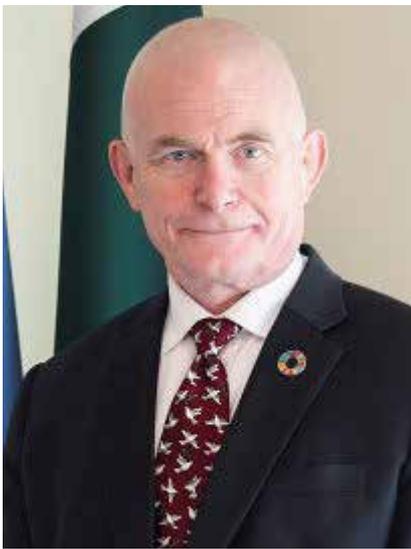
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Walking the Climate Talk



By
Knut Ostby
Resident Representative
UNDP Pakistan

Pakistan has reason to celebrate! It has been able to reduce its vulnerability to climate change by three points - from 5th in 2020, to 8th in 2021. Pakistan also earned the privilege of hosting the global World Environment Day this year in conjunction with the UN Decade for Ecosystem Restoration 2021-2030, with high-level participation and endorsements from world leaders. Under its 'Green Economic Stimulus', Pakistan has already achieved the target of planting one billion trees as part of its 10 Billion Tree Tsunami Afforestation Project. Meanwhile, its 'Green Nijehabaan Initiative' is providing thousands of job opportunities to youth and daily wagers.

These successes, along with the government's multiple initiatives aimed at safeguarding its environment, protecting biodiversity and creating nature-based jobs, are proof of the country's commitment to rethinking its political economic paradigm, and tying it strongly with climate responsibility.

Pakistan is currently spending almost six percent of its annual federal budget to curb the impacts of climate change, with a record allocation of USD 93 million (PKR 14500 million) for 2021-22. Although the country is responsible for less than one percent of global carbon emissions, however, with the rampant reverberations of climate change being experienced across the globe, Pakistan remains one of the most vulnerable countries exposed to climate change.

An estimated 10,000 lives were lost to climate related disasters in the country between 1998-2018. The economic losses from 152 extreme weather events amounted to USD four billion during the same period. The mean estimated cost of environmental degradation is about USD 2.34 billion (PKR 365 billion) per year in Pakistan, equiva-

lent to six percent of its GDP.

In the northern areas of Pakistan, the pace of glacier melting is unprecedented. Soaring temperatures coupled with emission trends, signify a loss of nearly two-thirds in ice fields by 2100. The domino effect of these melting glaciers will be cataclysmic: landslides, dam bursts, heavy flooding and soil erosion. This is the projected state of Pakistan's climate landscape in 2050.

In 2019-20, Pakistan saw the most devastating locust infestations in nearly 30 years, caused by locust migrations from the Arabian Peninsula, where their excessive breeding occurred owing to unprecedented heavy rains and cyclones. With losses totaling nearly USD 2.5 billion and complete destruction of winter crops, Pakistan had to declare a national emergency to tackle its locust crisis.

While the economic and environmental costs are grave, there are social costs also. There has been a significant rise in climate migration in the country, totaling at nearly 30 million people in the last decade. Displacements, loss of homes and livestock, loss of lives and livelihoods, are anticipated to result in increased fragility in rule of law, health and food security sectors, thus causing an imbalance in the social fabric.

There is also a climate change induced urban crises in the making, as Pakistan faces increase in average temperatures significantly above the global average. The country's largest city, Karachi (Sindh), has been identified as one of the planet's climate hotspots. Jacobabad (Sindh), where temperatures soar beyond 50 degrees centigrade, may be the hottest city in Asia. By 2030, Pakistan is expected to experience a 75 percent rise in heat waves; it will increase to 189 percent by



experience a 75 percent rise in heat waves; it will increase to 189 percent by 2060, and 277 percent by 2090.

These changes will place extreme pressures on urban environments, and the energy and health systems which support them. Consider this: on average, a one degree increase in ambient temperature can result in a 0.5–8.5 percent increase in electricity demand. With power supply severely impacted as demand rises, the impacts of climate change will also exacerbate existing socio-economic inequalities in the country, already highlighted in UNDP Pakistan's National Human Development Report 2020: The Three Ps of Inequality: Power, People, and Policy.

It is encouraging to see Pakistan's urgent cognizance of these challenges, as well as its multi-pronged efforts to find solutions for their mitigation. With the help of UNDP and other development partners, Pakistan's government is now actively exploring nature capital based solutions as innovative ways

to meet the country's climate financing needs for post-COVID-19 socioeconomic recovery and resilience. One of them includes plans of launching a Nature Performance Bond that will allow the country to have accelerated access to climate finance linked to quantifiable nature performance.

We are witnessing a unique moment in world history where there is increasing convergence between the global and local agendas for promoting united action to arrest climate change. As the UNDP Administrator Achim Steiner says in the 2020 global Human Development Report on human development and the anthropocene: "*We are the first people to live in an age defined by human choice, in which the dominant risk to our survival is ourselves*". Dealing decisively with climate change is key to ensuring sustainable development, poverty eradication and for safeguarding economic growth. The world must act as one.

Climate Action Pakistan: Towards a Resilient Future



By
**Dr. Abid Qaiyum
Suleri**

Executive Director,
Sustainable Development
Policy Institute
Member, Prime Minister's
Economic Advisory Council

Pakistan's Climate Change Paradigm

An essential reference point for assessing Pakistan's past climate actions and what it is required to do in future, is the current state of environmental sustainability of Pakistan. Like many other developing countries, climate change compounds environmental and development challenges in Pakistan too.

It can be argued, that growth in Pakistan has come at high environmental costs. At the same time, environmental degradation is not only slowing down growth, but also reducing the quality of life. According to a study by the World Bank, as Pakistan has grown and urbanized rapidly, the patterns of environmental degradation have increasingly shifted and expanded, with the impacts coming to represent a high and increasing cost, equivalent to 2.5 to 6.5 percent of gross domestic product (GDP).¹

Pakistan is among the lowest emitters with a contribution of 0.8 percent (369 million tons carbon dioxide equivalent) of the global greenhouse gas (GHG) emissions.² This has further reduced to only 0.65 percent in the following inventories. In contrast, Pakistan is

vulnerable to diverse kinds of extreme weather conditions causing disasters and hazards, floods, droughts, temperature rise, fires, land, water, and forest degradation. Besides extreme weather conditions, Pakistan is also vulnerable to critical slow-onset processes such as rising sea levels, glacier melting, and ocean warming etc. Increasing temperature and rainfall have lead climate scientists to believe that the mean temperature increases of 1.4°C-3.7°C, more than the global average, may be recorded in the country.

According to Global Climate Risk Index (CRI) 2021, Pakistan stands at 8th among the ten most affected countries during 2000-2019, based on the annual average. This ranking remained 7th in 2016, and 5th during 1999-2018.³ Fortunately, there was no weather-related extreme event in Pakistan during 2019 and 2020. Hence, Pakistan is not included among the most affected countries for 2019. However, Pakistan remains among the most climate-affected countries in the region. The Notre-Dame-Gain Index 2018 and the 2020 Inform Risk Index also present a similar story.



1. Pakistan@100: Environmental Sustainability, The World Bank Group Policy Note March 2019
2. National Inventory of Pakistan GHG for 2011-2012
3. David Eckstein, Vera Kunzel and Laura Schafer, Global Climate Index 2021- Who suffers Most from Extreme Weather Events? Weather-related Loss Events in 2019 and 2000-2019



Pakistan's Commitment to Climate Action

Being a signatory to the Paris Agreement 2015 and Sustainable Development Goals (SDGs) in 2015, Pakistan has been responsible and shown commitment for climate action, both through its policies and actions. Under the Paris Agreement, Pakistan, along with other developing countries, is entitled to have international cooperation on scientific knowledge and technology to restore its ecosystems, to

(further) reduce its carbon emission, and to achieve green growth. One is mindful that lately, due to COVID-19 and earlier because of the US withdrawal from the Paris Agreement (it has rejoined under President Biden's administration), the global policy landscape for international cooperation on climate change was not too conducive. However, these factors did not deter Pakistan's resolve to take climate actions, and the country took many corrective measures to reduce its climate vulnerabilities.



“ The future of Pakistan's climatic stability depends upon how best the political will for a clean and green growth gets supplemented by financial resources, and institutional/governance reforms. ”

Notre-Dame-Gain Index 2018

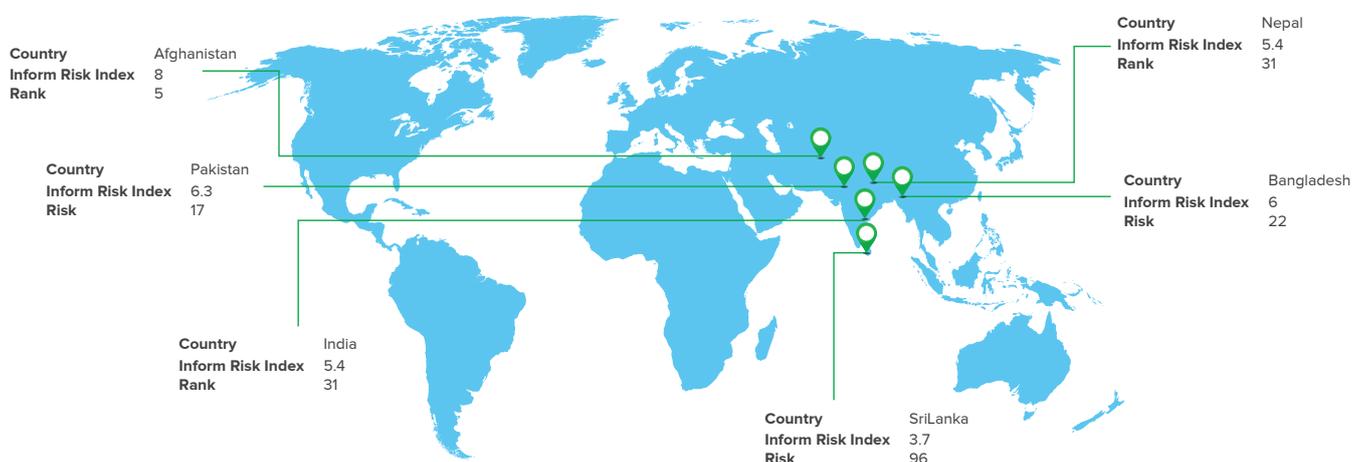
- Pakistan ranks at 152 out of 181 countries.
- The ND-GAIN Country Index is a measurement tool that helps governments, businesses and communities examine risks exacerbated by climate change, such as over-crowding, food insecurity, inadequate infrastructure, and civil conflicts.



Source: University of Notre Dame. (2021). "Notre Dame Global Adaptation Index." Available at <https://gain.nd.edu/our-work/country-index/>

2020 Inform Risk Index

- This index ranks Pakistan 17 out of 191 countries thereby highlighting that it faces some of the highest disaster risk levels in the world.
- This risk ranking is driven particularly by the nation's exposure to earthquakes and the risks of internal conflict.



Source: INFORM Report 2020. Available at <https://drmkc.jrc.ec.europa.eu/inform-index>

Climate Finance: Problem or Solution?

“Pakistan, under its commitment to reversing climate change impacts, has prioritized climate finance.”

Pakistan has started spending huge sums of money on forests and mangroves ecosystems by planting billions of trees. The federal government is undertaking steps, not only by providing climate financing from budgetary allocations, but also through accessing various financing options, including from the global climate fund and debt swaps for nature. Pakistan's power lead (WAPDA) has floated Nature Bonds worth USD 500 million, and the country is receiving a good response. On World Environment Day 2021, in recognition of the country's efforts, the United Nations Environment Programme (UNEP), along with the country's leadership, celebrated and launched the UN Decade of Ecosystem Restoration (2021-2030). On this occasion, Pakistan kicked off negotiations with bilateral lenders to get



debt swap for nature facility. This is the first time, that Pakistan is negotiating 'debt swap for nature'. Earlier, the country had the debt swap facility for education (Canada, Germany, Norway), expenditures on Afghan refugees (Italy), and rehabilitation and reconstruction in earthquake hit areas in the country (Belgium).

“Pakistan’s debt for nature swap/exchange case seems strong, with its past success through the successful completion of the 10 billion tree program.”

At a cost of USD 169 million, adding 35000 hectares of trees, much higher than the Bonn Challenge, Pakistan kicked off its 10 billion tree tsunami program across the country. This program will increase Pakistan’s terrestrial and mangroves forest cover, which will help restore both terrestrial and ocean ecosystems, and fight global warming. The program will also

generate green jobs, and train communities in forestry development. Pakistan has already floated a climate/nature bond. The response is expected to be good, however, challenges may emerge from time to time, which could be addressed with real time information and climate actions, that the country is undertaking.

COP26: Is Pakistan Prepared?

Pakistan is prepared to participate in the United Nations 26th Conference of Parties (COP26) in Glasgow in November 2021, to further its profile on undertaking climate actions that flagged Pakistan on the global climate agenda, starting from the World Economic Forum, Biden’s Global Climate Summit, up until the hosting of the World Environment Day 2021. Pakistan is prepared ahead of the COP26 to revise its Nationally Determined Contributions (NDCs), and in line with it, will be focusing on new GHS inventory. Pakistan’s innovative climate solutions attracted world attention, and this time, the country is likely to be prominent at the COP26.



Looking Towards 2030

They say that, ‘the future lies in one’s actions’. The Government of Pakistan (GoP) has taken legal, institutional, and policy measures to reduce climate vulnerabilities and for Disaster Risk Management (DRM).

“With the second billionth plant planted on 27th May 2021 by the Prime Minister of Pakistan, it can be said that afforestation is being politically owned at the highest level.”

According to world standard estimates, a full-grown tree cleans around 22 kilograms of carbon dioxide from the atmosphere. If Pakistan sticks to its original plan of planting 10

billion trees, then it has the huge opportunity of reducing global warming by cleaning million tons of carbon. Likewise, through planned advancement on the clean and green Pakistan movement, converting 30 percent of its transport into electric vehicles and, promoting renewable energy resources, Pakistan is likely to improve its climatic sustainability.

The bad news is that many challenges remain in accomplishing the “Clean and Green Pakistan Vision”, such as securing access to financial resources before a disaster strikes, and getting its share from climate finance to implement adaptation and mitigation efforts. However, financial resources are not the only constraint that Pakistan faces in its pursuit to climatic sustainability. “For a clean and green growth, which is resource efficient and climate resilient, Pakistan needs to go through a broad range of structural reforms (governance and institutions, structural transformation, competition policy, infrastructure, energy and so on), that leads to efficiency gains and a reduction in transaction costs. This transition has costs, and it is crucial to implement it to improve systems, without creating social issues and instability”.⁴

4. Pakistan@100: Environmental Sustainability. The World Bank Group Policy Note March 2019

Climate Change Catastrophe: Need for a New Global Environment Order

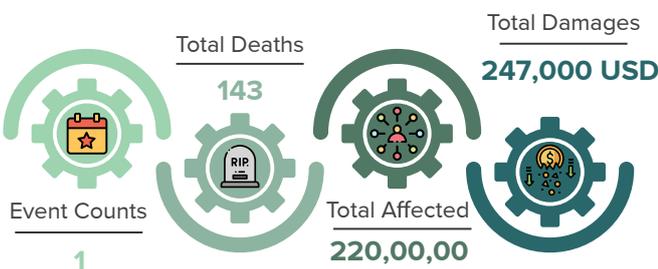
From being a purely agrarian economy, to now a semi-industrialized country, the majority of Pakistan’s population lives along the Indus River, an area prone to severe flooding in July and August. Major earthquakes are also a frequent occurrence in the mountainous northern and western regions. The following infographic delineates these very impacts of climate change, and several more, along with their ramifications on the socioeconomic and environmental fabrics. The costs of climate change and future projections depict that recovery efforts – both short and long term – should focus along the lines of investments that increase employment opportunities and economic activity; protect ecosystems, biodiversity and habitats; positively impact socioeconomic and human capital; and, augment resilience.

The Costs of Climate Change

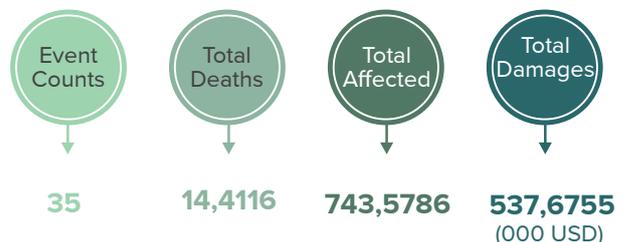
Economic Costs

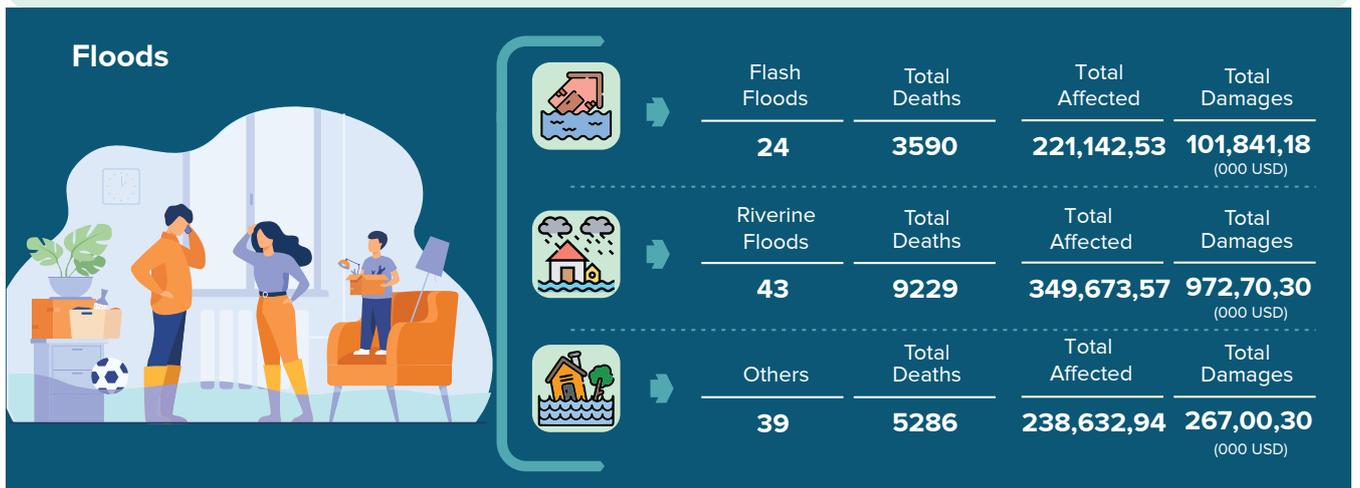
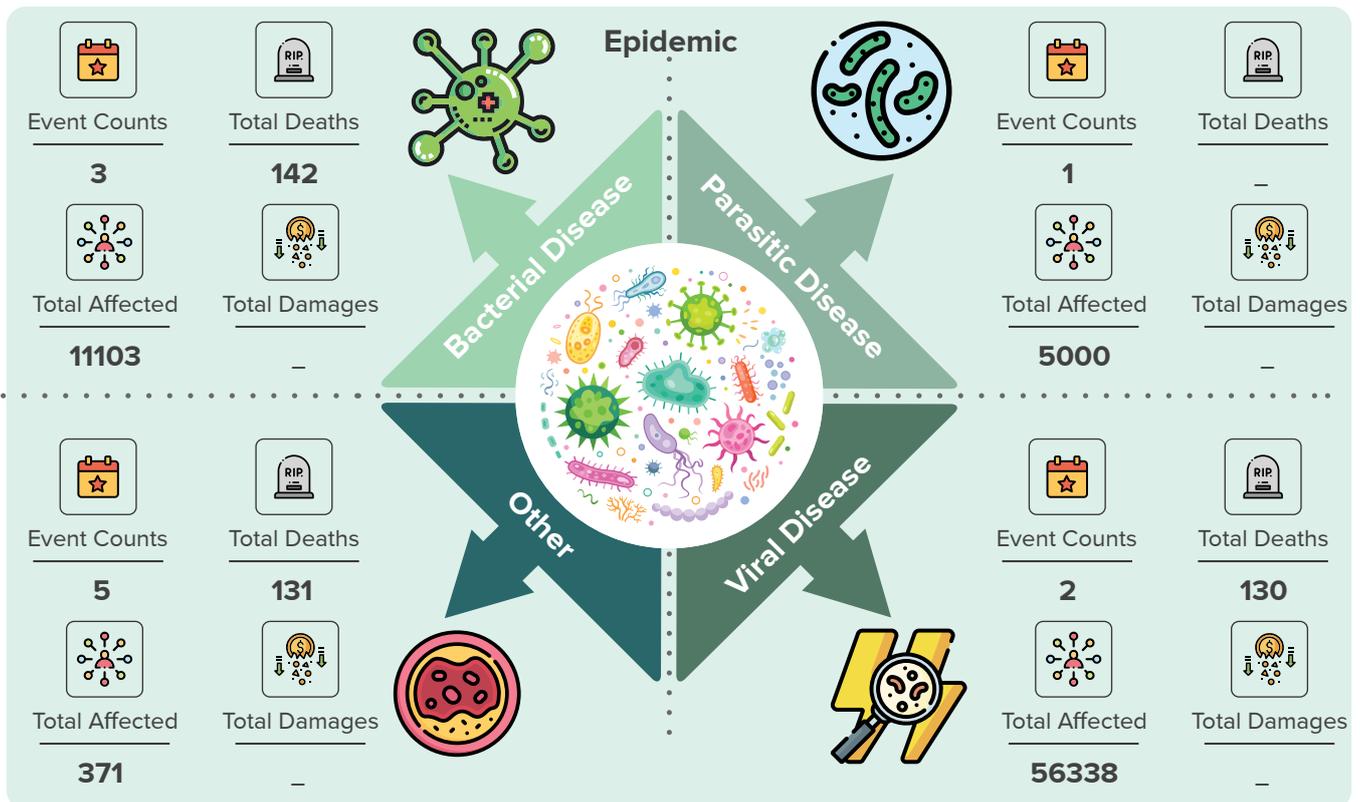
1900 to 2020

Drought

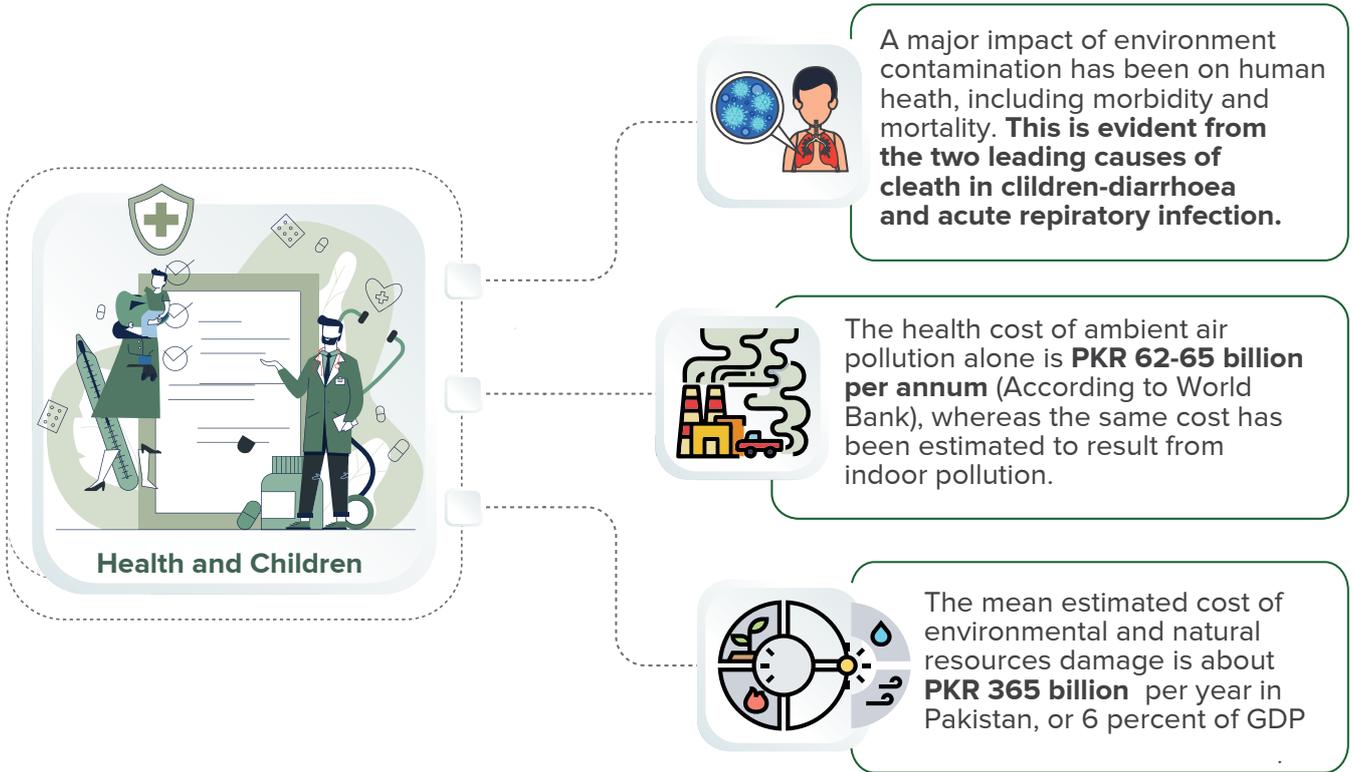


Earthquake





Social and Environmental Costs



Food Availability

There will be approximately 9.32 climate-related deaths per million/year, due to lack of food availability in Pakistan by the year 2050, under highest Representative Concentration Pathways (RCP) 8.5*

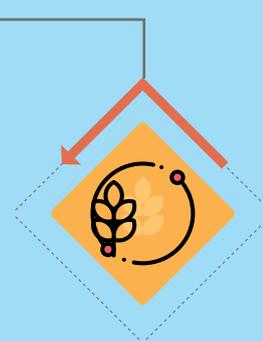


*RCP 8.5 refers to the concentration of carbon that delivers global warming at an average of 8.5 watts per square meter across the planet. The RCP 8.5 pathway delivers a temperature increase of about 4.3°C by 2100, relative to pre-industrial temperatures.

Crops



Pakistan's crops are highly sensitive to changes in temperature and water availability, and temperature rises in the region of 0.5°C–2°C could lead to around an 8%–10% loss in yield.



Rice and sugarcane are worst affected under a high emissions scenario, experiencing 25% and 20% yield reductions, respectively.

Social and Environmental Costs



Rise in Sea Level



Pakistan's coastline holds considerable vulnerability to sea-level rise and its associated impacts.

Research by the UK Meteorological Office (2014) predicts that without climate change adaptation strategies, around one million people will face coastal flooding annually by the period 2070–2100

Sources Consulted:

1. ADB and World Bank. (2020). "Climate Risk Country Profile 2020." Available at <https://reliefweb.int/sites/reliefweb.int/files/resources/mate-risk-country-profile-pakistan.pdf>
2. ScidevNet (2019), "Forecasting model allows Pakistan to anticipate heat waves." Available at: <https://www.preventionweb.net/news/view/64716#:~:text=According%20to%20a%20Pakistan%2Dspecific,durations%20from%201997%20to%202015.&text=This%20means%20the%20country%20will,and%2026%20events%20by%202090.>
3. WRI (2018). AQUEDUCT Global Flood Analyzer. Available at: <https://floods.wri.org/#>
4. World Health Organization (2015). "Climate and health country profile - Pakistan." <http://apps.who.int/iris/bitstream/handle/10665/246150/WHO-FWC-PHE-EPE-15.28-eng.pdf;jsessionid=C65C70B12A378437312D491DAD93E531?sequence=1>

“

Pakistan is already spending around six percent of the annual federal budget to curb the impact of climate change.

”



Malik Amin Aslam

Federal Minister for Climate Change and
Special Assistant to the Prime Minister

“As part of its climate-resilient growth initiatives, Pakistan aims to launch a Nature Performance Bond that will allow the country to have accelerated access to climate/nature finance linked to quantifiable nature performance.”

Restoring the environment and combating the effects of climate change has become a top priority for the government. How are national environmental and climate change policies working towards resolving climate equity, especially for vulnerable communities?

The Government of Pakistan is aware of the threats posed by climate change towards vulnerable communities – be they floods, heat waves, deforestation, or a loss in livelihood opportunities. Pakistan is already spending around six percent of the annual federal budget to curb the impact of climate change. The National Climate Change Policy and Pak-INDC (Pakistan's Intended Nationally Determined Contribution) are deeply rooted in our green vision premised on Nature-Based solutions. It outlines adaptation and mitigation strategies to address challenges and issues of climate equity, while restoring nature.

Community outreach and engagement are prerequisites for the effective implementation of these policies. For example, we have targeted rural women to leverage their land for small nurseries, followed by a buy-in model to provide livelihood to these people. Further, we created 85,000 green jobs during COVID-19, with different initiatives to engage rural populations and accelerate opportunities for young people. We are pursuing the assisted natural regeneration of forests by engaging the community through the 'Green Nigehabaan Initiative'. Therefore, the government is not just focusing on reforestation, but also involving rural communities so that we 'Leave No One Behind' in terms of rural development.

With COVID-19 exacerbating the impacts of climate change, what other innovative nature-based solutions can be pursued to promote green sustainability?

The COVID-19 crisis, along with amplified debt and climate change challenges, have propelled debt-for-climate schemes to the top of the international agenda. Pakistan is one of the top ten most impacted countries in terms of environment vulnerability to climate change. As part of its climate resilient growth initiatives, Pakistan aims to launch a Nature Perfor-

mance Bond that will allow the country to have accelerated access to climate/nature finance linked to quantifiable nature performance. On the occasion of World Environment Day 2021, UNDP, along with the governments of United Kingdom, Germany and Canada, appreciated the Government of Pakistan's efforts towards launching this innovative initiative, which could contribute significantly to promoting action on climate change and sustainable development.

We are now entering into a dialogue on the modalities of such a Nature Performance Bond. We envision this bond to be developed by a consortium of development partners and financial advisors, consistent with market conditions, as well as the country's climate change and development needs, thereby creating an enabling environment for private sector finance as well as non-traditional development partners, to play their role in the sustainable development of Pakistan.

What policies and investments must be pursued by Pakistan, in order to fulfill commitments to be part of COP26?

Pakistan reiterates its commitment and obligations towards the United Nations Framework Convention on Climate Change, and the Paris Agreement within it. To this end, the country successfully launched its Ecosystem Restoration Fund (ESRF) on the sidelines of COP25, held in December 2019. At the conference, I presented a five-point agenda for climate change mitigation, including a transition towards electric vehicles, meeting a 30 percent clean energy transformation target by 2030, and materializing nature-based solutions to the country's challenges.

As COP26 approaches in November this year, under its 'Green Economic Stimulus', Pakistan has already achieved the target of planting one billion trees as part of its 10 Billion Tree Tsunami Afforestation Project. The 'Green Nigehabaan Initiative' is providing thousands of job opportunities to youth and daily wagers. The Green Economic Stimulus also promotes the 'Clean and Green Pakistan Movement', which aims at reducing air, ground, and water pollution.

“ The government is not just focusing on reforestation, but also involving rural communities, so that we 'Leave No One Behind' in terms of rural development. ”



Under the 'Ecosystems Restoration Initiative' (ESRI), Pakistan is developing 15 model Protected Areas to conserve over 7,300 square kilometers of its land area, as well as creating over 5,000 'nature-based' jobs. Through this initiative, Pakistan will expand the protected area coverage to at least 15 percent by 2023. Moreover, the government is keen to implement a clean energy shift, in terms of both carbon-free energy and green electric mobility in transport.

The recent launch of the Nature Performance Bond has defined a set of ambitious ecosystem restoration targets to provide Pakistan with accelerated access to finance for development. In this context, what does the climate financing future look like for Pakistan?

The Nature Performance Bond (NPB) is a novel nature capital development financing solution that not only aims to mitigate Pakistan's debt challenges, but also propel the country's ecosystem restoration drive.

Our aim is to make Pakistan the first pilot country for the NPB as a financing solution to encourage nature performance targets. The NPB is a sophisticated version of a 'debt for nature swap', whereby, rather than paying back in cash, Pakistan will give back in terms of credible, transparent, and certifiable nature performance. As a first step for the credibility of our offer, we started working on key performance indicators (KPIs)

for our nature payback. Our second step is to go out and see who will be interested in doing such a deal with Pakistan.

The NPB would not only serve the Ten Billion Tsunami project, but also Pakistan's other environmental priorities including regenerating ground water resources, deforestation, and more. If Pakistan demonstrates a successful pilot NPB, then other countries will follow suit. This will also create a market for private debt at the global and national levels.

How do you envision the private sector's role in reducing climate change and contributing to the SDGs Agenda 2030?

The private sector is a key stakeholder in climate action and is a key driver to meet the goals of the Paris Agreement, as well as Agenda 2030. It is time that an inclusive approach is followed so that all stakeholders including government, civil society, private sector, and communities work together for the benefit of nature and future generations. The private sector's role is critical for major investments in clean energy, energy efficiency, reducing green-house gas emissions, and other efforts that contribute to restoring and protecting ecosystems.

A young woman with dark hair, wearing a bright yellow raincoat and black pants, is sitting on a cobblestone street. She is looking off to the side with a serious expression. To her left is a white sign with black text. The sign is partially visible and reads "LSTREJK FÖR MÅLET". The background is a grey concrete wall.

LSTREJK
FÖR
MÅLET

Stockholm, Sweden: Fifteen year old Swedish climate change activist, Greta Thunberg, leads a school strike and sits outside of Riksdagen, the Swedish parliament building, in order to raise awareness for climate change on August 28, 2018 in Stockholm, Sweden. (Photo by Michael Campanella/Getty Images)



INTERVIEW

Annabel Gerry

Director Development

Foreign Commonwealth and Development Office (FCDO)

British High Commission

“ Both adaptation to the effects of climate change, and mitigation of harmful greenhouse gas emissions are essential, if we are going to make the progress needed. ”

The United Kingdom (UK) has just completed an ambitious Integrated Review of Security, Defence, Development and Foreign Policy. Climate Change seems to be a major policy priority for the UK in the revised framework. What has motivated this increased focus, and what is the UK's outlook on the future of climate change?

You have rightly pointed out that the Integrated Review named climate change as a top international priority for the United Kingdom (UK). At the heart of the Integrated Review is the need to safeguard security and prosperity - climate shocks threaten both, because they magnify the risks. The Review concluded that climate change and biodiversity loss present the most severe tests to global resilience and will require particularly urgent action. The UK will continue to play a leading international role in tackling climate crises and environmental degradation. Our future development funding will be aligned with the Paris Agreement on climate change.

Both adaptation to the effects of climate change and mitigation of harmful greenhouse gas emissions are essential, if we are going to make the progress needed. We will lead sustained international action to accelerate progress towards net zero emissions by 2050 and build global climate resilience. As Presidents of COP26, the UK wants to drive up ambition across the world to respond to the climate challenge. We have doubled the amount of development funding committed to climate change, to GBP 11.6 billion over five years. And we will lead efforts to reset the world's relationship with nature, including by committing GBP 3 billion of this funding to solutions that protect and restore nature.

The UK currently holds the COP26 Presidency and it will also host the 26th UN Climate Change COP26 in November this year. Together with the UN and partners, what and how is the UK setting an agenda for this meeting? What will be its major targeted outcomes?

COP26 comes at a critical time, for the planet and for our



response to climate change. We believe that COP26 needs to be decisive and inclusive. The UK wants to hold COP26 in person is to ensure the voices of these countries are heard and acted on. For our COP26 Presidency, we will focus action on mitigation, adaptation, finance and collaboration, in order to drive ambition and deliver on the Paris Agreement, the commitment to climate progress agreed in 2016 at COP21.

The UK is committed to finding agreement to a comprehensive, ambitious and balanced set of outcomes at COP26. No issue and no one should be left behind. We want to help build the conditions needed to reach agreement at COP26. Political and technical-level commitment in the coming months is key, if we are to find concrete solutions to the climate challenges we face.

Countries are being asked to submit more ambitious Nationally Determined Contributions (NDCs), committing to further cuts in carbon emissions by 2030, and reaching netzero emissions by mid-century to keep a maximum 1.5 degrees global temperature increase within reach. We have submitted our own updated NDC, which commits the UK to reducing economy-wide greenhouse gas emissions by at least 68 percent by 2030, compared to 1990 levels. At COP26, we need to work together to enable countries affected by climate change, to adapt to protect communities and natural habitats. We are also ensuring that developed countries honour their climate commitments, including meeting the USD 100 billion per year goal for the provision of

climate finance to those countries that need support. As the COP26 President, we will collaborate across governments, businesses and civil society to achieve success.

Post-Integrated Review, how is the UK adjusting its development assistance to Pakistan? How and to what extent does climate change configure in the new approach?

We are proud of the close links the UK has with Pakistan. We will continue to develop a strong, mutually beneficial, relationship between our countries, focused on security, stability and prosperity.

Through the Integrated Review, the UK Government has chosen tackling climate change, along with girls' education and aiding the global response to the pandemic, as top priorities for development spending and diplomacy. In 2021, 32 percent of our global aid will be delivered among eight countries including Pakistan, in the Indo-Pacific and South Asia region.

The UK is committed to supporting Pakistan tackle its climate challenge, and we are focusing this support on adaptation and resilience, clean energy and climate finance. As part of our development assistance, we are working with local communities to respond to, and become more resilient to the challenges of climate change. Water security has become the biggest climate emergency in Pakistan. We are considering how to expand our support in the water sector to boost

Pakistan's resilience to climate change. We are working closely with Pakistan to facilitate the energy transition from expensive fossil-fuel based power generation, to cheaper renewable sources.

On 22 June, Lord Ahmad, Minister of State for South Asia and the Commonwealth, visited Pakistan. The challenge of climate change was at the heart of his agenda, and during the visit, he announced a new programme to support Punjab's Brick Kilns transition to a cleaner production process, which will help to improve air quality and reduce Lahore's smog.

What policies and investments must Pakistan make to fulfill its commitments to be part of COP26? Last year, Pakistan signaled its willingness to exit from coal use. Given its heavy dependency on foreign-invested coal-fired power plants, do you think Pakistan will be able to achieve it?

example with its commitment to ecosystem restoration and the 10 Billion Tree Tsunami. World Environment Day 2021 was an important mark of Pakistan's leadership. Pakistan sets a powerful example to the world, and at COP26, the UK will ensure that Pakistan's priorities and resource needs are heard. As two ambitious countries, UK and Pakistan are natural partners at COP26 to press for greater global action.

Climate Financing is an emerging new global agenda. Debt-burdened countries like Pakistan are increasingly seeking nature capital solutions (such as nature performance bonds, debt swap, SDG Investments etc.) for post-Covid green recovery and resilience. Towards this end, how can the UK – as well as its private sector – help countries like Pakistan with climate financing and contributing to the SDGs Agenda 2030?

“ Through the Integrated Review, the UK Government has chosen tackling climate change, along with girls' education and aiding the global response to the pandemic, as top priorities for development spending and diplomacy. ”

Prime Minister Imran Khan's commitment on coal has sent a powerful message to the world that greater ambition is possible, and that he is ready to face the challenges of transforming Pakistan's energy sector that this requires.

Pakistan's upcoming NDC is an opportunity to showcase the country's high level of ambition. Capitalizing on announcements like no new coal, will help Pakistan demonstrate climate leadership. A growing number of countries are coming forward to make such commitments.

Pakistan is a large and developing country that is also climate vulnerable and highly ambitious, putting it at a unique intersection of the global climate debate. Prime Minister Khan's nature-based approach to tackling climate change is remarkable as recently acknowledged by GBP Johnson in his speech on World Environment Day. Pakistan is setting an

We are working with Pakistan to access new sources of international finance such as bonds or donor funds by linking UK financial experts with Pakistan, and through lobbying and technical assistance.

Pakistan requires huge development assistance to deliver its climate ambition. UK and Pakistan are 'ek saath' (together) in building back greener with our shared ambition on tackling climate change. We are keen to help Pakistan manage its climate resources, addressing climate risk in investment policies, supporting accounting for natural capital, and tracking climate expenditure to attract more investment. The UK was the first country to value its natural capital. We are sharing our experience with Pakistan as it conducts its own exercise in developing its natural capital. The UK's trade offer on renewable energy will also help protect the environment for the next generation.

“ COP26 comes at a critical time for the planet, and for our response to climate change. ”



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CLIMATE CHRONICLES

Sowing Seeds for Women's Financial Security

Growing high value climate resilient vegetables under green tunnels provides an alternative livelihood option in climate change affected mountain areas.

The Hindu Kush-Karakoram and Himalayan mountain region in Gilgit-Baltistan is faced with diminishing livelihood opportunities due to over exploitation of existing resources and changing climate patterns. Dwindling natural resources in the form of grazing lands for livestock, water for agriculture, glaciers for sustained water flow, wildlife, and scenery for tourism, are losing potential as viable sources to support local livelihoods. The need for alternative sources of livelihood, not just as a means to support the local inhabitants, but also reduce pressure on existing natural resources, has become inevitable.

Through UNDP's Mountain Protected Areas project, with the support of the Italian government, women hailing from mountainous areas of Gilgit-Baltistan have created an alternate livelihood generation option, through growing high value, climate resilient vegetable crops in green houses.

Given prolonged winters and short growing seasons in the region, these green houses in the form of plastic tunnels, provide a cheap, easily operable and environment friendly option for growing vegetables in the off-season. At present, 34 vegetable green houses are being operated by more than 260 women who support their households through additional income from the sale of vegetable and vegetable seedlings.

The added advantage of these off-season vegetable tunnels is that these are located at their doorstep, and require little water to be irrigated. Moreover vegetables like tomatoes, chillies, cabbages etc, grown in off-season fetch higher prices in the local market. These women entrepreneurs also sell seedlings and vegetables to other women folk, who then use the seedlings for their own kitchen gardening. The average income generated from a single vegetable tunnel ranges from PKR 50,000 to 60,000 per year.

By

Arish Naseem

Research and Reporting Officer
Environment and Climate Change Unit
UNDP Pakistan

“ It makes us feel empowered that we are able to contribute economically for our households. It also improves our social status and interactions with other people in the society.”

Says Rozina Babar, President, Local Support Organizations (LSO).



INTERVIEW

Pradeep Kurukulasuriya

Executive Coordinator and Director
Global Environmental Finance
United Nations Development Programme

Despite commitment to the Paris Agreement, what issues remain regarding transparency carbon markets, and a unified timeframe?

There are a number of important issues that need to be discussed:

i. Transparency – Article 13 of the Paris Agreement

Many of the modalities, procedures, and guidelines (MPGs) for the Enhanced Transparency Framework (ETF) were adopted at the COP24, in Katowice. However, Parties scheduled further work for COP26 on items necessary for the ETF to become fully operational in time for Parties to submit their first biennial transparency reports (BTRs) by 2024. Parties are currently negotiating the common tabular format (CTF) that will be part of the biennial transparency reports. Connected also to Article 6, in terms of transparency, there needs to be a decision on the timing of reports from Parties on their contemplated cooperative approaches and transfers, and on the timing for the review of these reports. Some have suggested this should be done annually, therefore additional to the BTRs.

ii. Market and non-market-based mechanisms – Article 6

The rules and procedures for Article 6 (market and non-market-based mechanisms) of the Paris Agreement, are the core missing element to be negotiated at COP 26, as part of the Rulebook. Parties have agreed on three draft texts (for 6.2, 6.4 and 6.8) in Madrid, but several key issues remain to be decided. In general, Parties advocate that Article 6 needs to be adopted as a package. In order for that to happen, key substantive provisions still need to be agreed upon and put in place at a sufficient level of detail, including: corresponding adjustments in accounting for Article 6, what needs to be accounted, how and when, recording and tracking, and infrastructure requirements to ensure transparency, Article 6 database reporting and review provisions including for initial reports, annual reporting, safeguards, limits to transfer, ambition in

mitigation actions, and application of proceeds to the Adaptation Fund.

The Paris Agreement recognizes the role of market-based approaches through Article 6 of the Agreement, which includes cooperative approaches under Article 6.2. This type of government-to-government cooperation has been developed to provide additional means for governments to meet (or overachieve) their Nationally Determined Contributions (NDC) goals. Internationally Transferred Mitigation Outcomes (ITMOs) generated in one country, can be transferred to another country to help meet its NDC target, with the receiving/buying country's NDC, while the transferring country has to adjust the NDC target downwards. Article 6.2 guidance should provide as much clarity as possible on how agreed accounting approaches will operate to ensure overall mitigation in global emissions (OMGE) in cooperative approaches. It also establishes a new market mechanism under the United Nations Framework Convention on Climate Change (UNFCCC), the Sustainable Development Mechanism, through Article 6.4.

The negotiations on guidance for Article 6.2 cooperative approaches and the rules, modalities and procedures for Article 6.4 mechanism, are still underway. Nevertheless, cooperation in the context of Article 6.2 have proceeded, though most activities under Article 6.2 currently focus on awareness raising and implementation readiness. While the negotiations have not yet concluded, frontrunner countries at COP25 have agreed to the San Jose Principles to ensure environmental integrity of Article 6 transactions. These countries will probably be in a strong position to provide a blueprint which other actors can look to, to design their own modalities for cooperation.

There are a number of unresolved Article 6 issues and several key sticking points, particularly how to ensure the avoidance of double-counting through corresponding adjustments, the application of a share of proceeds for the Adaptation Fund,

and the treatment of pre-2021 Kyoto credits. Hopefully these issues will be resolved and finalized at COP26 in Glasgow in November 2021. Some countries are already moving ahead with the implementation of Article 6.2 projects. Only Japan through its Joint Crediting Mechanism, and Switzerland, have moved ahead with implementation of Article 6.2 cooperation. Japan has already signed several bilateral agreements during Kyoto for bilateral credit transfers, which could become eligible Article 6.2 transfers, and Switzerland has signed bilateral agreements with Peru and Ghana.

How can developed countries support developing countries in sustainable climate financing?

Developed countries that belong to Annex 2 of the UNFCCC, have an obligation to provide scaled up and predictable finance to developing country Parties. The Paris Agreement is set under the Convention, and does not change this provision. In fact, it only reinforces it by establishing in its article 9.1 that states that, “Developed country Parties shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation, in continuation of their existing obligations under the Convention.”

The decision that accompanies the Paris Agreement on its article 53 also establishes a target for this support: “prior to 2025, the Conference of the Parties serving as the meeting of

the Parties to the Paris Agreement, shall set a new collective quantified goal from a floor of USD 100 billion per year, taking into account the needs and priorities of developing countries”. This USD 100 billion target per year, is the main finance agenda item being discussed by Parties during the SBs this June. The definition of climate finance is the key challenge for this agenda. Parties have yet to agree on a common definition on what can be accounted for as being climate finance.

The problem is not that the money does not exist, but that it is not being invested in the kind of low-carbon infrastructure, and in the parts of the world where it is needed to put countries on a zero-carbon development pathway. Therefore, public funding should be used in ways to maximize leveraging of private capital. Some estimate, that private sector contributions will amount to around 85 or 90 percent of the total cost of funding the Paris Agreement. However, it is also acknowledged that this investment is currently not happening, neither at the pace nor at the geographical scale needed. Currently, most private sector investments are happening in developed countries and not in developing countries, which are home to five billion out of the planet's total six billion population. An accelerated shift of investments into these markets is urgently needed, to put the world on a zero-carbon pathway.

“ The required amount of funding vastly exceeds what can be paid from public budgets. Instead, most of this will need to come from private capital. ”

“ In addition to targeting the underlying barriers that create investment risks through long-term policy de-risking, direct financial incentives are also needed to address the urgency of climate change.”

Accepting the unfavourable investment environment in developing countries, the high costs of debt financing, the currency and political risks in addition to project risks, it is critical that direct financial incentives as targeted de-risking measures are available for domestic investors to access lower cost finance, and for international investors to scale-up investment in low carbon markets and to invest in new markets, currently not targeted.

The need for direct financial support is also acknowledged by developing countries, who have stated in their NDCs, that they need financial support to achieve their NDCs, and

increase their ambitions over time. Carbon finance has been demonstrated to be a successful and effective way to de-risk private sector investment and accelerate low carbon investments in developing countries. Internationally Transferable Mitigation Outcome (ITMO) can stimulate investments into mitigation activities and NDC implementation, yielding numerous benefits for seller countries. To achieve net emission reductions and allow countries to make progress on their respective international commitments to the Paris Agreement, buyer countries will have to reduce emissions beyond already ambitious NDC targets.



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With Covid-19 exacerbating the impacts of CC, what nature-based solutions can be pursued to promote green sustainability?

“ Within the suite of nature-based solution actions, reducing deforestation provides the single largest opportunity to generate emission reductions.”

This activity is recognized under Paris Agreement Article 5, which provides for the inclusion of REDD+ under this post-2020 framework. Developing countries with tropical forests that are implementing REDD+ (reducing emissions from deforestation and forest degradation, and the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks), have developed their own national forest monitoring systems; measurement, reporting and verification (MRV) systems; and systems for tracking the implementation of environmental and social safeguards. These systems and information developed under REDD+ can be used by countries in setting up systems and processes for the enhanced transparency framework (ETF) under the Paris Agreement, and serve as a basis to access new and additional sources of finance (performance based finance), for the implementation of NDCs, including through international carbon markets.

iUNDP has been supporting developing countries' access to REDD+ finance, for readiness and results-based payments. Recently, countries such as Brazil (USD 98 million), Ecuador (USD 18.6 million), Indonesia (USD 103.8 million), and Costa Rica (USD 54 million), have received important financial resources from the Green Climate Fund through REDD+ results-based payments, with the support from UNDP acting as a financial entity. In these countries, UNDP is supporting governments set up and further expand their existing Payments for Environmental Services (PES) schemes. In the

COVID-19 context, these cash transfer schemes are an important source of support to the livelihoods of local and traditional communities in forest areas.

Increasing nature-based solutions in the NDCs is an opportunity to utilize an essential component of a comprehensive climate strategy, and scale NDC ambition.

“Incorporating nature-based actions can contribute to improving livelihoods and reducing inequality, securing food and water, improved resilience, disaster risk reduction, and biodiversity conservation, in addition to the established climate mitigation benefits.”

How can climate justice be addressed to form a better climate future fo

UNDP, UNEP and OHCHR are co-leading implementation of the UN Secretary-General's Call to Action for Human Rights, Rights of Future Generation/Climate Justice Track. This work includes a joint commitment by Heads of United Nations Entities, to promote the right of children, youth and future generations, to a healthy environment and their meaningful participation in decision-making at all levels, in relation to climate action and climate justice. The UN system is advocating for the 'Right to a Safe and Healthy Environment', and helping countries to integrate climate into national level diagnostics and policy making. A UN-wide approach is being developed, to protect climate and environment human rights defenders, including support to National Human Rights Institutions.

The Report further states that, “sustainable development supports, and often enables, the fundamental societal and systems transitions and transformations, that help limit global warming to 1.5°C. Such changes facilitate the pursuit of climate-resilient development pathways, that achieve ambitious mitigation and adaptation in conjunction with poverty eradication and efforts to reduce inequalities.” It is not possible to reach ambitious climate goals and targets, without addressing these systemic root causes, through inclusive sustainable development and just transition, to a climate-friendly future.

Most vulnerable communities to climate change (e.g. women and girls, afro-descendent communities, Indigenous Peoples, young people, persons with disabilities, and people in poverty), are also vulnerable to other issues, such as human rights violations and pandemics.



Climate justice is necessary to address the inequalities of the consequences of climate change. As stated in the IPCC Special Report on Global Warming of 1.5°C, “Social justice and equity are core aspects of climate-resilient development pathways that aim to limit global warming to 1.5°C as they address challenges and inevitable trade-offs, widen opportunities, and ensure that options, visions, and values are deliberated, between and within countries and communities, without making the poor and disadvantaged worse off.”

Climate justice is necessary to address the inequalities of the consequences of climate change. As stated in the IPCC Special Report on Global Warming of 1.5°C, “Social justice and equity are core aspects of climate-resilient development pathways that aim to limit global warming to 1.5°C as they address challenges and inevitable trade-offs, widen opportunities, and ensure that options, visions, and values are deliberated, between and within countries and communities, without making the poor and disadvantaged worse off.”



Given this global context, NDC (national climate pledges) enhancement is an opportunity to define interconnected solutions to ongoing governance, health, inequality and climate crises. NDCs can define a pathway for more inclusive sustainable development, that can guide policymakers and mitigate the disproportionate negative impacts of climate change. The revision and enhancement process itself provides a platform for bringing stakeholders together, both across government at all levels, and across society to ensure all voices are heard, and that their inputs feed into concrete action and accountability processes.

Through the UNDP Climate Promise, 75 countries have dedicated activities to promote whole-of-society engagement as part of the NDC enhancement process. 97 percent of countries have indicated activities and measures to ensure gender-responsive NDC action and measures, and 62 countries are engaging in Mission 1.5 that aims to amplify the voices of the general public, particularly youth. Beyond Mission 1.5, over 70 percent have indicated targeted youth engagement and youth-responsive actions/measures, as part of the NDC enhancement process. Notably, Kazakhstan is putting in place a policy framework for just transition, and Zimbabwe is commissioning a just transition study to assess socio-economic impacts of NDCs and regional youth consultations. Turkey is organizing policy dialogues focusing on climate and inequality.

There is still see a gap in addressing human rights, particularly rights of future generations, and working with indigenous communities, in the context of climate change. Research suggests that many governments are suppressing civic space for climate activists worldwide, and stronger protections and enforcement of the protections already in place, is needed for environmental defenders. Moving forward, it will be critical to

ensure that countries develop NDCs with the involvement and ownership of all members of society, particularly frontline communities. Climate ambition is dependent on an inclusive process in decision-making.

The COP26 is around the corner. Could you share with us how UNDP is preparing for it? What should the Conference target to achieve as outcomes?

Taking into account all current climate pledges globally, the world is still headed towards 2.4°C of global warming. This translates to countless lives, livelihoods, and ecosystems lost or irrevocably altered, along with heightened social, economic and environmental instability. Inequality is growing for more than 70 percent of the global population, and climate change will directly push up to 132 million people into extreme poverty by 2030. It is clear, that climate change and inequality are inextricably linked.

UNDP's "People's Climate Vote" – the world's largest survey of public opinion on climate change with over one million respondents in 50 countries – showed that a majority of people (64 percent) understand that climate change is a global emergency. People want to see world leaders step up ambition and make bold climate policy choices.

COP26 is a make-or-break moment. Ambitious climate action is needed to keep global temperature to 1.5 degrees maximum and finance, especially from the biggest emitters, that will set the world on the path for a just transition, away from fossil fuels to a zero-carbon future, while also preparing for the consequences of the climate crisis, in particular for the most vulnerable. This is also critical for climate justice. UNDP is committed to supporting countries to ensure a successful, equitable, and inclusive COP26, that provides a path to a safe

Case Study: Chile

In its NDC revision, Chile reaffirmed its commitment to the Paris Agreement by significantly increasing its ambition. While the initial goal of 30 percent emission reductions is maintained in the second NDC, Chile commits to a GHG emission budget not exceeding 1,100 MtCO₂eq between 2020 and 2030, with a GHG emissions maximum (peak) by 2025. In addition, Chile included actions that help reach this ambitious goal: reduce total black carbon emissions by at least 25 percent by 2030; double the number of hectares in the LULUCF sector (200k ha for reforestation, 200K ha for sustainable management), and reduce emissions from the forestry sector 25 percent by 2030, through reducing degradation and deforestation of the native forest. Chile has also included eight commitments on adaptation related to capacity building, development of the national adaptation plan, adaptation plans for 11 prioritized sectors, and information management and monitoring mechanisms.



“ Climate ambition is dependent on an inclusive process in decision-making. ”

and livable future for all.

A critical first step is to divest from fossil fuels. UNDP is calling for an end to fossil fuel subsidies and for investment in both people and the planet. The main contributor to the climate emergency, is the energy sector, powered primarily by fossil fuels – coal, oil and gas. Yet, fossil fuels are still being subsidized with public funds. These funds should be utilized to fight inequality, and to support a just transition to clean energy.

The UNFCCC NDC Synthesis Report released in February 2021, was a stark reminder of the level of ambition that is still needed – especially from major emitters – in order to fulfill the goals of the Paris Agreement. While many revised Nationally Determined Contributions (NDCs) – national climate pledges toward the Paris Agreement – are more inclusive, more robust, and more implementable than those submitted previously, it will be critical that all countries are willing to step up ambition, ahead of COP26.

UNDP is doing our part to achieve a successful COP26. UNDP has a long history of supporting COP Presidencies, major negotiating groups and coalitions as part of the UNFCCC, as well as managing the largest support for programming coming out of the UNFCCC process – from adaptation and mitigation actions, to reporting and transparency requirements.

UNDP's extensive climate portfolio supports countries to take climate action and increase ambition, including, through UNDP's Climate Promise. UNDP launched the Climate Promise in 2019, a commitment to support at least 100 countries in enhancing their national climate pledges toward the Paris Agreement. Today, UNDP, alongside 35 partners, is proud to

support 118 countries to submit enhanced pledges by COP26, each with demonstrated increase in quality and ambition, in both mitigation and adaptation, and in line with national development and green recovery plans.

Through the Climate Promise, we see ambition from the ground. Some of the most vulnerable countries, are delivering some of the most ambitious commitments, despite the COVID-19 pandemic. The majority of countries are leveraging NDC enhancement processes to guide government's efforts on COVID-19 recovery, with a strong focus on green jobs and social safety nets. Notably, the majority of enhanced NDCs now have strong social inclusion aspects, with the majority being gender-responsive and including youth considerations. This ambition is not only just in the substance of the NDCs, but also in the process of developing NDCs. Countries are using more inclusive whole-of-government and whole-of-society approaches, that take into consideration all stakeholders, break down silos, and leverage partnerships at all levels.

Now, as countries turn toward implementation of their ambitious climate pledges, UNDP is prepared to meet the challenge. Leveraging its innovation, networks, and experience, UNDP is looking to scale up support to implement their enhanced NDCs, and to continue to increase ambition towards climate neutrality.

The Climate Promise is supporting NDC enhancement processes in eight Pacific Island Countries (PICs). To explore synergies, maximize impact and avoid duplication, UNDP is closely working with other partners, including the Pacific NDC Hub member organizations (GIZ, GGGI, SPC and SPREP), the NDC Partnership, and IRENA, to coordinate and align NDC enhancement activities in PICs.

“ Inequality is growing for more than 70 percent of the global population, and climate change will directly push up to 132 million people into extreme poverty by 2030. ”



Countries are actively taking ownership over the entire process and directing the various partners in a coordinated manner. For example, Tonga has already coordinated the planning phase of its NDC enhancement process, which includes the design of activities and requests for support, and are discussing with partners to further define support. As a result, Tonga was able to develop a comprehensive and integrated plan for revising/enhancing its NDC that includes a detailed scope of work for each implementing partner that aligns with Tonga's Long-Term Low Emission Development Strategy, National Adaptation Plan (NAP) and Joint National Action Plan on Climate Change and Disaster Risk Management. Beyond coordinating, the assistance provided and sharing information, these partnerships are opening up new opportunities for future cooperation.

Pakistan's Climate Chronology: A Timeline



Highlights:

Parties to the UNFCCC continue to adopt decisions, review progress and consider further action through regular meetings of the Conference of the Parties.

Includes provision under Article 10 for a financial mechanism to support developing countries and countries with economies in transition to a market economy in implementing the Convention.

Supported by multiple stakeholders including scientific bodies, United Nations agencies, and other conventions.

March 1994

Objective:

To stabilize greenhouse gas concentrations "at a level that would prevent dangerous anthropogenic (human induced) interference with the climate system." Pakistan is party to the UNFCCC.



Objective:

Kyoto Protocol operationalizes UNFCCC by committing developed countries and countries in transition to a market economy to achieve quantified emission reduction targets.

Jan 2005
Kyoto Protocol



Highlights:

Established three flexible mechanisms to assist countries in meeting their national targets cost-effectively including; an emissions trading system; joint implementation (JI) of emission reduction projects between Annex I parties; and the Clean Development Mechanism (CDM).



May 2010

National Sustainable Development Strategy (NSDS): Pakistan's pathway to a sustainable and resilient future



Highlights:



Economic: sustainable trade, cleaner production and sustainable consumption.



Environment: natural capital and biodiversity.



Social: social protection, poverty alleviation, addressing inequality and focusing on human development.

Objective:

Outlines 'vibrant and equitable economic growth' that delivers benefits to all, particularly the poor and the vulnerable, in a way which does not lead to undue exploitation or degradation of natural resources.





Highlights:

The Act imposes to draw up:

A National Plan.



Guidelines for minimum standards of relief.



Directions with regards to the relief in loan repayment.

December 2010

The National Disaster Management Act 2010

Objective:

The National Disaster Management Act establishes the National Disaster Management Commission and a multi-tiered system for disaster management.



December 2010

The Pakistan Council of Renewable Technologies Act

Objectives:

Legislates for institutional development by mandating the establishment of the Pakistan Council of Renewable Energy Technologies.

Highlights:

The Council will be responsible for promoting the development, acquisition, propagation and dissemination of renewable energy technologies.



December 2010

Alternative Energy Development Board Act

Objective:

The Act creates an Alternative and Renewable Energy Development Board.



Highlights:

Evaluating, monitoring and certification of alternative or renewable energy projects and products.

Setting up of a co-ordination agency for commercial application of alternative or renewable technology.

Facilitation in energy generation through alternative or renewable energy resources.



September 2012

National Climate Change Policy

Objective:

To ensure that climate change is mainstreamed in the economically and socially vulnerable sectors of the economy, and to steer Pakistan towards climate resilient development.



Highlights:



Identifies vulnerabilities to climate change in the sectors of water resources, agriculture, forestry, coastal areas, biodiversity and vulnerable ecosystems, and spells out the appropriate adaptation measures to be adopted.



Puts forward appropriate measures concerning disaster preparedness, capacity building, institutional strengthening, technology transfer and international cooperation.



Provides a comprehensive framework for the National Action Plan.



Seeks international finance to support the development required to meet these numerous challenges.



Seeks to create economic incentives to encourage public and private sector investment in adaptation measures and the promotion of conservation of natural resources and long-term sustainability.



November 2013

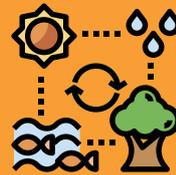
Framework For Implementation of Climate Change Policy 2014-2030

Objective:

Provides the scheduled implementation timeline of the Climate Change Policy.

Highlights:

A 'living document' that outlines implementation schedule in sectors such as water, agriculture, forestry, coastal areas, biodiversity, health and other vulnerable ecosystems.



Pakistan 2025: One Nation, One Vision

Objective:

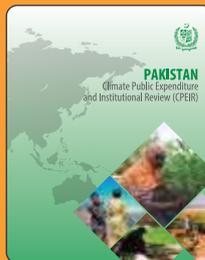
Present country's strategy and road-map to reach national goals and aspirations, including the Sustainable Development Goals.

Highlights:

Climate Change focused action includes to integrate climate change budgeting into national development planning.

First ever Climate Change Public Expenditure and Institutional Reviews (CPEIR) with federal and all provincial authorities was completed in 2015.

May 2014



Law Passed: December 2010
Law Amended: December 2015

National Forest Policy

Objective:

Supported by caveats in the National Environment Policy, this policy addresses the sustainable use of renewable natural resources. The 2015 Policy is a broad update of the 2010 document.



Highlights:

Strong focus on forests' role in mountain areas where they provide protection from soil erosion and reduction of downstream siltation; and crucially, watershed protection.

Explore potential of forests to support local livelihoods in terms of provision of non-timber forest products.

Creation of forest fund to finance the protection of watersheds and safeguard Pakistan's water supply.



Pakistan Climate Change Act, 2017

Objective:

To meet Pakistan's obligations under international conventions relating to climate change, and address the effects of climate change.

April 2017



Highlights:

The Act establishes the Pakistan Climate Change Council, headed by the Prime Minister. Key functions of the Council include coordination, enforcement and implementation of international Climate Change agreements, mainstreaming CC concerns into decision-making at federal and provincial levels, monitoring and further recommendations.



Highlights:



Prepare, submit, execute and implement approved project plans.



Collaborate with national and international organizations for CC research.



Hold seminars, conferences, workshops, and training courses, and publish research related to climate change and create awareness.



Advise government and recommend sectoral guidelines for adaptation and mitigation efforts.

September 2018 (Launched)

10 Billion Tree Tsunami programme (Plant4Pakistan)

Objective:

To revive Forest and Wildlife resources in Pakistan; to improve the overall conservation of the existing Protected Areas; encourage eco-tourism, community engagement and job creation through the conservation.



Highlights:

Achieve target of planting 10 billion trees over five years. It replaces the 2014 tree tsunami Programme.



Renewable energy

Highlights:

Builds on the previous Billion Tree Tsunami Project and involves a "Debt for Nature" scheme, which would see Pakistan entering into negotiations with creditor countries about debt retirement in exchange for quantifiable performance on biodiversity protection.



July 2020 (Launched)

Green Stimulus Package

Objective:

Focuses on innovative financial tools to help build sustainable, responsible economic growth, and create green jobs.



National Electric Vehicle (EV) Policy 2019

December 2020 (Approved)

Objective:

Sets EV adoption targets and includes incentives for buyers and manufacturers.



Highlights:

Focuses on development of nationwide charging infrastructure to ease adoption of electric vehicles.

Targets include:

For cars: 30% of new sales by 2030 and 90% of new sales by 2040
For two- and three- wheelers: 50% of new sales by 2030 and 90% of new sales by 2040.

For buses: 50% of new sales by 2030 and 90% of new sales by 2040.
For trucks: 30% of new sales by 2030 and 90% of new sales by 2040.

For Buyers: 1% GST for EVs vs 17% for regular vehicles; and Lower electricity tariffs for EVs.

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Fuel-Efficient Stoves

One Small Step to Secure the Climate Future

With conventional stoves creating rampant deforestation, health deterioration and financial losses in local communities, the shift to fuel efficient stoves has become a necessity.

By
Haider Raza

Regional Head Gilgit-Baltistan
World Wide Fund For
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“ We were using an electric heater for cooking but it took too much time to cook meals, so we were planning to buy a traditional stove. This (fuel-efficient stove) is a gift for my new house from WWF-Pakistan and I am very thankful to them ”

– Naila, Beneficiary, Resident of Cheera cillage, Bagrote valley. –

Faced with harsh weather conditions and a lack of basic amenities, communities in the mountainous regions of Gilgit-Baltistan use wood from natural grown forest fruit trees, to fuel conventional stoves for cooking and heating purposes. Alternative sources of energy are either unavailable or unaffordable. Smoke emitted from these stoves leads to health issues, such as acute respiratory tract infections, eye soreness and risk of cardiovascular disease.

To combat forest degradation and improve the quality of life of local communities, WWF-Pakistan has introduced energy-efficient stoves that not only emit less smoke but also cut down on fuel consumption. This initiative is part of the 'Improvement of Central Karakoram National Park (CKNP) Management System as a Model for Mountain Ecosystems in Northern

Pakistan', with the support of government of Italy and UNDP.

The stoves are bringing about significant health, economic and environmental benefits, and are improving livelihoods of the local communities. The double combustion chambers help in saving fuel, emit less smoke and produce greater heat. The water heating and storing tank in the stove provides hot water to the beneficiaries. Furthermore, the amount of wood burnt has also decreased to almost half of that used in conventional stoves, and the stoves accommodate and burn wood chips and tree branches, which have replaced the usage of logs. Households are reporting a noticeable reduction in health issues and an increase in disposable income, owing to savings in medical expenses and lowered living costs and household expenditures.

Action through Change: Sustainable Financing for Climate, The Global Perspective

“The momentum for crowding in private finance is one that needs to be increased to complement public climate finance, and expand the suite of climate finance instruments.”



By
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Sustainable climate finance aims at scaling up the flow of financial resources for adaptation and mitigation measures, taking note that mobilization will be from a variety of sources, leading to different actions, and recognizing distinct country needs. In 2009, developed countries committed to mobilizing USD 100 billion in climate finance annually, by 2020. The Organisation for Economic Co-operation and Development (OECD) had reported, that while climate finance had grown from USD 52.2 billion in 2013, to USD 58.6 billion in 2018, and USD 78.9 billion in 2018, the volumes and pace of financing were not enough to meet the USD 100 billion target in 2020 .¹ The conditions for meeting this target in the coming years has also been altered by the COVID-19 pandemic, as it additionally pressured future investment capabilities for climate action, and worsened debt vulnerabilities of countries. With this in mind, the momentum for crowding in private finance is one that needs to be increased to complement public climate finance, and expand the suite of climate finance instruments.

Within the menu of climate finance options, insurance and risk reduction instruments are emerging as new solutions. In 2015, the Sendai Framework for Disaster Risk Reduction encapsulated the political shift from addressing climate-change-related risks after impacts (ex-post), to managing these risks before they even happen (ex-ante). Article eight of the Paris Agreement identifies risk insurance facilities, climate risk pooling and other insurance solutions, as areas for international cooperation and support, and the Green Climate Fund – a key climate finance channel – can provide funding for adaptation projects that include innovative risk transfer mechanisms, including insurance. However, it has not reached

its substantial potential in this area yet. Even with comprehensive risk management systems in place that enable risk identification, prevention, preparedness and recovery, the residual risks that remain, can greatly threaten anyone’s financial sustainability. Addressing these residual risks will entail transferring, pooling, sharing, or retaining the risks. In many developing countries, however, options to address residual risks remain limited, and there is still a tendency to rely on risk retention instruments such as reserve funds, budgetary allocations, tax increases and donor assistance. Oftentimes, these instruments prove to be insufficient to cover all losses and damages incurred from climate risk events.

For example, in Pakistan, annual economic losses from floods have been estimated to be between USD 1.2 billion to USD 1.8 billion (PKR 167 billion to PKR 255 billion), which is already three to four percent of total federal budget. But between 2014-2017, government spending for total relief and recovery responses only amounted to between 0.9-1.9 percent . How then can the financing gap be filled?

Insurance and risk finance can facilitate the immediate and effective post-disaster financial support at an individual, intermediary or government level. If entrenched within a broader risk management framework, it can contribute to resilience-building, especially as it can allow governments to tap into additional external resources, prevent budget reallocations and sustain social protection mechanisms, that will protect the poor and vulnerable communities.

Even then, from 1980 to 2015, only two percent of losses from weather-related disasters in lower-middle and low-in

come countries had been covered by insurance.³ G7 countries have since committed to increase the access to direct and indirect insurance coverage against climate change impacts for up to 500 million people by 2025, through the ‘InsuResilience Global Partnership’ initiative, a collaborative platform

support to the establishment or scaling up of insurance, as a climate adaptation tool, can contribute to balancing the allocations. Investments could be dedicated for product development, data and analytics, insurance literacy, technical assistance for enabling regulatory and legal frameworks, or other capacity building initiatives, that will transform the underfunding of adaptation measures. Directing financial market

Table 1: Examples of Insurance Schemes

Scheme	Country/Region	Type of Insurance	Type of Climate-related Peril	Type of Coverage
African Risk Capacity (ARC)	Africa	Pan-African risk pooling disaster response system	Droughts, floods and cyclones	Damage caused by peril
Caribbean Catastrophe Risk Insurance Facility (CCRIF SPC)	Caribbean	Multi-country risk pool regional catastrophe fund, parametric insurance	Tropical cyclone, excess rainfall	Damage caused by peril, inc. for fisheries sector and electric utilities
National Disasters Fund (FONDEN)	Mexico	Index-based National Catastrophe Fund	Hydrometeorological: cyclone, excess rainfall, snow and hailstorm, flood, tornado	Damage to public buildings and infrastructure
Pacific Catastrophe Risk Insurance Catastrophe (PCRIC)	Pacific	Market-based sovereign parametric insurance	Tropical cyclones	Damage caused by peril
Index-based Livestock Insurance Program (IBLIP)	Mongolia	Livestock index-based insurance	Extreme weather conditions	Livestock mortality
Philippine Crop Insurance	Philippines	Government-subsidized indemnity-based agriculture insurance	Typhoon, flood, drought	Multi-risk cover, natural disaster, pests, disease
Modified National Agricultural Insurance Scheme (MNAIS)	India	Agricultural index-based insurance	Cyclones	Crops
Microinsurance Catastrophic Risk Organization	Latin America	Index-based inclusive insurance	Rainfall, wind	Protection of entrepreneurs against natural catastrophes

that aims to build the resilience of developing countries, protecting lives and livelihoods against the impacts of disaster and climate risks using insurance and risk finance solutions. Some examples of these solutions are mentioned in Table 1.

Other financing flows have gone into capitalization of insurance entities or funding facilities (such as for the ARC and Fonden), while other investments have been for full or partial premium subsidies (as is the case for India and the Philippines).

One of the noted trends of climate finance flows has been the

1 Independent Expert Group on Climate Finance. Delivering on the \$100 billion climate finance commitment and transforming climate finance. December 2020. Available at https://www.un.org/sites/un2.un.org/files/100_billion_climate_finance_report.pdf

2 World Bank (2020), “Options to strengthen disaster risk financing in Pakistan”. Available at <https://documents1.worldbank.org/curated/en/858541586180590633/pdf/Options-to-Strengthen-Disaster-Risk-Financing-in-Pakistan.pdf>

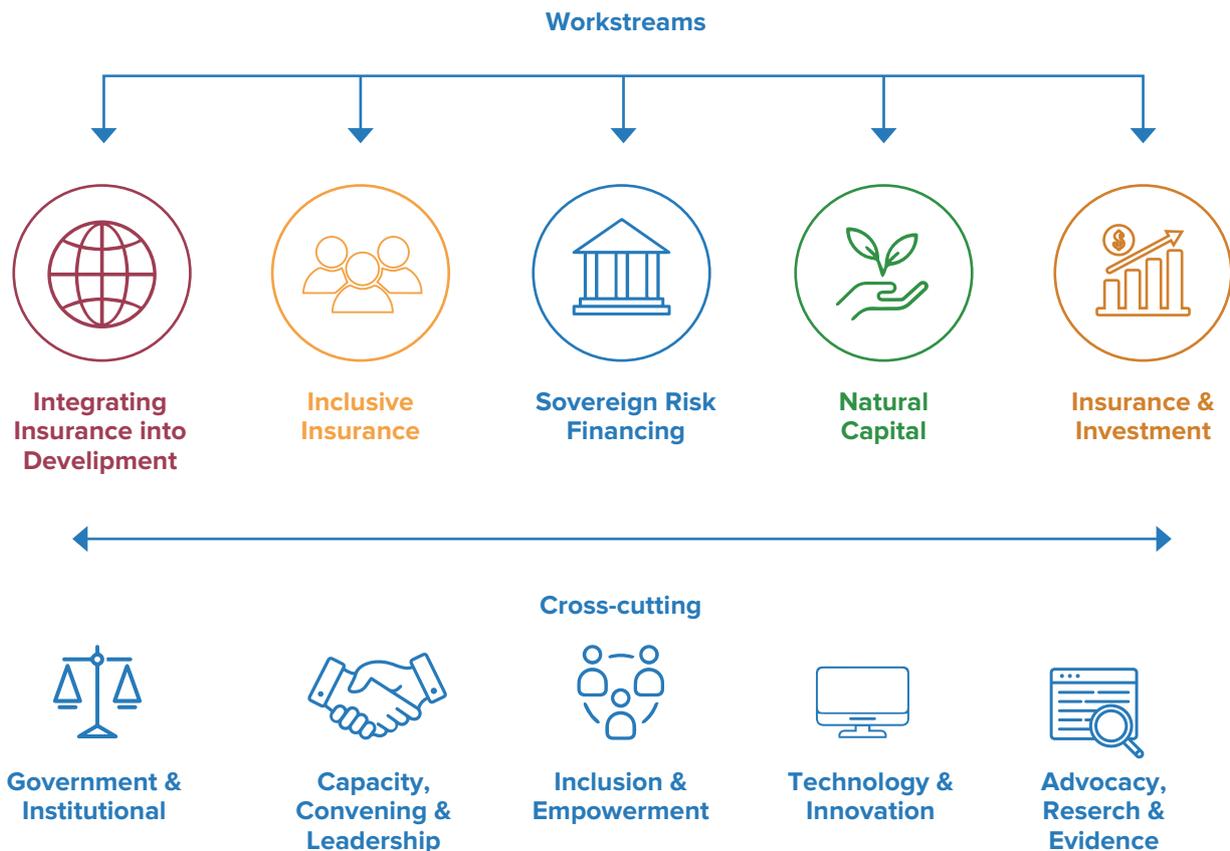
3 Munich Climate Insurance Initiative. Making Climate Risk Insurance Work for the Most Vulnerable: Seven Guiding Principles. UNU-EHS Publication Series Policy Report 2016, No.1.

Building resilience and ensuring inclusion of the poor and vulnerable through insurance, will require the crowding in of private sector finance and expertise. Risk management tools and capabilities – which are core to the business of insurance – remain largely underdeveloped in the public sector. If we are to prevent setbacks of the sustainable development gains that have been achieved in the past decade or so, development has to be risk-informed and set on a trajectory that anticipates and prepares for shocks and risks.

It is in this spirit, that the UNDP Insurance and Risk Finance Facility (IRFF), is catalyzing collaborations with governments and the insurance industry, to improve the understanding,

assessment and management of risks. Together with the Insurance Development Forum, and the previously mentioned ‘InsuResilience Global Partnership’ and other networks and partners, UNDP IRFF will leverage the expertise and capacity of the insurance industry for integration into development frameworks and financing. By 2022 alone, the IRFF will be working in a minimum of 20 countries. It will develop and enhance insurance solutions and invest into long-term transformation of insurance markets through its cross-cutting areas of support in governance and institutional strengthening, capacity development, technology, research and inclusion, and empowerment.

Figure 1: UNDP Insurance and Risk Finance Facility



The value and potential of insurance and risk finance as a climate finance solution, is weakly appreciated and hazily understood. But the worsening risks and vulnerabilities from climate-related events, amplified by the COVID-19 pandemic, will undoubtedly hasten collaborations and investments so that insurance becomes an indispensable financial source for climate action. Private sector expertise and investments need

to be unlocked at a faster pace and a broader reach to supplement public finance that is falling short of its commitments. Capacities will have to be enhanced to enable risk-informed decision-making and operation, while legal and regulatory landscapes will have to foster innovative insurance tools and services that meet the needs of the poor and vulnerable.

“Investments for the development of insurance will help boost the overall financial flows for climate adaptation.”



Climate and Crises: Greening the Economy



By
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Climate Change directly impinges upon future planning for sustainable development in Pakistan. It poses a major threat to food, water and energy security in the country. In addition, coastal and marine environment, dryland ecosystems, agriculture and livestock, forests and biodiversity, and health, are other areas will suffer tremendously with the climate induced melting of glaciers, cyclonic storm surges, tropical diseases epidemics, flash floods, droughts and variable monsoons. This is the inevitable future reality for Pakistan.

Being high on the vulnerability index, adapting to climate change is a priority for Pakistan: the estimated cost for facing and adapting to future climate impacts ranges from USD six billion to USD 14 billion annually for Pakistan over the next 40-years. These figures reinforce the inescapable linkage between climate impacts and sustaining future development in the country, and the need to not only integrate these into future planning, but also develop a comprehensive adaptation plan to control the costs and associated risks in the future.

Pakistan has always remained at the fore-front of international initiatives targeting environmental conservation and promoting development. The government is determined to pace up efforts to ensure greening of development activities. It is piloting all possible interventions at policy, programme and grass-roots level, to minimize our footprint on the environment, besides improving resilience to climatic challenges. The provincial autonomy to deal with the environment has provided a more robust role, and flexibility to holistically deal with the conservation agenda.

The COVID-19 pandemic highlighted the urgency of reducing our negative impact on nature. It provided a glimpse into a future with less air pollution. Likewise, the current locust infestation challenge that countries in the region are facing, also has a clear link with 'un-due human interference' with nature.

In recovering from the pandemic, we must prioritize improvements in air quality. This will provide an opportunity to plead for long term investment in climate change mitigation and environment, in order to deal with an epidemic crisis.

The government of Pakistan has taken some drastic steps in its commitment towards addressing issues of air pollution and climate change. Being host of the World Environment Day this year, Pakistan reaffirmed its commitment to addressing environmental issues as a third and most important pillar of sustainable development. Pakistan intends to shift to a green economy which requires major structural and technological changes for 'greening' of key sectors, such as energy, urban



infrastructure, transportation, industry, agriculture and natural assets.

The Pakistan Electric Vehicles Policy envisaged targeting a robust electric vehicle market. The new policy is expected to have huge environmental benefits, besides addressing climate change, and would be a complete replacement of conventional technologies.

The government has very ably utilized the present situation to ensure economic sustenance of people through converting this challenge into an opportunity. The Prime Minister has already approved the Green Stimulus Package as part of the government's efforts for ensuring economic security in wake of the COVID-19 pandemic. Pakistan carrying on the tree plantation drives under the 10 Billion Tree Tsunami during the crisis, is a smart move. The subsequent planning of COVID-19 recovery will be a deciding factor for Pakistan in meeting its agreed climate commitments.

The Ministry of Climate Change has already launched the 'Ecosystems Restoration Initiative' (ESRI), which is an ambitious initiative that focuses on nature-based solutions to strengthen Pakistan's climate change adaptation and mitigation objectives. Likewise, huge investments are underway to strengthen protected areas system in Pakistan.

Pakistan is also in process of revising its Nationally Determined Contributions (NDC) to reflect more robust climate action, by reflecting recent mitigation and adaptation initiatives, strengthening of monitoring, reporting and verification, and instituting a 'whole of government' and 'whole of society' approach.

Just Transition for Net-Zero Emissions

“The world needs not just climate action, but also climate justice – based on just transition.”



By

Ali Tauqeer Sheikh

Climate Change Expert

“Increasing electro mobility and Electric Vehicles (EVs) deployment will ameliorate these challenges, and help in job creation and economic growth.”

Delivering the ‘Nelson Mandela Annual Lecture 2020’, Antonio Guterres, the UN Secretary-General said, that inequality defines our time. Because of globally growing extreme inequalities, the world system is at a breaking point. Covid-19 has exposed the world like an X-ray, revealing fractures in the fragile skeleton of the societies that we have built, and has exposed our fallacies and falsehoods. This is why the world needs not just climate action, but also climate justice - based on just transition.

The concept has begun to find deeper meaning, that touches at the heart of climate justice: it now stands for enabling transition to the New Climate Economy (NCE), that can be built without ignoring the economic and social interests of the poor and the marginalized. The NCE will attract an estimate USD 26 trillion in investments, and create 65 million new jobs over business as usual by 2030, in five key economic systems: energy, cities, food and land-use, water,

Pakistan’s Climate Policy Landscape

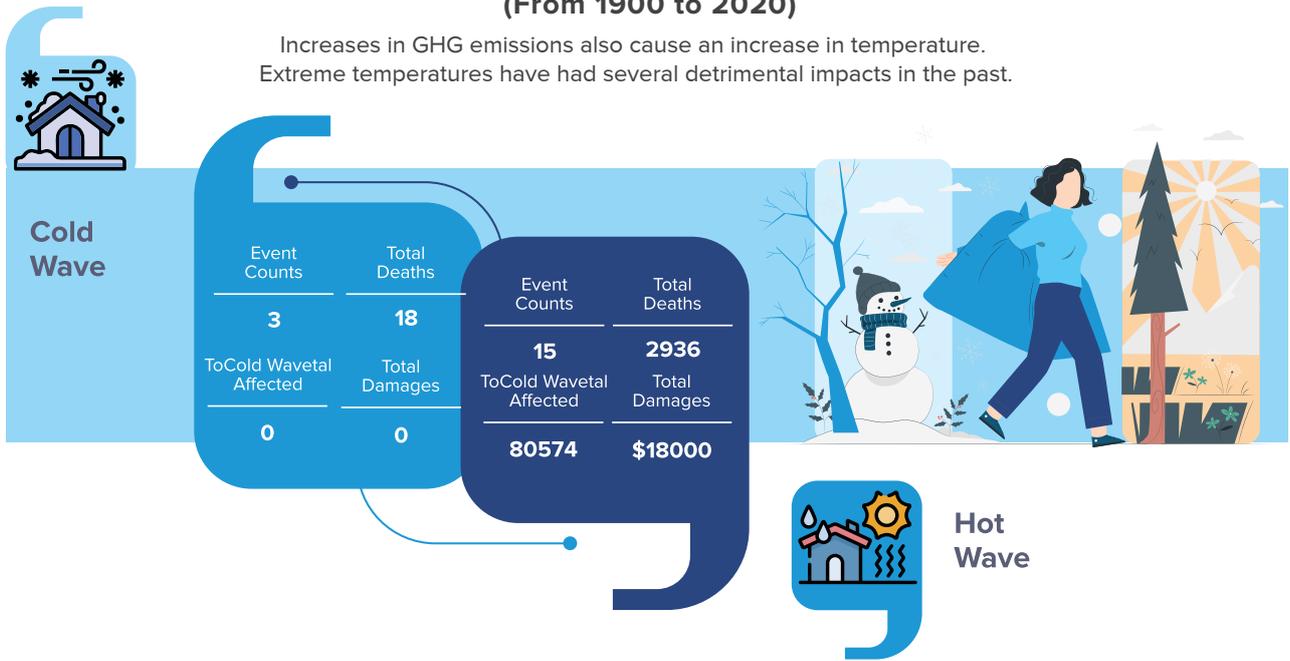
Pakistan has engaged in robust climate policy development. Initiatives include Framework for Economic Growth (2011), an Auto Policy (2016) a Climate Change Act (2017) , and the National Transport policy (2018). Pakistan has also approved an ambitious National Electric Vehicles Policy in November 2019 . National Transport Policy identified a number of projects, with implementation overseen by a Cabinet Committee on Transport. The focus of this transport policy is to provide affordable, safe, and fast transportation facilities to citizens. Policy Objective (8) of the National Transport Policy (2018) refers to the requirement to ‘Preserve and Conserve the Environment.’ In terms of policy directions, it states, “(xiv) Electric and other low-carbon transport will actively be pursued to reduce greenhouse gas emissions, phasing out of the internal combustion engine”. Just Transition, as articulated in the preamble of the Paris Agreement, is important, particularly since most Pakistani cities, where the two- and three- wheelers ply, are regarded as some of the most air polluted cities, causing major health hazards.

The term ‘Just Transition’ is fast gaining currency in defining priorities for the implementation of the Paris Agreement, for transition from coal and fossil fuels, to alternative sources of livelihood in non-extractive industries. Initially, it was perhaps meant to ‘buy off’ coal-miner’s trade unions, and to pacify their resistance to the possible closure of their coalmines.

and industry. This will widen inequalities even further, unless anchored in a commitment to just transition. The poor everywhere in the global south – and not just the coalminers – have already become victims of climate change. They should not be wronged again, as society transitions to climate smart economies.

The Impacts of Extreme Temperatures in Pakistan (From 1900 to 2020)

Increases in GHG emissions also cause an increase in temperature. Extreme temperatures have had several detrimental impacts in the past.



It is important to understand the barriers and drivers of Pakistan’s energy transition from fossil fuels to renewable energy. Pakistan is striving to accelerate its sluggish economic growth rate. Central to Pakistan’s development plans, is the accessibility to reliable and affordable energy. The country’s per capita carbon emissions are less than one percent of total global emissions. However, Pakistan plans to make this transition, as a responsible global citizen that is deeply committed to stabilize global temperatures between 1.5 and 2C agreed under the Paris Agreement. It is against this backdrop, that Pakistan has set ambition targets for renewable energy.

The Pakistan’s NDC in 2016, has committed to reduce greenhouse gas (GHG) emissions by 20 percent below its projected 2030 emissions, under a business-as-usual (BAU) scenario. The main strategy involved deployment of

renewable energy technologies and frameworks, for channeling funds towards low-emission energy projects. Pakistan has already shelved two coal power plants, and is seeking international support to exit from the remaining eight coal power plants. At present, Pakistan annually spends almost USD 13 billion on the import of oil. Unless more renewable energy sources are used as part of low-emissions development strategy, this figure will exceed USD 30 Billion by 2025, if Pakistan continues with the BAU scenarios. Otherwise, the future economic challenges will be from increased fuel bill payments, environmental degradation, and capacity-charge payments. The Technology Needs Assessment of Pakistan (2016) identified how managing emissions in the transportation sector, was crucial for tackling climate change.

The road transport carries 91 percent

passengers and dominates domestic transportation – it has grown from over two million cars in 1991-92, to 17.32 million in 2015. Increasing electro mobility and Electric Vehicles (EVs) deployment will ameliorate these challenges, and help in job creation and economic growth.

The introduction of EVs is a revolutionary step in a country, where millions of motorbikes and rickshaws are annually added to the fleet. Where in every major urban settlement, three wheels is a standard mode of transportation for low and middle income population. The livelihood of millions of families’ is dependent on this, and since the government of Pakistan is deeply committed to Just Transition, planning is underway to ensure that these two categories, together with the goods transportation industry, are the primary beneficiaries of EVs (Table 1).



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Table 1: Pakistan’s National Electric Vehicles Policy

EV Penetration Targets	Medium Term Targets (Five Years) Cumulative	Long Term Targets (2030) p.a.	Ultimate Targets (2040)
Cars (including Vans, Jeeps and small Trucks)	100,000	30% of New Vehicle Sales (60,000)	} 90% of New Sales
2, 3, 4 Wheelers	500,000	50% of New Vehicle sales (900,000)	
Buses	1000	50% of New Sales	
Trucks	1000	30% of New Sales	

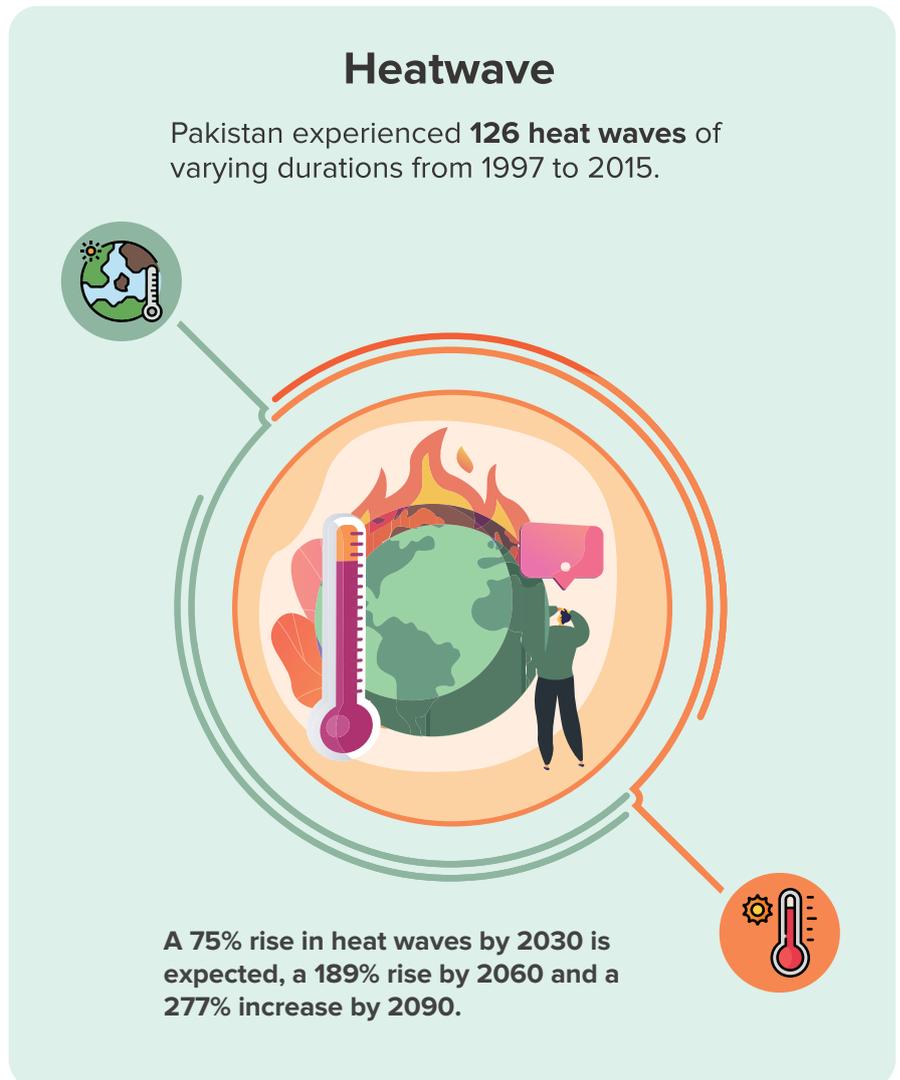
In the context of climate change threats, the notion of Just Transition now includes elements of equity, fairness, and environmental justice. In Pakistan’s context, the concept should now stand for the rights of the labour in industry, small and medium-sized enterprises (SMEs), informal economy, and the agrarian communities around the world, who are coping with threats to their livelihoods.

The European Union cannot expect to meet its net-zero emissions targets by 2050, without carrying the coal-producing rustbelt countries along. EU has therefore created, a USD 44 billion Just Transition Fund, to encourage them to leap forward to new economic sectors, by retooling, reskilling and upskilling the coalminers, and boosting the local economies. A commitment is made in the Paris Agreement, to take into account “the imperatives of a just transition of the workforce, and the creation of decent work and quality jobs in accordance with nationally defined development priorities.” This commitment was further strengthened through a Just Transition Declaration at COP 24 in 2018, in Katowice, Poland. Several countries have since, begun to incorporate the concept, tools, and processes of just transition in their development plans, and particularly in nationally determined contributions (NDCs), that provide roadmaps for their climate actions. Concurrently, an urgency is growing to develop concrete tools and strategies, especially since the Paris Agreement. The resubmission of NDCs expects countries to submit ambitious targets and action plans before the 26th climate summit in Glasgow in 2021. In other words, the notions of just transition are now emerging as a necessary condition for effective climate action in climate negotiations.

Is just transition relevant for Pakistan and other developing countries? How can we

help broaden the contours of the debate by questioning its Eurocentric preoccupation? Sneaked in the thick texts of the Paris Agreement, most developing countries’ delegates underestimated its potential significance during negotiations. Thankfully, scores of think tanks like IIED, WRI, CSI, SEI and others, have since then pushed the conceptual boundaries for it to include such concerns, as land-use planning, ecosystem-based natural resource management, land

degradation neutrality – a concept more immediately relevant for Pakistan and the global south. The principle of ‘Shared But Differentiated Responsibility’ (CBDR) that had been diluted, if not buried over the years, is now being necessitated as the basis for just transition. There is an emerging realization that without climate justice embedded in just transition, transformational change cannot take place. not shown sufficient sensitivity to climate justice,



and the hardships the NCE would entail for the poor. By way of example, Pakistan is making elaborate plans to introduce hybrid cars. Why, instead of focusing on middle class automobiles, can a just transition for rickshaw drivers not be prioritized, together with two-wheelers, and commercial transporters? It is a challenge for policy makers to rethink and ensure, that the transition to NCE does not squeeze the poor. For a start, Pakistan can embed just transition and NCE concepts into the new editions of National Climate Change Policy and NDCs. At present, both documents are under revision and they can potentially show our national commitment to climate justice.

EV adoption would require the automotive industries in Pakistan to undergo transformation. While Pakistan has made significant progress in modernizing its

distribution grids, more improvements are required to support large-scale EV charging infrastructure deployment. Bloomberg NEF suggests that EVs will be as affordable as their fossil fuel counterparts 2022, with a prediction that at least 35 percent (or as high as 47 percent where conditions are right) of all new cars worldwide will be electrically powered by 2040. In May 2019, the Prime Minister's Committee on Climate Change approved a working paper for guiding EV penetration.

Further, Pakistan's funding requests to Green Climate Fund, Adaptation Fund, GEF and others can be based on the principles of just transition. For this, Pakistan will need to work closely with the accredited agencies or intermediary organizations, who typically develop projects on Pakistan's behalf.

As Pakistan's SDG commitment has emphasized, Pakistan's transition to low carbon development should not leave anyone behind. Those who have their livelihoods tied to fossil fuel, need to be supported to adjust to low-emissions/zero-emissions economy. Two- and three-wheelers can be the key beneficiaries during phase one, followed by the goods transportation industry. Benefits will include reduced GHG emissions, clean air, particularly in densely populated inner cities, improved public health, and a transformation for a low carbon economy, and a just transition. Nothing would help mainstream climate change more effectively than a new social contract, based on ethos of just transition.



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Revisiting Pakistan's National Climate Change Policy



By

Dr. Qamar-uz-Zaman

Climate Scientist

Author of National Climate Change Policy

Pakistan's vulnerability to climate change hardly needs any emphasis. Pakistan is among the very few countries which has a dedicated Ministry of Climate Change. Pakistan developed its first National Climate Change Policy (NCCP) in 2012. The major focus of the policy at that time was on climate resilient development and adaptation, as like many other developing countries, Pakistan also had low carbon emissions.

After the Paris Climate Accord-2015, however, Pakistan accepted to contribute to the global emissions reduction efforts. Now, Pakistan has updated its policy and the focus of the NCCP-2021 is equally on adaptation and mitigation, with major emphasis on nature-based solutions.

The updated NCCP 2021 highlights the present government's flagship 'Ten Billion Tree Tsunami Programme' (TBTP), in addition to the Prime Minister's 'Urban Forest Project', 'Clean Green Pakistan Movement' (CGPM), and, 'Protected Areas and National Park Initiatives'. The objective of the last two initiatives is to develop 15 model protected areas across the country and expand protected areas to at least 15 percent of Pakistan's area by 2023.

Further, the policy's major emphasis is on 'Ecosystem Restoration Initiative (ESRI)' for facilitating transition towards an environmentally resilient Pakistan by mainstreaming adaptation and mitigation through ecologically targeted initiatives. This initiative also established an independent, transparent, and comprehensive financial mechanism in Pakistan called 'Ecosystem Restoration Fund (ESRF)' to finance the projects and programmes under the initiative. This fund will facilitate Pakistan's transition towards climate compatible development. The fund's present initiatives include afforestation, biodiversity conservation, marine conservation, promotion of eco-tourism, and electric vehicles.

More importantly, the policy based its mitigation strategy on the Prime Minister's recent speech at the 'UN Climate Ambition Summit' in December 2020, that has set the direction of Pakistan's pathway to decarbonizing the country's economy. He declared that by 2030, 60 percent of all energy produced in the country will be clean and through renewable resources, 30 percent of all the country's vehicles will be electric vehicles, and that Pakistan will no longer pursue imported coal power plants. These broad



SDG Goal 13 on Climate Action

pronouncements can provide the country's roadmap for decarbonization and achievement of 'Nationally Determined Contributions' (NDCs) goals. In this context, the policy also highlights the Prime Minister's recently launched-country's first ever-'Green Bond' by WAPDA for financing environmentally friendly energy projects to enhance the clean energy share in the country's power generation mix, which heavily relies on fossil fuels.

Policy also recognizes that advancing gender equality is an important part of a sustainable and resilient path for the whole population, and that women are powerful agents of change. It is therefore, vital to ensure participation of women and female gender experts in all policies, initiatives and decisions relating to climate change. The Government of Pakistan's present initiative to develop a national Climate Change Gender Action Plan (ccGAP) as a tool to enhance knowledge and capacities to meet the country's climate change objectives, is also indicated in the updated policy.

Climate Diplomacy: Towards Coalitions and Connectivity

“ The investments in the next decade will set the tone for how disruptive climate shocks can be, and how resilient and well-prepared communities and nations are, to absorb the impacts. ”



By
Aisha Khan
Chief Executive Officer,
Mountain and Glacier
Protection Organization
Founder and Head, Civil
Society Coalition for
Climate Change

The ‘Decade of Action’

The United Nations declared the 2020s as the Decade of Action, calling upon nations to accelerate sustainable solutions to society’s biggest challenges, including climate change. Despite an international effort to address climate change through the Paris Agreement, the likelihood that global warming will be kept below the 1.5°C target, remains low. By 2030, countries will need to have mobilized trillions in financing for mitigation and adaptation, to avoid the most catastrophic impacts of climate change. Through iterative commitments, coordination, and communication mechanisms, the appropriate level of ambition must be in place by 2025 among all countries, through effective resource mobilization, to meet the target of emissions reduction for temperature stabilization.

Pakistan and Climate Change

Pakistan’s high vulnerability to climate shocks is well established. Changing atmospheric greenhouse gas (GHG) concentrations are directly and indirectly responsible for the increasing occurrence of extreme weather events, and subsequent devastation from

floods, droughts, heat waves, desertification and resultant scarcity in food, water and energy. The biggest challenge is how to minimize damage and find solutions within the constraints of the geography we live in, and the limited resources available to us.

Climate Change and Biodiversity

The nexus between climate change and biodiversity was never as stark for survival, and the imperative for regional connectivity never as urgent for peace, as necessitated now, by a warming world. Unlike the COVID-19 pandemic, global warming cannot be contained by restricting mobility and imposing lock downs. It is also not possible to reduce climate risks with a vaccine. The only way forward is by addressing challenges as shared responsibilities, and taking collective action through coordinated planning and purpose-oriented collaboration. Businesses and countries are now increasingly looking towards nature-based solutions to protect biodiversity, restore degraded habitats, and reduce emissions from spiraling out of control. The choices we make between now and 2050, will determine our survival or extinction.

“ There is now a growing realization, that if we continue to push planetary boundaries, we will soon reach the tipping point, beyond which things will no longer remain in our control to change. ”

The Urgency of the Climate Crises

The warming trends and freak weather events have been taking place with increasing frequency. Climate change and its centrality, have been recognized by all nations. The recent heat wave experienced in the west coast of Canada and the north west of USA, are just previews of what will follow if we do not take immediate action through drastic measures to halt emissions. The short interregnum in emissions as a result of COVID-19, and the rapid response of the environment, is just one example of how damaging our lifestyles have become, and how quickly nature can bounce back, if given a chance to heal.

With the return of the US to the Paris Agreement, and a higher level of expectation attached to the Conference of Parties (COP26) due to take place in November 2021 in Glasgow, it is also time to look inward and assess national and regional risks to plot a strategy, and set a trajectory that will give people in South Asia, a better chance for coping with threats that will affect them and their lives, very closely.

South Asia's Climate Trajectory

South Asia is warming up more rapidly than the rest of the planet. The total population of South Asia is approximately 1.891 billion (57.7 percent male and 48.37 percent female), with a median age that ranges between 22-34 years, making it a young region, with 10.5 percent living below the poverty line, and close to 41 percent working in the agriculture sector.

With an average Gross Domestic Product (GDP) per capita income of USD 1960, stunting rate at 30 percent and nearly 90 percent working in the informal economy, the looming specter of drastic changes in hydrology, hydro-meteorological disasters, rising sea-level, food shortages, climate hot spots, climate induced migrations and associated impacts of major demographic shifts, will put pressures on people and

ecosystems that no country alone will be able to manage without spill-over effects. This will severely restrict each country in the region from achieving its social and economic agendas for growth and prosperity. Looking at climate change from an overarching perspective leaves no sector outside its pale. However, if there is one sector that needs to be addressed with urgency, it is water, as all other sectors are related to availability, quantity, timing and quality of water.

Water Security and Regional Resilience

Water security has emerged as a sub-sector of human security. Looking at it from the lens of regional resilience, it raises serious concerns about peace and stability, as well as moral and political responsibility for managing non-traditional security threats, and redefining the contours of regional security.

The Indus Basin comprises six major rivers in South Asia, that draw their waters from the Himalaya Karakoram and Hindukush (HKH) Mountain system. Water governance in the HKH is characterized by hybrid, formal-informal regimes, with a prevalence of informal institutions at the national and regional level. This region also occupies a vast cryospheric space, with the largest and densest collection of glaciers outside the sub-polar regions, making it the water towers of South Asia. More than 240 million people depend directly, and nearly 1.5 billion indirectly, on the goods and services that flow from this ecosystem. The Indus Basin covers 1.2 million km², of which 47 percent lies in Pakistan, and is the sole river system in the country with a network of 600 canals that provides 90 percent irrigated water for agriculture.

This heavy reliance on the 138 MAF from the River Indus makes it important not only to take a holistic view of water and its uses, but also to develop a robust understanding of the impact of climate change on the water sector, and what it means for the country and the region.



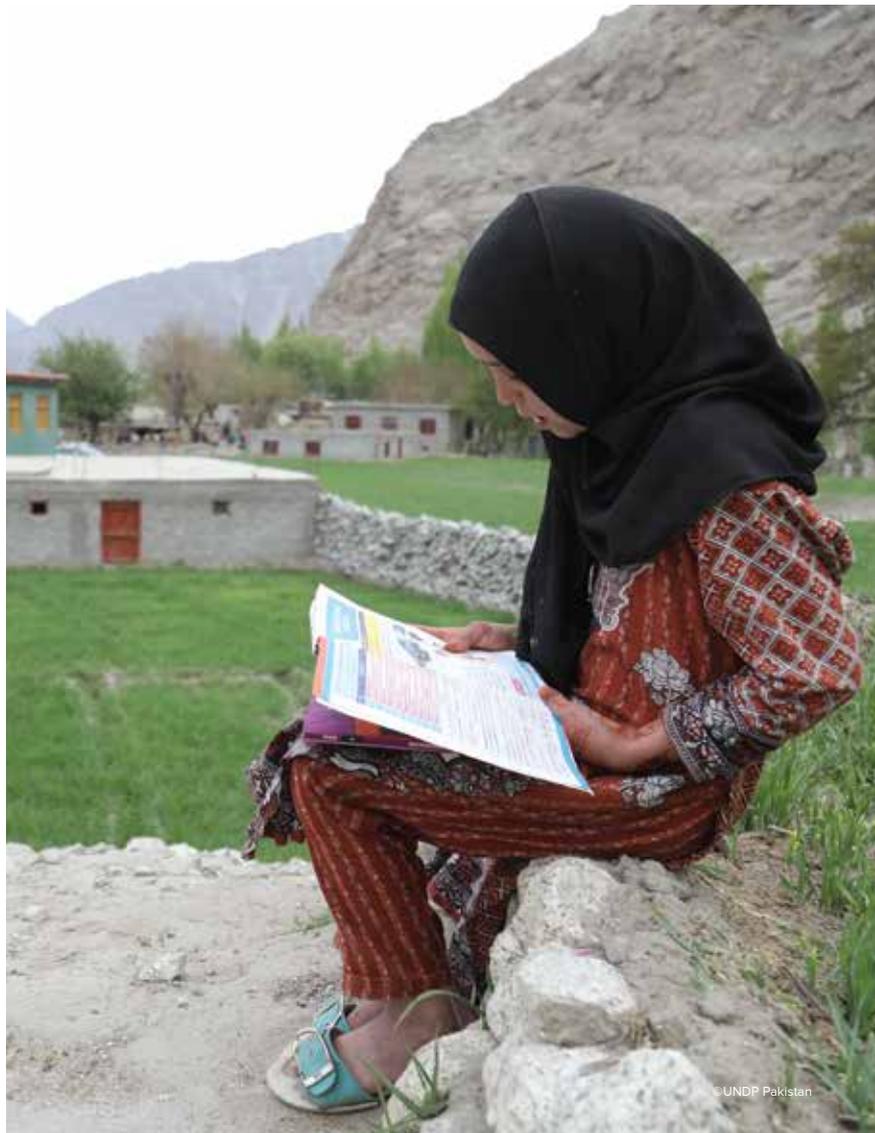
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Corridors that link ecology with economy, are more likely to provide long term beneficial trade-offs for people, peace and prosperity.
”

In order to make informed policy decisions about sustainable management of water resources in agriculture, hydropower, drinking water, sanitation and hazard risk reduction, it is important to take into account all factors including, physical, social, economic and environmental, to assess the magnitude of risk, and find solutions with minimal social cost, and long term environmental and economic dividends.

According to studies, upstream runoffs from snow and glacier melt, have a higher impact on the hydrological flows of the Indus, than the Ganges and Brahmaputra river basins. Total run off, glacier melts and seasonality of flows is projected to increase till 2050, with some exceptions and large uncertainties. Despite the critical knowledge gaps that can only be addressed through modeling based on representative carbon pathways for future run off volumes and seasonality, it is nevertheless clear, that drastic changes will take place in the HKH region. Any disruptions here will have serious and devastating effects on the lives and livelihoods of billions of people, destabilizing the critical nexus between water, food and energy.

The Indus Water Treaty has stood the test of time and rightly been hailed as a triumph of hydro diplomacy, given the distrust and political differences between Pakistan and India over unresolved territorial disputes. However, emerging threats related to changes in hydrology and extreme events, environmental flows, quality of water, use of shared aquifers and need for telemetric information sharing to avoid catastrophic events, were not a matter of concern at the time of signing the treaty in 1960, and therefore left unaddressed. These issues have now assumed a new significance in the light of the rapid pace at which climate is changing, and require closer collaboration between science, society and policy, to evaluate the threat, and come up with a workable solution.

Several recent reports¹ combine global responsibility with regional action to provide an overview of the threat, so that the international community takes cognizance of the urgency that is needed to reduce emissions, and countries at the regional level revisit their business as usual scenarios to take



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steps to reduce vulnerability and build resilience.

The need for closer collaboration among countries that share land and water resources, as well as air and ecological corridors, is stressed. For instance, estimates in the rise of climate hotspots in the future, will put at risk the lives of eight hundred million people, who will be forced to migrate. This mass displacement of large numbers could have a spill-over effect and create tensions leading to conflict within countries and among nations. As the resource base shrinks and scarcity of essentials like food, water and energy grow, tendency of countries in the region to look inward may also increase, pitting nations against each other for grab of critical resources. The threat multiplier effects of climate change

cannot be ignored.

Ecological Corridors and Biodiversity

The role of ecological corridors serving as bridges between habitats to promote biodiversity, is an important function that needs supportive measures to facilitate free flow of ecological goods, and services between countries in the region. Corridors that link ecology with economy, are more likely to provide long term beneficial trade-offs for people, peace and prosperity. While the literature in the context of trade-conflict and trade-peace corollaries is mixed, it is generally agreed that trade promotes not only a history of cooperation between countries, but increases the possibility of reaching negotiated settlements, thereby serving as a coercive potential for reducing conflict.

¹ Three reports in recent years lend urgency for moving towards agreement on an “Agenda of Solutions” for building Regional Resilience”.

(i) IPCC report on limiting temperature increase to within 1.5 degrees Celsius by 2030,

(ii) IPBES report on climate change and biodiversity,

(iii) World Bank report on the Melting Himalayan Glaciers.

“ It will serve us well to remember, that the price of collaboration is small, but the cost of conflict will be huge. ”

It is very difficult to be precise about the impacts of hydrology on HKH river basins based on probabilistic analysis of representative carbon pathways, and interpretation of available climate projections. However, remaining within safe margins one can assume, that it will result in a 35 percent decrease in freshwater availability, by 2100.

Hydro-Diplomacy

While collaboration in South Asia poses intractable challenges, it is also difficult to ignore geography that connects countries in the region through land, water and air. As the pressure on natural resources increases, so will the need to find equitable means of distribution for accommodating trans-boundary needs of people and eco-systems.

This makes the case for hydro-diplomacy compelling for many reasons. It will allow regional countries to reimagine irrigation and agriculture, and work together to replenish aquifers and develop ground water hot spots. South Asia river basins are super imposed with multiple cultural maps. We can use rivers for creative engagement in water to promote hydro solidarity, with the objective of nurturing not only inter-disciplinary water discourse, but also a newer epistemology of water. Questions about whether river waters should only be seen as an externality for provisioning services or take into account the civilizational, cultural and spiritual dimensions of water, can also be explored to create a new conceptual order that promotes people to people negotiations of shared river basins.

In the 1990s, a host of initiatives were taken to engage diverse stakeholders in Track Two conversations for improv-

ing bilateral relations. In more recent years, conversations on climate change and impact of water on lives and livelihoods, has found more traction between science and society, but the critical mass needed to build a strong constituency of support for collaboration and climate dialogues between policy makers in the region, is missing.

Collaboration is Key

The cost of non-collaboration on issues that will challenge the capacity of states to respond or manage crises triggered by climate change, will off-set economic development agendas and plunge the region into a state of chaos. Fighting over diminishing resources will not resolve issues, but add to vulnerability.

While limiting temperature increase may not be within the control of any one country or region, addressing issues like black carbon, adding new clauses to existing agreements, or signing new protocols to address emerging threats, strategies for managing climate induced migrations, planning on how to get more from less water, and sharing telemetry information, are some of the issues on which initiating conversations at multiple levels could provide an enabling environment to pave the way for delinking politics from environment, and create space for diplomacy to work on a New Green Deal for South Asia.

As we transition into a world of uncertainty with an existential threat staring us in the face, it is time to leverage collaboration as a tool for coordinated planning and raising level of engagement to a higher equilibrium. If COVID-19 was a preview, then Climate will be a game changer. It will serve us well to remember, that though the price of collaboration is small, but the cost of conflict will be huge.

It is time for South Asia to engage in Climate Diplomacy and collaborate with all stakeholders to reduce vulnerability. The concept of healthy ecosystems and conservation of biodiversity, is predicated on respect for nature. However, nature cannot store enough carbon to let us keep spewing greenhouse gases at current rates. The availability of fresh water as a renewable resource to support life systems, can also no longer be taken for granted. The solution lies in balancing our way of life with nature, and seeking nature-based solutions that take a “Whole of Region Approach” for making South Asia resilient.



Equality Matters



By

Dr. Nausheen Hafeeza Anwar

Director, Karachi Urban Lab
Professor, City & Regional Planning
Institute of Business Administration

Define the relationship between gender equality and climate change (CC)?

- Ÿ The relationship is complex and shaped by existing political and social power relations.
- Ÿ CC reinforces pervasive gender inequalities that are part of longstanding social challenges in societies across the world.
- Ÿ CC exacerbates existing gender inequalities in specific dimensions such as health and livelihood systems, that are critical for coping with CC impacts.
- Ÿ Important question: **how to tackle these challenges?**

Who matters?

- Ÿ Poor and marginalized populations who are most vulnerable to climate shocks.
- Ÿ As an example: Karachi, where long-standing historically shaped ecological vulnerabilities, infrastructural degradations, and shifts in rainfall patterns have resulted in urban floods.
- Ÿ Resilience and vulnerability are directly linked to inequality: The higher the social status, the better the management of vulnerabilities, the better the capacity of resilience.
- Ÿ **Who are impacted most?** Men, women, elderly and children who are poor, marginalized, or low-income working class populations that suffer disproportionately.

Who is heard and how?

- Ÿ NGOs, corporate groups, international organizations, and elites often become the primary voice in public arenas.
- Ÿ **Who isn't heard?** Those with the most to lose often have the least say in the matter, for instance indigenous populations, poor women, children, transgender persons and elderly
- Ÿ The range of voices that reaches the forefront is not an effective representation of the politics of accountability because those impacted the most, have the least proximity to the centers of political power.

Who decides?

- Ÿ Power dynamics play a crucial role in CC decisions.
- Ÿ Informed and effective decisions require informed and transparent data generation: nuanced forms of data are imperative.
- Ÿ Co-production of knowledge by finding ways to consciously include local, indigenous and vulnerable communities is critical.
- Ÿ Who decides depends upon **'who sees what and how information on climate risks is used in decisions'**

Who benefits?

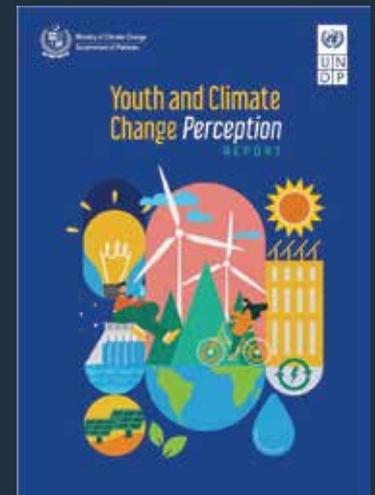
- Ÿ Those in power or proximate to centers of political power.
- Ÿ Unless underlying and longstanding structural challenges are tackled, handling of the impacts of CC will remain very limited.

Way forward

- Ÿ CC Policy must be more sensitive to gender inequalities.
- Ÿ CC Policy must be inclusive to the needs of vulnerable populations.
- Ÿ CC Policies must be localized to provinces, districts, municipalities.
- Ÿ CC Policy must involve multi-stakeholder participation.
- Ÿ Linkages between government and academic institutions for grounded research, capacity building, knowledge generation, and sharing is crucial.

UNDP Youth and Climate Change Perception Report, 2021

A recently published survey-based report, which gauged the perception and knowledge regarding climate change, among the youth of Pakistan.



HIGHLIGHTS

Climate Change Knowledge

- 35% of the respondents who completed postsecondary schooling indicated having high degree of understanding of the concept of climate change.
- 69% of the respondents of the phone survey had poor understanding of the causes of climate change.

Climate Change Vulnerability

- Over 50% of the respondents in rural areas selected 'changes in temperature' and 'changing weather patterns' as the most significant consequence of climate change.

Adaptation Strategies

- 56% of the rural respondents, while 62% of the urban respondents selected 'use of environmentally friendly modes of transportation' as an effort they are employing in their daily lives, to combat the impacts of climate change.
- 42% of the urban respondents chose resource constraints as the most significant problem relating to adaptation.

Regulatory Knowledge

- 69% of the respondents of the digital survey knew about the Ministry of Climate Change.
- 42% of the digital survey respondents were aware of the initiatives taken by the government to increase climate change knowledge, awareness, and action.

Climate Advocacy

- 53% of the respondents answered that climate education was a part of their formal schooling.
- 45% indicated that green job creation represented the biggest opportunity area for climate change action.
- 35% of the respondents of the phone survey indicated that they had risen the plinth of the house in order to adapt to climate changes.
- 19% of the respondents selected migration and resettlement as an activity undertaken in order to adapt to the changes in the environment.
- 30% respondents of the phone survey stressed upon the need to involve youth in design formation process in order to increase youth participation in policymaking.

“ With the grand-scale green recovery programme propelling large scale restoration and job creation, Pakistan is demonstrating that nature-based recovery efforts can create a large number of jobs, and accrue nature and climate dividends.”



Financing Nature Allies for Human Development

“Nature is our strongest ally for the collective ambition of establishing a sustainable and equitable world.”



By

Midori Paxton

Head, Ecosystems and Biodiversity
United Nations Development Programme
Bureau for Policy and Programme Support (BPPS)

Next Frontier – Human Development and Anthropocene. This was the title of the 2020 Human Development Report. The Report concludes that the current model of development is broken. With the traditional economic and development paradigm which gauges growth with consumption and expenditure, without taking into account depletion of natural capital, human activity has been putting immense pressure on the planet. As a result, we are in our current climate and nature crises, which are compounded by the inequality and the COVID-19 pandemic crisis.

In order for the world to achieve the Sustainable Development Goals (SDGs), there is an urgent need to advance human development while eliminating planetary pressures. And to do this, we need to reinvent our economies to be able to develop with nature, and to be able to invest in nature. We all depend on nature for air, water, food, health, livelihoods, and wellbeing. Businesses need nature to survive, thrive and prosper for any long-term success. 50 percent of the 169 SDG targets need nature to achieve them, and half of the world's Gross Domestic Product (GDP) is dependent on nature. We have to walk away from the paradigm that was prevalent for too long – the paradigm that ignores natural capital in the economic and financial decision-making process.

We need to shift away from a world where massive cleaning of buildings or medical treatment of millions of people

due to air pollution, is counted as a plus for the economy. We need to change the thinking of an economy where companies make billions of dollars of profits with commodity production, which cuts down tens of thousands of hectares of primary forests, deprives thousands of people from access to natural resources and livelihoods, and smothers millions in filthy haze from fires.

As a catalyst for this shift, the Taskforce on Nature-Related Financial Disclosures (TNFD) was launched last month. TNFD will have 30 members from private finance and the business sector, and will provide a framework for organizations (financial institutions and non-financial corporates) to report and act on evolving nature-related risks. This is expected, in turn to support a shift in global financial flows away from nature-negative outcomes and towards nature-positive outcomes at scale. UNDP, along with the United Nations.

Environment Programme (UNEP) Finance Initiative, Global Canopy and World Wide Fund for Nature (WWF), is a founding member for thisground-breaking initiative.

In order to create an enabling environment and to catalyze nature-positive public and private expenditure and investment, role of governments, in particular, ministries of finance and central banks, are critical. UNDP's Biodiversity Finance Initiative (BIOFIN) has been working with 40 countries to



“ It is becoming increasingly difficult for many countries to direct sufficient investment for nature, and more broadly for SDG action. ”

assess policy and institutional set up, current expenditure for nature conservation, and to identify financing gap for properly safeguarding ecosystem services and biodiversity in countries.

Governments then develop the national biodiversity finance plan looking at four aspects of increasing finance for nature. These are: (i) Increase efficiencies of current expenditure; (ii) Realign expenditure to reduce and eliminate negative expenditure such as repurposing of nature-negative government subsidies (e.g. agricultural or fisheries subsidies); (iii) Establish new sustainable financing mechanisms including payment for ecosystem services, trust fund, and various levies; and, (iv) Prevent future costs through strategic investments and policy changes that protect biodiversity today, and reduce the need for larger expenditures in the long-term to restore or replace lost ecosystem services. In these efforts, it is critical to enhance policy, administrative or investment measures, or enabling conditions that can result in new, improved or scaled-up biodiversity finance.

While these efforts through BIOFIN and other initiatives by partners and governments try to ensure adequate financing for safeguarding essential ecosystem services and biodiversity, the COVID-19 pandemic has worsened debt problems facing 72 low- and middle-income countries. It jeopardized USD 598 billion in debt service payments from 2021 to 2025, including USD 87 billion this year. It is becoming increasingly difficult for many countries to direct sufficient investment for nature, and more broadly for SDG action.

In order to address this, UNDP and the MAVAF foundation

supported Finance for Biodiversity Initiative, are working with the government of Pakistan to develop a new bond instrument– the Nature Performance Bonds (NPBs). Building on the government’s internationally recognized effort to combat climate change impacts and conserve biodiversity and ecosystem services, such as the Billion Tree Tsunami, NPBs aims to reduce the country’s sovereign debt burden while accelerating its restoration and nature-conservation efforts, and creating much needed additional jobs. On June 3, 2021, the government of Pakistan, United Kingdom, Canada, Germany, and UNDP formally expressed its intention to engage in a dialogue for launching the pioneering NPBs. An NPB with a defined set of ambitious ecosystem restoration targets, will accelerate the restoration work, as well as expand access for finance for development.

The World Economic Forum (WEF) assesses that a transition to a nature-positive economy could generate USD 10.1 trillion of new annual investment, and create 395 million jobs by 2030. With the grand scale green recovery programme propelling large scale restoration and job creation, Pakistan is demonstrating that nature-based recovery efforts can create a large number of jobs and accrue nature and climate dividends. The country has fast become a trend setter in the global effort to realise a resilient pathway to sustainable growth and prosperity.

Nature counts for our society and economy. We must therefore start accounting for nature and start investing in nature. After all, nature is our strongest ally for the collective ambition of establishing a sustainable and equitable world.

Nationally Determined Contributions: The Pakistan Paradigm

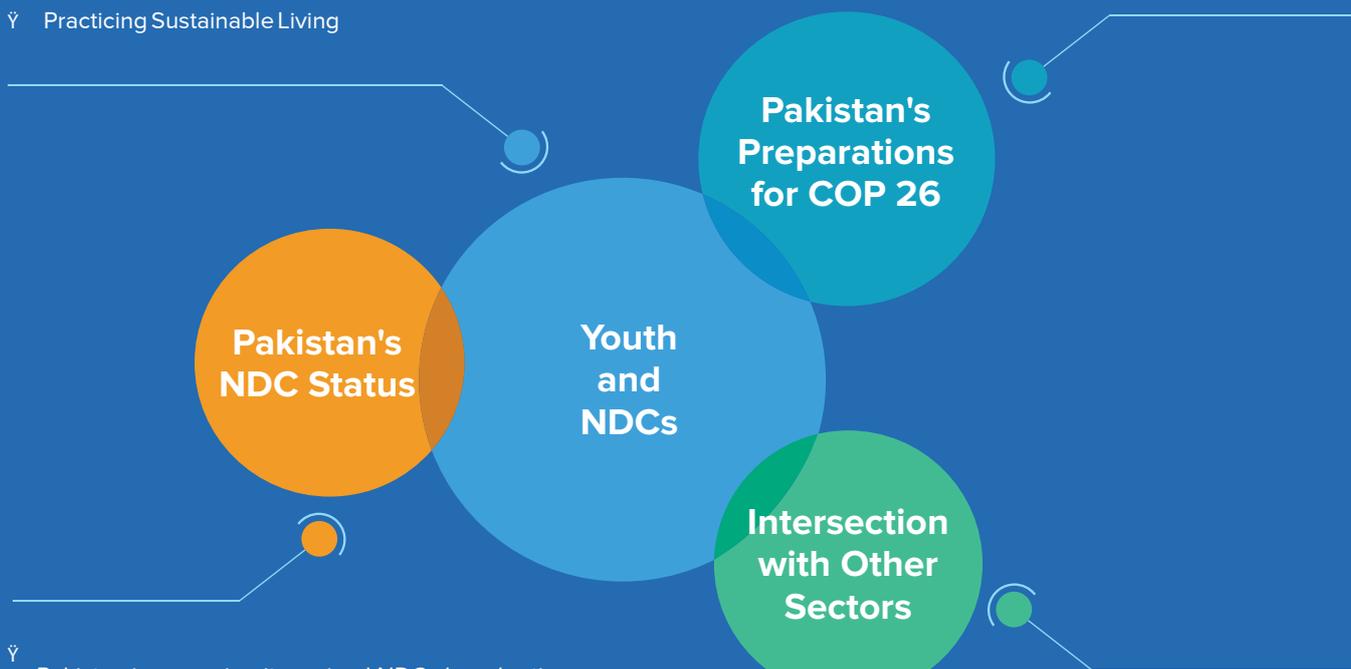


By
Sara Hayat
Climate Change Specialist

Youth leaders, as agents of change, can implement the NDCs and safeguard their own future by:

- Raising Awareness: Climate Awareness Campaigns
- Research and Analysis
- Practicing Sustainable Living

• After successfully hosting World Environment Day on 5th June, 2021, Pakistan is hoping to lead by example and highlight its climate combating successes, including the 10 Billion Tree Tsunami Program, at COP 26.



• Pakistan is preparing its revised NDCs by adopting a transparent and comprehensive mechanism, focusing on both climate adaptation and mitigation aspects.

• Technical review committees consisting of working groups comprising key stakeholders, including civil society members, are compiling information at both the federal and provincial level, to help prepare inclusive and ambitious NDCs.

• In its first NDC, Pakistan pledged a 20 percent economy wide emissions reduction in greenhouse gases by 2030, and is aspiring to strengthen its commitments further.

• Pakistan is consistently ranked as one of the countries most impacted by climate change, even though it contributes less than 0.8 percent to global greenhouse gas emissions.

• The comprehensive, revised NDCs are strongly focusing on adaptation aspects. These include water, agriculture and livestock, human health, forestry, biodiversity and other vulnerable ecosystems, disaster, and gender.

• Many of these sectors are cross cutting and impact the mitigation pledges as well. Adding different adaptation aspects have made Pakistan's NDC commitments stronger and more likely to have positive impacts at a grassroots level.

Renewable Energy, Renewed Pakistan

“ The role of the energy sector, globally, in combating climate change, has become even more critical. ”



By
Dr. Sardar Mohazzam
Managing Director
National Energy Efficiency
and Conservation Authority
(NEECA)
Ministry of Energy (Power
Division)

The Energy-Climate Nexus in Pakistan

Climate Change has reshaped both the availability and utilization of natural resources in the context of the Sustainable Development Goals (SDGs).

Resource competition for economic development has compelled developed and developing countries to take corrective measures jointly. Under the Paris agreement, member states have committed to take actions to protect the planet from the impacts of climate change, so as to limit the rise in global temperature by 2°C. This year, the global climate change agenda in the form of COP26, is focusing on transitions towards clean and renew-

able energy technologies, to revisit the development priorities for sustainable economic growth.

Pakistan has been categorized as one of the top 10 climate-vulnerable countries in the world.¹ The country's energy sector stands at the top of the list, with a 51 percent share in the greenhouse gas (GHG) emissions.² This translates into projected emissions of 1,603 MT CO₂-equivalent by 2030, out of which 898 MT CO₂-equivalent would be from the energy sector. With COVID-19 slowing down economic growth, the envisioned seven percent gross domestic product (GDP) growth rate may aggravate, with a downward trajectory.³



1. Germanwatch Global Climate Risk Index 2021.
2. Ministry of Climate Change (2019). "Pakistan's Second National Communication Report (SNC)". Submitted to United Nations Framework Convention on Climate Change
3. The Pakistan Vision 2025 mentions 7% GDP growth rate.

Pakistan's Energy Status

The primary energy supply in Pakistan has been 84 million tons of oil equivalents (Mtoe) in 2019.⁴ It has decreased by 2.9 percent as compared to the previous year, owing to a major decrease in supplies of oil and Liquefied Piped Gas (LPG). The share of oil and gas in energy supplies stood more than 70 percent.⁵ The final energy consumption is recorded at 55 Mtoe.

This implies losses of nearly 35 percent, in conversion to final energy used. With Pakistan transitioning through a major economic transformation, the final energy consumption is forecasted to be 140 Mtoe by 2030. The existing GHG emissions trend demands rapid transitions in energy systems and enhancement of the share of renewables.

Pakistan: A Global Champion

It is a fact that Pakistan's contributions in the global GHG emission scenario is less than one percent.⁶ However, in light of its commitments in the global climate change context, the country is making drastic changes in its energy system. In this context, Pakistan's efforts for climate change adaptation and mitigation have been acknowledged globally. For example, Pakistan hosted the 'World Environment Day' this year. Pakistan has been declared as a 'Global Champion' for the theme on 'Investment and Finance', for the high-level dialogue (HLD) on energy transition.

“ The global agenda for energy transition under COP26, demands a major shift in energy systems around the globe. ”



Pakistan's Energy Future Outlook

Pakistan's energy future outlook would be based on three basic components i.e. energy access, renewable energy, and energy efficiency.⁷ Pakistan has set targets to ensure 100 percent electricity access by 2030. As far as the share of the renewable energy mix is concerned, Pakistan has planned to add 30 percent renewable energy resources to the total energy mix.⁸ However, recently, Prime Minister of Pakistan set a new ambitious target to enhance the share of renewable energy by 60 percent, by 2030. Similarly, the country is aiming to double

the rate of energy efficiency measures by 2030. In order to combat climate change impacts, informed decision-making in policies and plans for the transition towards clean and sustainable energy resources in Pakistan, is integral. The country is targeting to decarbonize the energy system, with the promulgation of the National Electricity Policy, and most importantly, the Alternate Renewable Energy Policy. To meet the future energy demands in the country, it is ensured to align all policy measures with the global sustainable development agenda.

4. Hydrocarbon Development Institute (2020). "Pakistan Energy Year Book- 2019".

5. Ibid

6. The Express Tribune (2018), "Carbon emissions in Pakistan likely to rise about 300% by 2030." Available at <https://tribune.com.pk/story/1877884/2-carbon-emissions-pakistan-likely-rise-300-2030>

7. Ministry of Planning, Development and Special Initiatives (2020) "Sustainable Energy for All (SE4ALL)-National Action Plan".

8. Ibid

For example, the Renewable Energy (ARE) policy (2019) focuses to decarbonize the energy system and introduce new renewable energy technologies to enhance the share of renewable energy generation capacity to up to 20 percent by 2025, and 30 percent by 2030.⁹ The National Electricity Policy (NEP-2021) targets to ensure transparency, development of local fuels, energy efficiency, and more reliance on clean energy.¹⁰ Similarly, the integrated generation capacity expansion plan (IGCEP 2018-40) to support energy security, affordability, and sustainability of electricity provision, would be helpful in the implementation of the NEP.¹¹

In addition, the implementation of the National Electric Vehicle Policy (2020) would help to curb the use of fossil fuels in Pakistan. At present, 34 percent of energy, mostly obtained through imported oil, is used in the transport sector. To achieve the targets of a robust electric vehicle market having a 30 percent share by 2030¹², integrated efforts are required from all key stakeholders at the national and provincial levels. The provision of electricity through renewable energy technologies and Energy Efficiency and Conservation (EE&C) measures for standards of the electric vehicle (EV) charging stations, would be crucial to achieving the long-term goals of the EV policy.

National Energy Efficiency and Conservation Act 2016 is the key document to institutionalize the efficient use of energy resources in Pakistan. In this reference, NEECA Strategic Plan

2020-23 aims to save 3 MTOE of primary energy supply in the next three years. This will prove to be a great contribution to introduce new technologies in the energy systems of Pakistan, as well as reduce carbon footprints. If energy-saving is carried out with an accelerated energy efficiency of 3.5 percent¹³, it would directly reduce emissions by 6.4 MT CO2 during this period.

The recently approved National Electricity Policy 2021 depicts the compliance of EE&C measures set out by NEECA, and the promotion of incentive-based demand participation. Implementation of these policies and plans will alter the energy landscape of Pakistan, from heavy reliance on fossil fuels, to clean and affordable energy sources. About USD five billion can be saved in the next 20 years in potential fuels and other costs, if Pakistan meets its renewable energy targets by 2030, according to the World Bank.

A number of renewable energy projects related to solar, wind, and bioenergy, have been implemented to increase the share of renewable energy in the final energy mix, in order to reach the targets set out for 2030. Policy actions such as net metering regulations by NEPRA to purchase additional electricity from consumers, would encourage more generation from solar resources. The addition of renewable energy technologies like wind, bioenergy, and hydrogen energy, would help the cause for more economic benefits and eco-friendly energy supplies.

“
Pakistan has set targets to ensure 100 percent electricity access by 2030.
”



9. Alternate Energy Development Board (2019). "Alternate Renewable Energy Policy 2019". Available at: <https://nepra.org.pk/IGCEP-2047/Comments%20of%20Stakeholders%20on%20IGCEP.pdf>

10. Ministry of Energy -Power Division (2021). "National Electricity Policy 2021."

11. National Transmission and Distribution Company- NTDC (2018). Indicate Generation Capacity Expansion Plan (IGCEP) 2018-2040.

12. Ministry of Climate Change (2020). "National Electric Vehicles Policy 2020."

13. National Energy Efficiency and Conservation Authority (2020). "NEECA Strategic Plan 2020-23". Available at: www.neeca.gov.pk/downloads

The Power of Energy Efficiency and Conservation

EE&C has emerged as an opportunity to address the energy and climate challenges faced by the country. About 10-15 percent of the primary energy supply in Pakistan can be saved through EE&C measures. Pakistan can tap this energy-saving potential through EE&C measures in energy-intensive sectors i.e. industry, building, and transport. Likewise, a huge potential to invest exists in retrofitting programs, mandatory energy audits, accredited laboratories, and awareness programs.

The operationalization and implementation of EE&C has achieved considerable priority on the government's agenda. Regulations such as appliance standardization, energy audits, and building codes, are appreciable but, it would require sufficient technical and financial capacity to implement the EE&C agenda in true spirit. The potential for investment in EE&C projects for the next three years stands at PKR 7.4 billion. All EE&C measures are part of Pakistan's NDC commitments to take mitigation actions, so as to ensure energy sector emission reductions by 2030. According to an estimate, around USD 18 billion investment opportunities exist for EE&C, for the next decade in Pakistan.

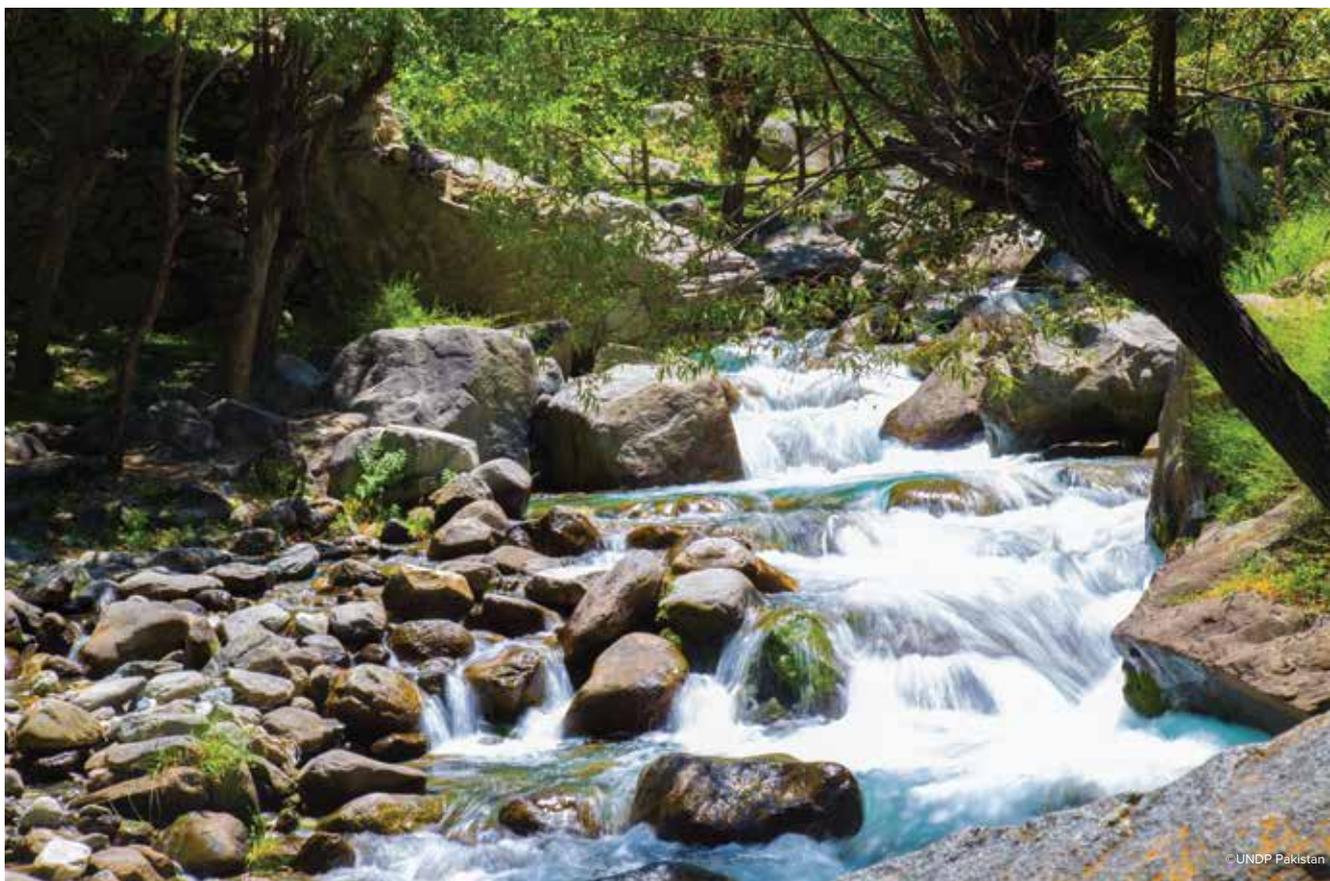
The Future is 'Clean'

The shift towards clean technologies is inevitable. Targets to enhance the share of renewables and double the rate of EE measures by 2030, are important for Pakistan. Consistency in implementation of agreed plans for the rapid transition towards renewable energy sources and EE&C for a thriving eco-system, are requisite. It demands more drastic, well-coordinated, and long-term efforts, as the demand for energy is

increasing with every passing day. Given the urgency of climate change impacts, Pakistan is geared towards decarbonizing, decentralizing, and digitizing, with regards to the energy sector.

The de-carbonization of the energy system will enable Pakistan to fulfill its Nationally Determined Contributions (NDC) commitments of 20 percent reduction in GHG emissions (from business as usual), by 2030. Under the Paris agreement, the channeling of funds from Green Climate Fund (GCF), Global Environmental Facility (GEF), and other multilateral, bilateral as well as developed countries, will be vital to achieving the goal set by the country in accordance with the SDGs. At the national level, importance of green financing facilities such as Green Banking Guidelines (GBGs), must be realized, given the changing dynamics of energy sector priorities and climate change impacts in Pakistan. The development of a mechanism for innovative financing, green investment, incentive schemes for energy efficiency measures, and fossil fuel subsidy reforms, will be instrumental in achieving the global, as well as the local agenda for sustainable development.

“ Given the urgency of climate change impacts, Pakistan is geared towards decarbonizing, decentralizing, and digitizing, with regards to the energy sector. ”



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Climate Governance: Policy Directives for the Future

“ A high degree of political championship at the national level alone cannot sustain Pakistan’s climate action agenda, because of the significant role provinces play in implementation. ”



By¹

Sana Zia

UK Development Advisor Punjab & Governance Advisor
Foreign, Commonwealth & Development Office

&



Sobiah Becker

Climate Change Advisor,
Foreign Commonwealth & Development Office (FCDO)
FCDO seconded Climate Change Advisor to UNDP Pakistan

Pakistan is amongst the world’s top ten countries most vulnerable to the negative impacts of climate change. In the face of its heightened vulnerability, Pakistan needs robust institutions, improved inter-provincial coordination mechanisms, and strong political will to deliver climate action. Top level commitment must cascade down to sub-national levels, so that a cogent approach that addresses public resource management, solidifies the role of key stakeholders, and considers the political economy of climate action can fully emerge. A green post COVID-19 recovery demands this transformation: of systems, of actors, and of decision-making pathways. Otherwise, Pakistan runs the risk of being locked into a high-carbon and high-intensity growth pathway.

Pakistan’s Climate Governance Landscape and Institutional Mechanisms

Pakistan’s National Climate Change Policy (NCCP - 2013) and Climate Change Act (CCA- 2017) establish a broad policy and institutional landscape for addressing climate change. While the

NCCP identifies policy levers for addressing climate change, it provides insufficient policy coherence across key sectoral policies at the federal and sub-national level. This lack of congruence and coordination has likely impacted the development of provincial climate policies and plans. Thus, effective vertical and horizontal integration of subnational and national stakeholders, can support and accelerate NDC implementation in Pakistan. As part of its Paris Agreement commitments, Pakistan’s NDCs set out credible targets for sectoral greenhouse gas reductions by 2030. Pakistan is gearing up to submit its revised NDC so it would be worthwhile to examine national efforts to increase climate ambition through a governance lens, and suggest a way forward.

Strong federal and provincial collaboration will accelerate and strengthen national actions. Appropriate, effective climate action will need to be rooted in robust monitoring mechanisms across all levels of government, which requires collaboration and coordination across all departments. The 18th



**What are NDCs?
Why are they important?**

Just as the Sustainable Development Goals (SDGs) embody a global agenda for inclusive development, Nationally Determined Contributions (NDCs) are a global call for action against global warming. These two global agendas are co-evolving and mutually synergistic; implementing one strengthens the other. Pakistan’s NDCs set out a course of action for the government, by defining credible targets for sectoral greenhouse gas reductions by 2030.

¹ This thought piece reflects the personal views of the authors.



“
 In the face of its heightened vulnerability, Pakistan needs robust institutions, improved inter-provincial coordination mechanisms, and strong political will to deliver climate action.
 ”

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and implementation of climate action to the provinces, giving them the wherewithal to make implementation decisions, as well as financial allocations, for climate action. Therefore, the focus on Pakistan’s climate governance should include revisiting how the provinces contribute to, and connect, with the federal direction setting.

An actionable federal agenda that is scalable and actionable at the provincial level will deliver national commitments needed to successfully realize NDC targets. There is sufficient anecdotal and empirical evidence to show that subnational efforts to address climate change can often be more effective, simply because of the proximity of provincial governments to the consequences of climate change.²

Robust NDCs are more likely to attract financial inflows from traditional and non-traditional sources, particularly where more ambitious pledges are

The credibility of the revised NDCs is critical to the success of national efforts, that in turn will bolster international efforts to meet the 2 °C target.

conditional on finance.³ The monitoring, reporting, and verification of climate finance in-/outflows will be key to attracting climate investments, and is also an obligation under the Enhanced Transparency Framework (Articles 4, 7, 13) of the Paris Agreement. Supported by the Foreign, Commonwealth & Development Office (FCDO), the UNDP published the first ever Climate Public Expenditure Institutional Review to report on climate-related public expenditure, which is an important first step towards transparency in public financial reporting. When scaled up, this work will build up public capacity in fiscal planning, risk assessments and reporting to refine public responses to climate change induced risks.

Whither Climate Governance?

In the post-Paris Agreement world, trust, evidence, and action will be determinants of success for any country. COP26 affords Pakistan the opportunity to cement its climate

2 Puppim de Oliveira, 2019
 3 Averchenkova and Bossi, 2016

Pakistan's Climate Expenditure Reports published between 2011-2018

- In the last climate expenditure report published in 2018, Pakistan spent 8.4% of national annual budget on climate related expenditure. This constituted between 1.52-2.08% of the GDP.
- These reports suggested a significant variance in the amount of climate-relevant expenditure within different ministries indicating variable resource allocation and policy delivery.
- These annual reports provided national and provincial snapshot that helped governments see trends at portfolio and sectoral levels and guide decision making.



leadership credentials via a revised, ambitious NDC. In parallel, Pakistan needs to chart out a clear path to enable NDC implementation. This journey begins with a transformational process for NDCs from the current level of abstraction, to one that entails understanding of policy choices, developing appropriate capacities among stakeholders, shaping necessary incentives, and inclusive decision making.

At the provincial level, we recommend prioritizing three areas: mainstream climate action in key provincial policies, systematically track and improve financial allocations for climate action, and establish well-championed provincial coordination and reporting mechanisms.

On mainstreaming climate action in provincial policies, while there is merit in developing provincial climate action

plans, these could focus on demystifying climate jargon to help the provincial systems understand and act upon sectoral action as required. Implementation is more likely if climate action is embedded in post-COVID growth strategies such as Punjab's Growth Strategy and KP's Azm-e-Nau.

On improving financial management on climate, FCDO, in partnership with UNDP, helped Pakistan publish Climate Expenditure Reports (called CPEIR) for several years between 2011 and 2018 (key findings in both 3). Khyber Pakhtunkhwa (KP) also took one step further and developed a Climate Change Financing Framework. With this experience in the back pocket, Punjab and Khyber Pakhtunkhwa are now well positioned to take the next step, and build capabilities within their Finance Departments to initiate a comprehensive budget tagging of its climate and disaster expenditure. This

could enable them to see trends and set climate budget markers at any time during the budget cycle. Moreover, this will enable them to identify specific areas where climate finance is most needed, and use this evidence to raise climate finance more effectively.

On stronger provincial coordination mechanisms, the appointment of Special Advisor on Climate by Pakistan facilitated stronger links between political ambition and institutions (e.g. Ministry of Climate Change), at the federal level. Provinces may consider a similar model. However, this would only work if appointments came with sufficient authority and clear mandate to work across the departments required to collaborate for climate action. If successful, this could create additional space and leadership for climate reforms in the provinces.

Drip, Drip

Improving Health and Livelihoods in Gilgit-Baltistan

Setting Safe Drinking Water Standards

The water plight of local communities in Gilgit Baltistan has caused serious health concerns, which if not addressed, may lead to an increase in mortality.



Water treatment facilities at



By

Haider Raza

Regional Head Gilgit-Baltistan
World Wide Fund For Nature-
Pakistan

“Due to contaminated water, students used to suffer from different water-borne diseases. We are thankful to WWF-Pakistan and UNDP for providing the much-needed facility to the academy. In our academy, 320 students, including boys and girls, got access to safe drinking water due to the provision of the water purification plant.”

Precipitation changes fueled by climate change have exacerbated the water woes of the Gilgit-Baltistan region, where local communities rely on polluted snow melt water streams for drinking, as well as domestic and agricultural use. Frequent water-borne disease outbreaks not only impact the health of the people but also add to their medical expenses and limit their ability to partake in economic and social activities. Women and young girls travel long distances to collect water from contaminated channels.

WWF-Pakistan, with the financial support of the government of Italy and UNDP, is implementing the Mountain Protected Area project in the buffer zone villages of the Central Karakoram National Park. One of the interventions of the project included the installation of safe water facilities in selected

schools for girls. Depending on the physical characteristics of source water, five water treatment facilities for turbid water and 16 water purification systems have been installed in 21 schools in buffer zone villages. Water quality tests revealed a substantial improvement and matched with the World Health Organization (WHO) drinking water guidelines and the National Drinking Water Quality Standard (NDWQS).

Open and accessible to the communities, these sources of safe drinking water are not only positively impacting health and education indicators but are also a step towards gender empowerment and improved economic opportunities, as they reduce medical burdens and free up time for participation in recreational and income-generating activities.

Climate Fragility

Replenishing Ecosystems

Mountain regions are complex in their geomorphology and therefore more vulnerable to variations in temperatures and changes in patterns of hydrology. Both have a direct impact on mountain communities, adding fragility to lives already clinging tenuously to eco-systems for sustenance.

By

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Also known as the Third Pole for its vast collection of glaciers and water reserves, the Hindukush Mountains (HKH) house several communities abiding in the shadow of its Karakoram Mountain range.

However, close proximity to water sources has become both a bane and a boon for these communities, who depend on melt-water for agriculture and domestic use. Its erratic variation, as a result of climate change, either accelerates melting that wreaks havoc through floods, or sometimes significantly reduces water quantity.

in food insecurity and extreme water shortage for domestic needs. The projects implemented by the Mountain and Glacier Protection Organization with the financial assistance of the Global Water Challenge and the support of UNDP (2016-2021), under the New World Programme, helped transform the lives of four such communities in Gilgit-Baltistan. The projects have positively impacted the lives of over eleven thousand un-served and under-served communities, by providing them with a reliable source of water. This not only managed to enhance their agricultural productivity, but also helped in restoring eco-systems, facilitating access to safe drinking water, and overall creating local stewardship to enable the communities to plot their own future development trajectory.

Today, the communities can rightfully claim to have an institutional platform for

participatory and inclusive decision making, with proportionate gender representation and youth participation. 859 hectares is now under productive use, which is contributing towards food security, reduction in poverty, income diversification and increase in household savings. The indirect benefits include giving voices to the voiceless, empowering women, and enabling growth opportunities for young girls to achieve their full potential.

Nearly 9.2157 billion liters of water tapped from nature has been ploughed back into nature and community to nurture lives and replenish ecosystems so that the communities could thrive in tandem. The cumulative impact of the projects has helped in restoring degraded ecology, protecting the environment, improving socio-economic conditions of communities, and creating an enabling environment for biodiversity to flourish.





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There is No Planet B Innovating Climate Action

By
**Dr. Abid Qaiyum
Suleri**

Executive Director, Sustainable Development Policy Institute
Member, Prime Minister’s Economic Advisory Council
Pakistan’s Climatic Innovations

Top 5 innovative solutions include:

- 10 Billion Tree Tsunami Program: Flagship initiative; opens up doors for green and blue economy; key dividends include cut on GHG effects, lowering floods, rains and droughts, and protection of biodiversity and ecosystems.
- Increasing Protected Areas for Forests and Mangroves: Supporting terrestrial and marine ecosystems; providing jobs to millions in terms of community engagement.
- Shift towards Electric Vehicles and Renewable Energy Options: In order to cut Carbon Emissions.
- Accessing Climate Finance through

Have these worked?

So far, these innovative solutions are working well, but there may be challenges if planned resources might not be accessed. Under global arrangements, the world has pledged to contribute to the Global Climate Fund, so that developing countries such as Pakistan, can access these funds and continue with their adaptation and mitigation efforts to build resilience against climate change. According to Asian Development Bank, Pakistan requires climate finance worth USD 7-14 billion per year for climate adaptation. The good news is that G-7 leaders have renewed their pledge to contribute their outstanding sums of USD 100 billion for developing countries. However, implementation in spirit still remains to be seen.

Various Sources: Negotiations with bilateral donors for ‘debt swap for the nature’, Benefitting from carbon markets including from the REDD+ facility etc.

5. Focus on Green and Clean Pakistan: Projects relating to water, sanitation and hygiene (WASH) being given importance.

What Next?

On the International Front:

The biggest emitters should pro-actively start paying their contributions to the climate fund, thereby making it accessible to developing countries, such as Pakistan to continue their efforts. The world needs to act now, as 2030 – the deadline to achieve Sustainable Development Goals in order to build resilience of the world against climate change—is not far.

On the Domestic Front:

We would have to break the dichotomy between growth and environment. It is not an ‘either-or’ relationship. We must grow while taking care of our environment and remaining climate smart. This requires an alignment of policies and procedures, and a ‘whole of government’ approach in working towards a clean and green Pakistan. If that can be done, we can eradicate poverty, and reduce vulnerabilities.

What Does the Future Look Like?

Changes in Weather Patterns

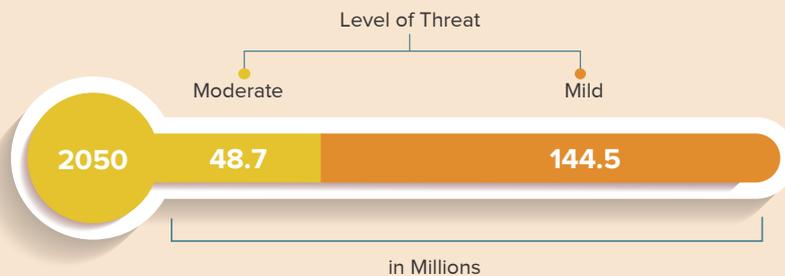
- Changes in average weather patterns will have a negative effect on living standards in Bangladesh, India, Pakistan, and Sri Lanka, but a positive effect on living standards in Afghanistan and Nepal.



Note: The model described by equation (3.1) is implemented for two-time frames (2030 and 2050) and two projection scenarios (climate-sensitive and carbon intensive). The national-level results are aggregated from the household predictions. Percentage change is calculated relative to the historic baseline.

Hotspots

Approximately 89% of the total population of Pakistan (216.6 million) are living in areas projected to become moderate or mild hotbeds.



Note: Estimates are based upon the carbon-intensive scenario by 2050. Data shows that currently, around 800 million people live in moderate or severe hotspots.

Rate of Emissions

- While from 1994 to 2015, emissions increased by about 123 percent, total emissions are expected to increase by about 300 percent between 2015-2030.



Energy

1994 → 85.8
2015 → 185.97
2030 → 898



Industrial Process

1994 → 13.29
2015 → 21.85
2030 → 130



Agriculture

1994 → 71.63
2015 → 174.56
2030 → 457



Land-Use Change & Forestry

1994 → 6.52
2015 → 10.36
2030 → 29



Waste

1994 → 4.45
2015 → 12.29
2030 → 89

TOTAL

1994 → 181.17
2015 → 405.07
2030 → 1603

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