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Preparing Pakistan to Avail Loss and Damage Fund (L&DF) for Green Transformation

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Chapter 1 Introduction to L&DF

1.1 Study background

Given the multifaceted and complex challenges, it is imperative for developing countries to adopt innovative and integrated policy strategies to adapt and appropriately respond to the grave challenges they are confronted with. However, many developing country governments are constrained, not only in mobilizing resources but also by the lack of institutional capabilities. Hence, they need support to develop resilience to climate change to mitigate climate-related disasters and subsequent damages while transforming their economies to pursue climate resilient and green growth and development. The crisis triggered by the COVID-19 pandemic, persistent climate change, and subsequent vulnerability of developing countries impede their efforts in achieving the Sustainable Development Goals (SDGs).

The average annual climate change cost to developing countries by 2030 is estimated to be USD 435 Billion and USD 1 trillion by 2050. The cumulative losses of 55 vulnerable countries during the past two decades are about USD 525 Billion, whereas the total contribution by non-UNFCCC contribution is almost USD 300 Million. To address the climate crisis and its impacts countries were urged to undertake global efforts to support developing countries in addressing the climate change-related vulnerabilities. This resulted in an acknowledgment of the problem in the COP27 and realisation that delivering on climate commitments requires fundamental economic transformation and integrated policy strategies. If nothing else, COP27 will be remembered as a comprehensive agreement to mitigate the climate impact on developing countries in terms of the Loss and Damage Fund (L&DF).

This deal is a turning point in acknowledging the vast inequities which are created by climate change and need urgent attention of the global community. L&DF can be instrumental in providing the necessary resources and cushion to developing countries to develop climate resilience and adopt a transformative path for climate-friendly and sustainable growth. L&DF support and subsequent economic and social transformation are critical for developing countries to achieve the goals of economic prosperity while stopping further environmental degradation and global warming.

Despite its small contribution to global greenhouse gas emissions, Pakistan is among the top ten most climate-affected countries in the world. The devastation brought by the 2022 floods in Pakistan vividly demonstrated the seriousness of climate change impacts and emphasised the urgency of discussions for the establishment of the long-awaited/demanded climate finance for the L&DF during COP27 in Egypt in 2022. The establishment of the L&DF becomes a near-term possibility, bringing hope to many countries like Pakistan. Hence, it is time to consider how best to mobilise and utilise such funds in order to maximise climate-resilient development through L&DF.

This would require a clear understanding of global climate finance and its flows, Pakistan's eligibility and current approach to managing climate finance, country's internal distribution priorities. Hence, there must be sufficient technical knowledge and adequate preparation to access and institutional capacities to manage an enhanced provision of L&DF in Pakistan. Nevertheless, attracting adequate international climate finance has been a challenge, and Pakistan seriously needs to strengthen its institutional capacity to solicit and use international climate finance. The conditions under which the financing would be available from L&DF have started emerging and Pakistan should prepare itself to benefit from the L&DF.

1.2 Establishment of Loss and Damage Fund (L&DF)

The establishment of the L&DF is a historic triumph for climate-vulnerable developing countries in the Global South. This was the result of decades of pressure from developing country parties which resulted in acknowledging the need to act on climate change. In other words, this was the culmination of 30 years of climate talks. Under the L&DF, the developed countries will provide financial support for the recovery and rebuilding of developing countries stricken by climate-related disasters. Establishing L&DF is an important step towards justice for poor and developing countries which have not caused the climate crisis, but suffer face its worst impacts. The fund aims to provide financial assistance to nations most vulnerable and impacted by the effects of climate change. In this respect, more than US\$300 million has been pledged by European nations.

L&DF is different from other funds which are designed for climate mitigation and adaptation. While we continue working on reducing GHG emissions and adapting to the changing climate, there are still losses and damages that require the attention of the global community and hence the compensation as most of such losses are in the developing countries which have very little contribution to the problem of climate change. In other words, climate finance mechanisms for climate mitigation and adaptation have been developed and deployed for a long time, however, L&DF is a new paradigm for which there will be a separate pot of money with many more resources to compensate for the damages and losses, including those which are irreversible.

Nevertheless, the issues such as sources of financing and the type of projects that the L&DF would cover were not discussed in the COP27, but there was agreement over a road map to create a fund to deal with the damages from climate-related natural disasters.

1.3 Modalities

The key question pertaining to the L&DF at this time however is how do we operationalize this fund in the best possible ways to achieve its objectives? Thus far, the L&DF is just an agreement, its modalities and protocols are to be finalised. Once L&DF is properly set up, it has to be properly and adequately financed. In this respect, a transitional committee was assigned the task of providing recommendations on the institutional arrangements of L&DF. The committee will provide suggestions and advice regarding funding arrangements, sources of finance, and ensuring coordination and complementarity with existing arrangements for L&DF.

1.3.1 L&DF management

Developing countries have made a long struggle for L&DF which is more than 30 years advocating for it. L&DF is expected to the existing climate financing, which includes both national and transnational financing for mitigation and adaptation measures taken to tackle climate change. The UNFCCC established the financial mechanism for generating and allocating funds for developing countries' parties. The Global Environment Facility (GEF) and Green Climate Fund (GCF) act as operating entities for the UNFCCC. While GEF and GCF oversee the operations, these entities are accountable to the Conference of Parties (COP) which decides its policies, priorities, and eligibility criteria.

The two other funds established by COP include the Special Climate Change Fund (SCCF) and the Least Developed Countries Fund (LDCF), both managed by the GEF—and the Adaptation Fund (AF) established under the Kyoto Protocol in 2001 (UNFCCC 2023). A Standing Committee on Finance also exists to assist these financial mechanisms. However, in the Paris Agreement 2015, loss and damage were acknowledged as distinct and separate from those climate change impacts that require adaptation actions, hence the decision to create a loss and damage fund. Both the IPCC AR6 Synthesis Report and COP 27 decisions recognize that existing arrangements of mitigation and adaptation have limitations and cannot address all losses and damages.

1.3.2 Quantification and assessments

Quantification is a key aspect of L&DF as there will be a need to determine the amount of L&DF different countries will receive. Furthermore, assessment criteria could be based on accumulated damages or damages that occurred once and consideration of present and/or future value of the damages. Losses and damages could be assessed quantitatively and non-quantitatively while also

treating the accounting of irreversible damages. The loss of indigenous culture and heritage or the loss of national and local ecosystems could be assessed in mutually agreeable ways. However, the existing methods to account for loss and damage associated with natural and man-made hazards may not consider slow and accumulative losses such as irreversible loss of livelihoods or productive systems.

Nevertheless, the valuation of life-related losses will be important, complex, and entangled with ethical considerations. The modalities must also deal with the important factors which might contribute to perverse incentives to meet global climate targets. The institutional arrangements and governance structure at the international level as well as at the beneficiary countries' level is yet to be detailed. There will also be the need for the identification of new sources of funding to expand the available resources. It is also important to explore the alignment and coordination of L&DF with the existing funds, instruments, and vehicles.

This, for example, includes funds managed by the UNFCCC, the World Bank, and the Global Shield Financing Facility. Some of the available funds are designed to help developing countries use pre-arranged resources before a disaster hits, while others may be aimed for different purposes. In this context, following the flow of funds from the source to the ultimate destination(s) is also important. Nevertheless, there is a need to consider constraints faced by developing countries in the past to access existing funding sources and hence their sub-optimal and possibly inequitable use.

1.4 L&DF payments

After working out the L&DF mechanics such as impact monitoring systems, the assessments of the need for allocations, and design criteria to ensure progressive and sustainable initiatives are supported; a fund needs to be established along with its payment mechanisms. The payment mechanism will stipulate the decisions regarding the use of funds which must be inclusive to ensure the participation of the beneficiary countries as well as the fund management entities. The payment mechanism will also outline if the disbursements will be linked to some conditions and/or compliance which may be gauged by means of established measurement, reporting, and verification systems (MRVs).

Nevertheless, the scope and mechanism of the L&DF are quite tricky in terms of eligibility criteria for financing, and under what conditions the L&DF will be provided are contentious. For example, the 2022 floods in Pakistan killed over seventeen hundred people in addition to damages of about \$15 billion and economic losses of almost \$15.2 billion. The country representatives urged at COP27 for compensation and assistance to developing countries and it is a daunting task for the transitional

committee to make serious and practical decisions. Parties have met regularly for decades to reach an agreement on providing climate finance to developing countries. Hence, this will essentially be a failure of the United Nations Framework Convention on Climate Change (UNFCCC) system if the newly established L&DF does not bear the fruits expected from this.

1.5 Past lessons

Since similar funds have been implemented before, the lessons derived from existing climate funds would be useful to address the possible issues. These lessons would help in channelling private finance through the L&DF toward climate change mitigation and adaptation. For example, the L&DF must be complemented by a suite of funding streams to channel an adequate amount of resources to the developing countries facing climate change-driven natural disasters. This could embrace the resources from the Global Environment Facility's Least Developed Countries Fund, the Special Climate Change, and the Green Climate Fund, among others.

Nevertheless, getting the details right on the L&DF must not divert attention from an even more important mission and task to mobilise necessary resources to gear up a low-carbon and climate-resilient transition and to scale solutions fast. L&DF must learn from existing funds and enable comprehensive responses to be able to best serve the needs and priorities of vulnerable and marginalized communities facing losses and damages due to climate-related disasters.

This would also mean drawing on learnings and best practices around the world to build on past experiences and insights sourced by field experts, allowing us to consolidate what has been proven effective in the past. These encompass diverse areas such as governance of the fund, access requirements for developing countries, and instruments and channels, which could be adopted for the new L&DF.

1.6 Report outline

This paper comprises six chapters. Chapter 1 is the introduction, which provides the reader with the background of the establishment of the L&DF.

Chapter 2 discusses Pakistan's experience with the Clean Development Mechanism (CDM) and how this experience could be used as a source of lessons for L&DF.

Chapter 3 presents elaborates on the necessary measures to adopt for Pakistan to prepare itself for the L&DF.

Chapter 4 presents a discussion on the assessment of Pakistan's institutional capacity to access the resources from L&DF.

Chapter 5 highlights the importance of inclusive climate finance and the ways to ensure inclusiveness in the Pakistani context and more specifically for the L&DF.

Chapter 6 proposes a list of policy recommendations in light of the analysis presented in this paper and conclusions drawn from different chapters.

The next chapter (Chapter 2) details Pakistan's experience of CDM and the lessons learned to be used for L&DF.

Chapter 2 Pakistan's experience of Clean Development Mechanism (CDM)

2.1 Clean Development Mechanism (CDM) in Pakistan

CDM was established under the Kyoto Protocol to enable developed countries to invest in emission reduction initiatives within developing countries. It was envisioned in the Kyoto Protocol that carbon trading would allow countries to generate revenue by adopting emission-reducing activities. States with surplus units can enter the carbon market as sellers to those that are exceeding their emission targets. Under the regulation and administration of UNFCCC, mechanisms such as the CDM were supposed to create the carbon market. This business is growing rapidly due to increased demands of investors or businesses looking to offset their emissions or reduce their carbon footprint. The CDM issued one billion Certified Emission Reduction (CERs) between 2001 and 2012 (UNFCCC, 2012). The worldwide carbon credit market is projected to have a valuation of \$414.8 billion in 2023, with the potential to surge to \$1.6 trillion by 2028 (Singal, 2023).

Pakistan ratified the Kyoto Protocol in 2005 and established its Designated National Authority (DNA) in the Ministry of Climate Change to facilitate and approve CDM projects in the country. The National Operational Strategy for CDM was approved in 2006 to provide policy guidance and incentives for project proponents and investors. Pakistan has 76 CDM projects that have received host country approval, of which 36 are registered with the CDM executive board. It is worth noting that Pakistan has faced significant challenges in realizing the protocol's outlined objectives, despite being ranked among the ten most vulnerable countries to climate change.

Pakistan can earn carbon credits and become a successful seller through various state-initiated activities that reduce GHG emissions such as reforestation or replacing current energy-generating systems with solar or wind-powered setups. The Government of Sindh has already launched a project of mangrove forest plantation in Sindh. It is expected to earn 57 to 63 billion Rupees in terms of carbon credits within the next two decades. Its first project which began in 2015 has brought in approximately 14.7 million dollars through sequestering and trading 3.1 tons of CO₂ in the international carbon market (Kiani, 2023).

2.2 Regional comparison of CDM performance

Notwithstanding Pakistan's negligible share in CO₂ emissions, the country could not seize the CDM opportunity. In contrast, China and India are the largest sellers of carbon credits to European buyers. As per 2012 data, China's carbon credit share was 72.7% while India accrued 15.6%. However, Pakistan's share in overall issued CERs was only 0.4%. Of total CDM projects, China had 55.8%, India 29.2%, and Pakistan contributed a mere 0.6%. These figures denote that, out of the millions of dollars that Pakistan had the potential to avail via carbon credits, it could only earn a negligible part (Anwar, 2015). In 2019, China's carbon dioxide emissions per capita were 7.61 metric tons, India's 1.78 and Pakistan's emissions were only 0.85 metric tons. As a country that is most at risk of climate change disasters and has comparatively low emissions, Pakistan should have made the most out of CDM funding.

A comparative institutional analysis of the CDM projects in China and India by Ganapati et al. (2008) reveals that both countries prioritized technology transfer and funding in their CDM policies. However, China has been more successful in technology transfer and hence utilized CER funds to achieve broader sustainable development goals. China's Designated National Authority (DNA), which is responsible for approving CDM projects, focused on the completion and submission of projects as per criteria in priority sectors, which has proven effective in reducing transaction costs. In contrast, India adopts a project-by-project approach which results in higher associated costs but greater project diversity. Pakistan's DNA, which is the Ministry of Climate Change, failed to come up with an effective strategy that focused on either of these two approaches, resulting in a failure to tap into CDM opportunity.

2.3 The Success of CDM in India

India has a market share of about 21% of the total projects that are registered under CDM and has channeled foreign investment worth 10 billion dollars. Between 2010 and 2022 it has issued 278 million carbon credits which account for around 17 percent of the global supply. The goal for India is to reduce emissions by 45% by 2030 and the country is making great strides to achieve that target. Singal (2023) claimed that India will have its own emissions trading system and carbon trading market by 2025. The evolution will significantly bolster India's efforts towards energy transition, broadening its scope to encompass various potential energy sectors within the country.

To facilitate this transition, benchmarks and targets for reducing GHG emissions intensity will be established for these sectors, aligning them with India's climate objectives. Carbon credit trading will then occur based on how well entities perform in relation to these sector-specific emission trajectories. Furthermore, the scheme envisions the creation of a voluntary mechanism in parallel to incentivize GHG emissions reduction in sectors not under mandatory obligations (PIB Delhi, 2023).

2.4 The Failure of CDM in Pakistan

China and India, have effectively capitalized on the CDM opportunity due to several factors. These factors include favourable CDM policies and government initiatives, such as comprehensive stakeholder training, awareness campaigns, staff training, and overall facilitation. Unfortunately, many other countries including Pakistan have failed to invest in these critical areas, missing out on the potential returns from carbon trading (Ahmed, et al, 2012).

One of the reasons for the sluggishness of CDM projects in Pakistan is its late formulation and establishment of the CDM Cell as compared to other countries. This resulted in a lack of staff independence, nepotism in the hiring of CDM staff, lack of familiarity with and inadequate understanding of projects' significance, the lack of technical expertise and capacity among high-ups, lack of knowledge of the benefits associated with CDM, unnecessary bureaucratic interventions, the lack of staff capacity building, and the appointment of non-technical individuals as the DNA focal persons. Furthermore, CDM was a new and unique opportunity that was the first of its kind so it was not well understood in Pakistan. Potential parties were unable to take advantage of the opportunity owing to a lack of information, awareness of the advantages of carbon trading, and technical know-how. There was more complexity in the criteria for project registration in the waste management, agriculture, and forestry sectors.

It is also important to note that technical professionals and investors avoided Pakistan owing to adverse economic conditions and security concerns. Due to a lack of foreign financial and technical resources, Pakistan's CDM had a significant untapped potential. The concerned organizations remained uninformed and uninterested in these projects. There are a lot of untapped and exploitable prospective markets and industries for CDM business. Furthermore, the CDM was a field that the academia was best suited to promote, however, it could not be materialized due to general apathy (Ahmed et al., 2012). Most host countries of CDM projects were those that provided viable markets for CDM co-products such as electricity, while greater production of CERs was found in economies that had higher carbon intensity levels. This is unfavourable to the least developed nations and contributes to a rationale for their lack of CDM participation.

Hence, Pakistan could not benefit from the CDM and other green financing mechanisms due to an overall lack of expertise, limited capacity, political will, and failure to submit effective proposals on time. To avoid the repetition in case of L&DF, Pakistan must establish a proficient and committed team of experts. This team should thoroughly examine the eligibility criteria, evaluate necessary resources and technology, and prioritize strategies to maximize the benefits of the proposed L&DF (Khurshid, 2022). The recent devastating floods also highlight Pakistan's susceptibility to climate-induced

disasters. While Pakistan qualifies for the L&DF, its experience with the CDM indicates that accessing resources from this new fund could also prove to be challenging.

The lack of a mandate or clear policies by the Ministry of Climate Change Pakistan is another factor that has prevented Pakistan from taking advantage of the CDM fund. As indicated before, the project submission ratio of Pakistan has been only 0.6% while the earning of CERs is just 0.4% of the total issued CERs trade. Pakistan has undertaken several significant emission-reducing projects and there are also numerous biogas, hydro, and forestry projects such as the Tree Tsunami. However, Pakistan has not yet been successful in registering and reaping its full benefits which should be addressed on a priority basis (Khurshid, 2023).

Chapter 3 Preparing Pakistan for L&DF

3.1 Pakistan's vulnerability to climate change

Despite the country's small contribution to global GHG emissions, Pakistan is among the top ten most climate-affected countries in the world. Its vulnerability to the adverse impacts of climate change is most recently evidenced by the devastating floods in 2022. The World Bank and the National Disaster Management Authority of Pakistan's assessment of loss and damages from the 2022 floods show that Pakistan's estimated damages exceeded USD 14.9 billion, and total economic losses were about USD 15.2 billion. However, climate-resilient rehabilitation and reconstruction requires at least USD16.3 billion, which does not include much-needed new investments beyond the affected assets, to support Pakistan's adaptation to climate change and overall resilience of the country to future climate shocks. The floods cost 1730 lives and made more than 8 million people homeless. The floods were only the last in a chain of climate-induced catastrophes which result in economic losses of USD3.8 billion per year, according to the Asian Development Bank (ADB).

3.2 Review of climate public expenditure

Climate expenditure in the public sector has become a serious issue for climate change as well as fiscal policy (Pizarro et al., 2021). Climate change poses challenges in terms of budget allocation for developing countries as limited resources can only be invested in economic development. In addition to an increased need for budgetary spending to invest in climate change, extreme weather events have serious implications for economic activity. This results in a reduction in the GDP and hence the revenue losses. Furthermore, increased illness, water scarcity, food and energy shortage, and subsequent need for social investments and income support also increase mandatory spending.

Climate change requires lots of resources to finance mitigation and adaptation actions while also financing the rehabilitation and reconstruction in post climate disasters. It is often more than what developing countries in the Global South can afford. For example, estimates show that the cost of climate adaptation alone for developing countries is expected to be a minimum of US\$280 billion while it can go up to US\$500 billion per year by 2050 (UNEP, 2016). It is also true that past assessments of climate-related costs have often missed several components, resulting in the underestimation of the required

financial needs (Resch et al., 2017). For example, the cost of climate adaptation actions proposed in Nationally Determined Contributions (NDCs) has exceeded the current level of finance (UNEP, 2016).

Notwithstanding that climate finance has developed a lot in recent times, it is still a nascent field in Pakistan. However, the Government of Pakistan is keen to utilize all possible opportunities of climate finance, including grants and concessional financing as it requires a lot of resources. For example, as part of NDC's commitment to reduce 50% of GHG emissions by 2030, Pakistan requires about USD 151 billion of investment alone for GHG mitigation in the energy sector by 2040 (GoP, 2021). It is noted that while concessional finance is limited, the share for developing countries remained very low in the past. For example, out of USD 632 billion in climate finance in 2019- 20, about USD 65 billion was concessional finance, and only USD 20 billion was given to poor countries (CDPR, 2022). Similarly, most of the USD 325 billion annual funding for renewable energy was private equity or debt at market rate.

Pakistan uses a system of budget coding that facilitates governments in efficiently allocating resources and planning for any climate change event while also providing a baseline of the existing financing sources and efforts (Resch et al., 2017). In Pakistan, budget coding and tracking have been introduced at the national, provincial, and district levels since 2016 with the support of UNDP using the 'Climate Public Expenditure and Institutional Review (CPEIR)' methodology. The CPEIR 2016 suggests that the budget for climate change focuses on expenditures on food security, clean energy, or irrigation. However, to address losses and damages from climate change, Pakistan needs to adopt a comprehensive financing framework for climate that explicitly addresses climate change adaptation, resilience, and recovery. Pakistan needs to adopt Climate Responsive Budgeting to track climate finance in the budget while also targeting and translating climate change-related objectives into budget allocation and public investments (Khan and Usmani, 2019).

As for the L&DF, there are eight sectors which are expected to receive financial support from L&DF resources. Below we briefly describe these sectors.

- 1) Post floods and drought disaster transition: This is usually the recovery phase wherein major reconstruction, development, and capacity-building activities are undertaken.
- 2) Social protection regime and income transfers: This entails cash transfers to the vulnerable and exposed populations before, during, and after the disasters to avoid hunger and food insecurity.
- 3) Risk insurance: Risk insurance refers to the risk of natural disasters that might include loss or damage of valuable assets, livelihood, and injury or death of the person where the insurers assess these risks and, based on which, work out the premium that the policyholder needs to pay.

- 4) Early warning systems: Early warning systems are integrated systems of hazard monitoring, forecasting and prediction, disaster risk assessment, communication, and preparedness activities.
- 5) Expenditure on climate-displaced people: As the name suggests, these are the funds that are allocated for the displacements caused by climate-related natural disasters.
- 6) Emergencies preparations: This includes the steps to ensure the safety before, during, and after a natural disaster. These plans are important for safety in both natural disasters and man-made disasters.
- 7) Micro-credits for livelihood: Disbursement of micro-credit was one of the major strategies to cope with the natural disasters.
- 8) Rehabilitation and rebuilding: This includes support provided to the flood or drought-affected communities and is normally for reconstruction and rehabilitation works.

Thus, a comprehensive approach to estimating climate expenditure is to estimate the losses and damages and the resource requirements of these eight sectors. This exercise will give a clear idea of the financial needs and hence a plan to mobilize financial support from the L&DF.

3.3 Current financing situation

Notwithstanding the economic situation of the country is already very poor, the Pakistani government has tried to invest in climate resilience. However, Pakistan has not been very successful in securing financial support from international climate finance due to limited technical capacity and hence poor access and availability. So far, the country can only get one project from the Adaptation Fund and three projects from the Green Climate Fund and their total value is USD 122 million. Similarly, about 19 projects were approved by the Global Environment Fund (GEF). However, Pakistan could not access Climate Investment Funds (CIFs) and other major bilateral climate funds. The progress in terms of the “debt-for-nature” swap and carbon trading also remained very limited.

However, it is a fact that the existing financial arrangements are not sufficient to deliver the support required to address the need for climate-proofing the key infrastructure and critical social and economic systems. Agriculture is the case in point which provides food, fodder, and livelihood to millions of low-skilled people in rural areas. Furthermore, the existing mechanisms, including climate mitigation and adaptation investments, are in no way suitable to deal with the complexity of losses and damages from natural disasters. Therefore, the new and additional pots of resources are extremely crucial.

3.4 Demand and supply of climate finance

As for the demand for climate finance, it is to be used for climate mitigation, climate adaptation, and reconstruction and rehabilitation from past damages of climate change. In terms of climate mitigation, the highest emitting sectors in Pakistan are energy and agriculture. The cost of energy sector GHG emissions reduction, which accounts for roughly 41% of Pakistan's GHG emissions as per 2018 data, will be about USD 151 billion by 2040 (GoP, 2021). Similarly, it is estimated that about USD 7-14 billion are required to enable Pakistan to adapt to climate change (CDPR, 2022).

In terms of adaptation investments, the Government of Pakistan estimated the need for USD 7-14 billion for adaptation investments. Since adaptation also involves land use improvements and forestry projects, the cost of the Ten Billion Tree Tsunami Program (TBTP) is a good benchmark to allocate resources for agro-forestry or afforestation and watershed projects which would be at least double the TBTP cost which is USD 800 million. Lastly, there is also a need for exploring conservation debt-for-nature swaps for mangroves and the ten billion-tree projects.

However, the key sectors which are expected to receive support from L&DF include (1) post floods and droughts disaster transition, (2) social protection regime and income transfers, (3) risk insurance, (4) early warning systems, (5) expenditure on climate displaced people, (6) emergencies preparations, (7) micro-credits for livelihood, and (8) rehabilitation and rebuilding. Thus, a comprehensive approach to estimating climate expenditure is to estimate the losses and damages and the resource requirements of these eight sectors. This exercise will give a clear idea of the financial needs and hence a plan to mobilize financial support from the L&DF.

3.5 L&DF in the context of Pakistan

L&DF brought hope to many countries like Pakistan, it is time to consider how best to utilise such funds in order to maximize climate-resilient development. However, as for Pakistan's readiness for the L&DF, there are a number of questions which need to be answered first. For example, is the subject of global climate finance well understood in Pakistan? How much climate finance is flowing to Pakistan, and how has it been utilised thus far? How much did Pakistan benefit from CDM financing for the green transformation of its industry? What are domestic options for mobilising resources for climate investments, and how do governmental entities in Pakistan currently leverage their own resources to fund mitigation and adaptation initiatives and efficiently manage them?

What would be needed in a new fund to ensure that Pakistan is able to access funds? What are the governance challenges to Pakistan's current approach to managing climate finance? What would be the best internal distribution priorities among different possible funding allocation areas from such an L&DF? The knowledge needed to answer these questions needs to be produced in a coherent manner so that Pakistan can better prepare itself to access climate funds and improve domestic and

institutional capacities to manage an enhanced provision of funds. In Pakistan, one of the country's worst hit by climate change, the government has been implementing the Climate Change Policy at the provincial level. However, attracting adequate international climate financing has been a challenge, mainly due to the constantly changing landscape of climate finance and the limited institutional capacity at different levels to leverage, utilise and monitor emerging climate financing (GFC Pakistan Readiness Proposal 2015).

The failure to benefit from the Clean Development Mechanism (CDM) is a reminder that Pakistan will need to strengthen its institutional capacity to solicit and use international climate finance. Despite the fact that a lot of people talked about CDMs in seminars, most of them did not know the technicalities and modalities to propose such projects which could qualify for the financing. The conditions under which the funds would be available from L&DF have started emerging. Pakistan's manufacturing and agriculture sectors could not benefit from the CDM facility and a big opportunity was lost which could improve these industries in Pakistan. Hence, Pakistan should not be a loser this time around.

3.6 L&DF and financing needs

L&DF financing is not only about delivering disaster response and reconstruction but it also aims to prevent communities from losing their development gains. This means L&DF must enable countries and households to endure and bounce back from the impacts of loss and damage from climate change and natural disasters when they have already invested in coping and adaptation. Hence, the financing needs in the context of L&DF include climate-compatible economic growth and development as well as the availability of resources for climate change-driven natural disasters.

This is an undisputed fact that the costs of addressing loss and damage in developing countries will be very high as the value of losses and damages are compounded by socioeconomic problems such as poverty, food shortage, and disease to name a few. As for L&DF needs in Pakistan, the economic costs of the 2022 disastrous floods are expected to reach at least USD10 billion (Gallagher and Addison, 2022). This, however, does not account for non-economic forms of loss and damage and their costs such as loss of life, well-being, territory, cultural identity, indigenous knowledge, and biodiversity as these costs are seldom incorporated in formal estimates of loss and damage from natural disasters.

3.7 Sector distribution and best contenders

The L&DF modalities may also determine and guide the sectoral distribution of the financial support secured under the L&DF. However, the best way to use the resources generated through this fund in Pakistan would be to spend on disaster risk reduction and management and developing the resilience

of the most vulnerable communities. This mainly includes monsoon flooding and prolonged droughts which result in losses and damages to livelihood, key infrastructure, and basic services, among others. This also includes livelihood which largely depends on agriculture and livestock in rural areas as about 35% of the total population is dependent on this sector. Hence, climate-proofing of agriculture is critical as there are very limited off-farm income opportunities in rural areas of Pakistan.

The National Disaster Risk Management Fund (MDRMF) was established with the technical and financial loan-based support of ADB. It has a National Disaster Risk Finance Unit dedicated to formulating risk finance strategies. The funds for MHVRA are managed and released by the (NDRMF). About 70% of the cost is financed by NFRMF, while 30% is contributed by implementing partners. For international climate finance including the L&DF, NDRMF's coordination with CFU and other partners is necessary to avoid fragmentation and synergize project and program planning. The NDRMF is the responsible funding agency for the Rs. 3 billion flood Rehabilitation scheme in Sindh (Kundi, A. 2023). Similarly, the capacity of National Disaster Management Authority (NDMA) and provincial disaster management authorities could be enhanced to implement L&DF.

Chapter 4 Assessment of Pakistan's institutional capacity for L&DF

4.1 Institutional architecture

Before discussing the institutional capacity issues and the need for capacity enhancement, it is important to identify the key institutions relevant to the mobilization and implementation of the L&DF. In Pakistan, the focal ministry to deal with matters pertaining to the environment, climate change, and natural disasters is the Ministry of Climate Change and Environmental Coordination (MoCCEC). This is the umbrella organization which oversees and guides the departments and agencies in the federal capital as well as in provinces. After the MoCCEC, the second most important government department that deals with climate change and natural disasters is the National Disaster Management Authority (NDMA). It is the lead agency at the federal level for Disaster Management activities as well as the executive arm of the National Disaster Management Commission (NDMC) which was established under the Chairmanship of the Prime Minister of Pakistan.

While NDMA is based in the federal capital, there are provincial and state disaster management authorities which are working in the provinces. After the MoCCEC and NDMA, the Federal Flood Commission (FFC) is an agency under the Ministry of Water Resources of the Government of Pakistan. The FFC was established with the purpose of integrated flood management at the national level and is responsible for the development and maintenance of flood protection and control systems in Pakistan. Lastly, Pakistan also has the National Disaster Risk Management Fund (NDRMF). NDRMF is a public limited company and its aim is to establish a government-owned sustainable mechanism to support disaster risk reduction and financing instruments that can enhance Pakistan's resilience to future disasters.

4.2 Existing institutional gaps

There are many issues pertaining to the institutional capacity to manage climate finance in Pakistan. For example, Pakistan has a bad record of efficiently utilizing foreign aid which resulted in many problems ranging from inefficient and wasteful use of resources, incapacity, and corruption, to name a few. It is important to highlight that the potential sectors and contenders of L&DF support have been the recipients of foreign aid in the past. However, they often failed to implement high social impact projects to ensure the best use of available resources. While Pakistan did not get a lot of funding, for

example, in climate finance, the country has serious capacity issues which need to be addressed before L&DF becomes functional to ensure the smooth access and utilization of the available resources.

Thus, in addition to access and mobilizations, the efficient utilization and management of public expenditure have also been a challenge. Hence, there is a need to enhance the capacity of the public sector starting from the identification of projects to planning, execution, and evaluation. Pakistan also has a less than inspirational story of Public Private Partnership (PPP) project implementation. The PPP Authority and law have not given special importance to international climate finance-funded projects.

Since the mandate of the Ministry of Climate Change and Environmental Coordination is limited due to the devolution of powers after the 18th Amendment of the Constitution of Pakistan, its human, technical, and financial capacity is also inadequate. Similarly, challenges of intuitional capacity, governance coordination, and inter-sectoral synergies together worsen the efforts to adopt comprehensive actions for climate change and alignment of government projects with those goals. This impedes Pakistan's capacity to access international climate finance. It is essential to conduct an institutional assessment to identify areas requiring technical assistance and reforms for institutional governance to prepare Pakistan for the L&DF to improve the country's capacity to access climate finance. In addition, there is a need to improve the coordination for steering a climate change-ready future. This will include the coordination between the focal ministries and departments with other key ministries such as the Ministry of Planning, the Ministry of Climate Change, and the Ministry of Finance.

4.3 Missing role of financial intermediaries

Central banks all over the world, including those in developing countries, have positively responded to climate change and environmental degradation to ensure sustainable development and avoid damages from unfavourable climate changes which occurred in the recent past. Notwithstanding Pakistan is highly vulnerable to climate change and the international community has already realised this, unfortunately, the Pakistani financial system did not fathom the gravity and enormity of the problem of climate change beyond this being a risk factor. However, climate change is a multidisciplinary subject which is rooted in science but has serious implications for society and the economy.

This means the relationship between climate change and financial systems cannot and should not be seen through risk and seeing climate merely as the source of risk is not only naïve and uneducated but a negligence. For example, financial institutions have a key role to play in price instability, food crisis, and inflation during climate change-driven natural disasters. Climate change affects the valuation of

assets and investments in many ways. Similarly, certain investments such as those in the oil and gas industry induce climate change, while others such as green technologies, including renewable energy and electric vehicles are climate-friendly.

A large part of the global financial system has aligned itself with climate change. This includes expansion in climate finance and a number of products and services (e.g. green bonds, climate insurance, and concessional loans for climate-friendly investments) and financial instruments to tackle climate change. Pakistan, on the other hand, has failed to provide small loans and micro-credit to vulnerable farmers who lose their livelihoods in addition to contributing to food insecurity. This clearly shows that financial institutions have a greater responsibility and role to play in addressing the problem of climate change.

However, in Pakistan, there seems to be a lack of a holistic and comprehensive understanding of the nature of the climate change problem and its implications for different socioeconomic and ecological systems. One factor behind the limited understanding of climate change as a multifaceted and serious problem is also a misunderstanding amongst Pakistani economic managers that tackling climate change means a compromise on economic growth and/or economic growth could be achieved without dealing with climate change. However, the world has walked passed that stage of arguing with climate critics.

Pakistani financial system must align itself with the global financial systems where the roles and responsibilities of financial institutions have changed in the wake of climate change. Climate change should not only be seen as a risk factor by financial institutions but an avoidable force which is going to massively affect the economies and societies in future. One simple way to look at climate change would be from the financial and investment standpoint which could be divided into two parts: one, to invest in the environment and climate-friendly projects, i.e. green investment, and two, how to make sure that the investments which have already been done are climate-proof.

Seemingly, this is all about risk, but it is much more than that indeed. This includes climate mitigation (reduction in CO₂ emissions), climate adaptation (adjustment of socioeconomic and ecological systems with changing climate), climate proofing (in terms of reduction in and management of natural disasters), and climate-compatible investments (a development which is resilient to climatic changes). There is an urgent need to develop the capacity of the Pakistani financial system to prepare it to respond to climate change in a holistic and broader way.

4.4 Planning for L&DF projects

The fundamental principles of effective climate action are a) political commitment of leadership b) actively participating in international and regional processes c) formulating policies and action plans for adaptation and mitigation d) governance and institutions dedicated to working on climate change e) monitoring and policy implementation, and f) optimal utilization and mobilization of external and domestic resources (Kakakhel, 2023). Pakistan needs to focus on improving the political commitment of leadership, monitoring and policy implementation, and optimal utilization and mobilization of external and domestic resources to enhance its technical capacity to access and mobilize financial resources under L&DF.

Keeping these in view, suitable projects need to be identified based on the principles of sustainability, feasibility, and cost-effectiveness, aligned with national goals, and integrated with existing initiatives where possible. Prioritizing projects that have co-benefits, i.e. to address climate adaptation while also resolving issues of loss and damage, should be a priority. For example, mangroves are frontline defense in case of tsunamis, and maintenance of large mangrove belts on the coastline serves as a strategy for climate risk reduction. However, mangroves also play the role of climate mitigation and local livelihood.

4.5 Data, quantification, and human resources

Conceptually, the loss and damage concept is about climate-incurred loss despite adaptation. It is important to configure why and how loss and damage apart from measuring it alone. Loss and damage is one of the three thematic pillars of UNFCCC. Therefore, it is a requirement for Pakistan under the Paris Agreement to assess climate losses, determine actions to address them and quantify the needs (Sheikh, 2022). Five yearly exercises on data on loss and damage is another commitment for which Pakistan needs to technically prepare itself. Currently, the adaptation needs are being identified and the possibility to include loss and damage assessments may be explored. The unavailability and inaccessibility of data affect the quality of proposals fielded by Pakistan to access funds (Bashir et al. 2023). Researchers and academia need to be actively engaged in conducting research in the context of L&DF apart from mitigation and adaptation. For example, sectoral losses to agriculture due to changing weather and global warming need to be factored in.

The sectoral estimates of loss and damage from climate-related disasters in the medium and long term need to be regularly updated to assess the adaptation gaps and the financial needs of the country. The federal government in Pakistan received capacity building and technical knowledge support through the Action on Climate Today- South Asia programme of the DFID to mainstream such measures into policy, planning, and budget cycle. Provincial as well as federal government officials received training on accessing international climate finance under this programme (Resch, 2017).

However, this capacity building would only be fruitful if the trained staff did the relevant work, i.e. climate finance resource mobilization and preparation of projects for different types of climate finance resources. Sectoral climate financing studies are required to configure the potential of each sector for climate finance generation. Clean energy transitions hold significant potential for international climate finance if Pakistan develops an energy sector-specific inventory and shortlists the potential projects.

4.6 Integrating climate change in the planning process

Mainstreaming climate change into development remained a serious problem as well as a neglected area in Pakistani planning and development systems. The integration of climate change adaptation and resilience at federal and provincial levels of government in planning, policy-making, and budgeting is important to enhance the capacity to access climate financing. The climate risks need to be accounted for in the mid-term budgeting framework (MTBF) of the line ministries at the federal and provincial levels of government. The MTBF process is being implemented in federal and provincial governments, but it is not being utilized to develop climate-focused projects. Aligning climate costs with development actions also brings synergy in government expenditures across sectors.

Although cross-sectoral policies and plans are developed, it is often the case that development investments are given priority when they have a conflict with climate-related investments. The Climate Finance Unit (CFU) in Pakistan has members trained in seeking and identifying international climate finance, developing project proposals, and supporting line ministries for climate. However, the mandate burdens the unit with managing multiple project streams with limited human and financial resources. On the other hand, CFU cannot enforce compliance on other ministries to integrate climate-responsive policies and strategies. The coordination between ministries and across provinces needs a functional and empowered “Pakistan Climate Change Council” as envisioned in the Climate Change Act 2017. As for the National Climate Change Policy, the incorporation of adaptation measures in line ministries at the provincial and federal levels is a fundamental requirement. However, the policy doesn’t create any incentives or disincentives to ensure compliance (Gogoi, 2017).

4.7 Improving disaster management policies and institutes

Disaster management and disaster risk reduction policies in Pakistan are often faced with resource constraints in times of crisis. The creation of an inter-provincial climate risk pool under the National Finance Commission (NFC) award is one of the practical solutions that can help governments tackle short-term and immediate needs in the face of climate-incurred damages (Sheikh, 2023). Due to limitations of technical knowledge and data, the quantification of adaptation needs is less comprehensive compared to mitigation needs in developing countries like Pakistan (Kakakhel, 2022).

Considering the loss and damage costs, the post-disaster needs assessment of the 2022 floods was conducted with the technical support of international donor agencies.

Separate and dedicated units must be established for adaptation, mitigation, and loss and damage in the climate finance unit to overcome such technical limitations in costing needs. The scale of destruction that was incurred by the 2022 floods was not anticipated but the flood situation was predicted beforehand. The NDMA, despite having a vast network in every district, did not make necessary arrangements for evacuation, temporary rehabilitation, and other risk reduction measures (Singh, 2022).

4.8 Responding to climate change impacts

The heat wave management plan for Karachi was developed a decade ago but has not been implemented so far. The heatwaves now occur in other cities as well and with more intensity. Perhaps a national heatwave categorization should be adopted to prepare for heatwaves beforehand. The averted Biparjoy cyclone in Karachi was a test case for district disaster management. About 80,000 people were evacuated for the first time in the country. However, the district management authority called in security forces to aid in evacuation (Sheikh, 2023).

As per the SENDAI framework, national disaster policies, and commitments of Pakistan, the country aims to complete Multi-Hazard Vulnerability and Risk Assessment (MHVRA) in all districts by 2030. Accordingly, a district disaster management plan is developed defining the roles and actions of each department.

4.9 Strengthening NDMA

Disaster management institutions are well established at the federal, provincial, and district levels. The policies of NDMA are responsive in character rather than preparedness-oriented. Furthermore, despite having a vast network and district-level plans, the lack of resources is a problem for disaster risk reduction. It is often recommended that a disaster financing strategy is developed that aligns national disaster strategies and action plans with international climate funds. Such a strategy should be prepared with particular reference to the loss and damage to short-term and medium-term needs. Also, community participation and community-led projects need to be configured for loss and damage as the vulnerable population is at the center of the impact of climate change.

4.10 Reaching the most vulnerable at the domestic level

The purpose of the loss and damage fund is to reach the most vulnerable groups. Establishing it as a principle, at the domestic level the communities directly affected by sudden events or slow onset

impacts of climate change should have social security arrangements in place and contingency funds. For this purpose, vulnerable countries should strengthen their institutions that track the social protection of vulnerable populations along with developing solutions for sustainable livelihoods that may be lost and damaged due to climate change (Dahiya and Okitsari, 2022). For Pakistan, it is necessary to include social protection projects in its loss and damage portfolio as a priority given the dependency of large-scale population on agriculture and high poverty.

4.11 Regional comparison

A comparison of climate finance and climate risk in South Asia reveals that despite, India being the highest emitter and fifth most vulnerable to climate change in the region, it received the highest international climate finance due to its strong institutional capacity and effectiveness. While Pakistan has lost 0.678% of its annual GDP on average due to climate change, India lost 0.274%. The regional comparison of South Asian countries depicts that countries with stronger intuitions are better able to access international climate finance (Masud, 2023).

The African leaders have pushed for “climate compatible growth” of the region by specifying climate actions, financing needs, and investment opportunities in the (African Climate Summit 2023). The summit concluded with propositions to set up new and restructured financing instruments at the international level to reduce the burden of debt and achieve green growth goals. While a regional summit for South Asia is a farfetched idea given the political realities, the interconnectedness of the issues of climate change and loss and damage demand regional cooperation.

4.12 Establishment of a domestic fund

One other suggestion to effectively mobilize and access the L&DF is that Pakistan establish its own domestic climate fund, as indicated in the latest National Adaptation Plan. This fund could help Pakistan in improving the capacity of key departments and agencies to implement the L&DF. The L&DF would however come for the sectors, which have a history of suffering losses and damages. This would require developing protocols and guidelines by the government in consultation with the key stakeholders. It is important to mention that the UNDP framework of climate expenditure review is inadequate for L&DF as well as climate finance-related funds which Pakistan may seek in the future. The establishment of a domestic fund will allow for the pooling and allocation of resources for the following eight sectors; (1) post floods and droughts disaster transition, (2) social protection regime and income transfers, (3) Risk insurance, (4) early warning systems, (5) expenditure on climate displaced people, (6) emergencies preparations, (7) micro-credits for livelihood, and (8) rehabilitation

and rebuilding. The establishment of a domestic fund will also enable the responsible government departments to undertake the scientific assessment of future needs.

Chapter 5 Preparing Pakistan for L&DF

5.1 Introduction

Pakistan's preparation to access the resources from L&DF is critical which also includes enhancing institutional capacity to develop projects which are aligned with the criteria of the fund. However, there is a strong realization among the planners, policymakers, experts, and civil society in Pakistan that the country has not been able to effectively access climate finance in the past. There are only a handful of projects through which Pakistan has received climate funds (see Table 1). The constraints have also been highlighted in the Climate Change Finance Framework (2017), Living Indus Initiative (2023), and National Adaptation Plan (2023). There is, however, a shortage of trained manpower with a technical understanding of climate finance to prepare projects with robust analysis and rationale (Ebrahim, 2022).

Table 1 International climate finance projects of Pakistan till 2021

Facility Name	Number of projects
Adaptation Fund	1 (grant)
Green Climate Fund	3 (Concessional loan and grants)
Global Environment Fund	19 (Grants and Concessional loans)
Clean Development Mechanism	18
Climate Investment Funds	0
Major Bilateral Climate Funds	1

L&DF is going to be a third operating entity fund of the UNFCCC similar to the Global Environment Facility (GEF) and Green Climate Fund (GCF). Hence, lessons learned in accessing GCF and GEF funding provide preliminary grounds for institutions in Pakistan to work on approaches to access funds from a new entity (Richard et al. 2023). Thus far, Pakistan's inability to effectively avail the previous facilities was not being able to bring forth bankable projects as well as apply rapidly for the funds. The underlying problem is due to incapacity at the institutional level in terms of understanding climate

finance and the mechanisms through which different funds operate and release resources. While the L&DF is still being established under UNFCCC, some small-scale funds have been made available (Table 2). Amongst these, Pakistan is selected as a pathfinder country for Global Shield, to analyse climate risks and the efficacy of protection systems in place. It will provide Pakistan with risk modelling and data necessary for planning against climate events (Federal Ministry of Economic Development, 2022).

Table: 2 Existing Loss Damage Finance outside UNFCCC

Name of Facility	Type
African Risk Capacity (ARC),	Pooling and Risk Management
Caribbean Catastrophe Risk Insurance Facility (CCRIF)	Pooling and Risk Management
G7-led Global Shield	A) Multilateral Grants B) CVF C) Insurance Resilience
Scotland	Bilateral Fund – Grant
Denmark	Bilateral Fund – Grant

The L&DF support is expected to be thematically categorized, first related to the immediate disaster response, second medium-term needs for rehabilitation and reconstruction, third slow onset-events, and lastly for sub-governmental and nongovernmental entities (Richard et al. 2023, Climate Action Network, 2023). Therefore, Pakistan needs to formulate detailed proposals that undertake loss and damage needs in the short as well as long term. The Ministry of Climate Change of Pakistan was the designated national authority of GCF, and it will also be responsible for overseeing funding requests for L&DF. Therefore, the capacity of the Climate Finance Unit (CFU) at the Ministry needs to be enhanced further. The L&DF is supposed to be comprised of grants and direct financing instruments, while also prioritizing programmatic support over project-based funding (Richard et al., 2023). The institutional capacity of Pakistan needs to be evaluated and gaps should be identified in the context of the proposed modalities and funding instruments of the L&DF. Our Study attempts to do a systematic institutional capacity assessment in the following section, identifying the gaps in the context of the proposed modalities and funding instruments of the L&DF.

5.2 Programmatic funding

Programmatic funding is usually more sustainable as the approach is established around developing country-led investment plans and thematic programmes which are often supported by multi-lateral agencies¹. The programmatic support in line with the country’s policies and development plans offers an opportunity to field long-term programmes through budgetary support for development priorities. The slow onset impacts of climate change such as loss and damage due to glacial melt have long-term needs that are better addressed through programmatic funding. The L&DF seeks to establish such

¹https://www.cif.org/sites/cif_enc/files/knowledgedocuments/evaluation_of_cif_programmatic_approach_brief.pdf.

funding windows for slow on-set climate change impacts (Practical Action for Addressing Loss and Damage, 2022). In this respect, the line ministries should prioritize and prepare bankable proposals based on Multi-Hazard Vulnerability and Risk Assessment for areas which are most vulnerable due to changing weather patterns, extreme heat, glacial melt, and desertification in Pakistan. Such proposals should prioritise food security, resilience, livelihood diversification, and damages to housing and key infrastructure as fundamental components to mainstream disaster management and climate change while targeting L&DF.

5.3 Accessing Concessionary Loans

The global landscape of international climate finance is competitive, especially considering the limited share of concessionary loans and grants in international climate finance. Furthermore, the qualifying criteria for these programmes are highly strict. Pakistan needs to indicate specific programmes and projects which require investment for emissions reduction and improvement of the overall environment and climate and present a strong case for concessional loans and/or grants. While it is limited in scope, Pakistan's NDC 2021 is a relevant document to approximate the cost estimates for emission reductions and climate adaptation. However, there is a need to expand the NDC scope to specific and targeted projects (Mako, et al., 2022). The energy sector followed by agriculture is the highest emitter.

5.4 Ensuring direct access to resources

It has been noticed that international climate and other multilateral funds often go to intermediary organizations such as ADB, DIFD, or the World Bank (Shaikh, 2023). However, Pakistan needs to develop its capacity and equip itself to mobilise, access, and use/implement the L&DF to evade transaction costs and administration delays. The underlying principle of L&DF is climate justice and hence the modalities should create such instruments which are more flexible and tailored to the institutional capacity of the developing countries. Nevertheless, Pakistan must prepare itself to be the most suitable candidate for L&DF in all aspects. The Ministry of Climate Change of Pakistan must establish a cell to dedicate its efforts to prepare Pakistan in terms of capacity and readiness to capitalize on the L&DF. Furthermore, there must be a focal person from each sector and province/region to coordinate with the cell.

It is also vital to link the search for climate finance to existing national policies and strategies related to climate change and sustainable development and designate a coordinating body to help ensure that different sectors of the country are represented in decision-making processes and their focal person meet and interact on a daily basis. Institutions that will be responsible for overseeing and implementing projects or programs funded through direct access to funds from L&DF should be well-

resourced from all aspects and ensure an inclusive approach. Linked climate finance to national strategies and appointing the appropriate institutions as the focal point and coordinating bodies are some of the basic things to consider in the planning of the project. The institutional capacity of those institutions designated to facilitate and implement L&DF should be enhanced on a regular basis (Masullo et al. 2015).

Chapter 6 Inclusive climate finance and L&DF

6.1 Introduction

Climate change has profound social and economic impacts that disproportionately affect people from different socioeconomic groups. This is especially serious for the financially excluded groups. For example, they might get excluded from the support being provided, resulting in worsening their existing vulnerabilities. One of the reasons for this problem is that climate finance remained isolated from financial inclusion in general, despite significant overlaps between them. Similarly, poor communities and households might find it difficult to avail different financial instruments as they have a physical risk from climate change which might affect the reliability of collateral. This means that amplified physical risk in terms of climate disasters could be the cause of financial institutions' reluctance to lend to low-margin and high-risk customers.

Climate finance is an essential tool to address the adverse impacts of climate change in line with the goals of the Paris Agreement. However, planners, policymakers, and regulators confront the dual challenge of financial exclusion and climate change which impede financial stability and financial inclusion to support vulnerable communities in building resilience to climate change and mitigate subsequent losses. Similarly, the transition to a low-carbon economy and changes in consumption and production patterns, use of technology, and changes in investment preferences often result in financial exclusion. Similarly, regulatory and other policy changes in the financial sector to advance the low-carbon transition can also cause unintended consequences in terms of financial exclusion.

Nevertheless, inclusive climate finance could help against the negative impacts of climate change. For example, financial institutions could design products and services such as savings, credit, insurance, money transfers, and new digital delivery channels to enable vulnerable communities to deal with climate risk.

6.2 Climate finance and social inclusion

Notwithstanding that global climate finance volume has grown manifolds, access to and distribution of climate finance are not equitable. Developing countries which face socioeconomic problems and are more vulnerable to climate change often struggle to benefit from climate finance. Several destitute groups, including women, youth, and marginalized communities also contribute, but existing systems fail to ensure the reward for their participation. This undermines the social inclusion aspect of climate finance, resulting in more disparities and inequitable access to resources. Similarly, social inclusion in emissions reduction programs is about having a voice in the planning and implementation of initiatives that yield fair access to benefits.

Social inclusion in climate finance seeks to enable disadvantaged communities to benefit from climate finance windows. Hence, inclusive climate finance means the removal of barriers to the participation of the most disadvantaged countries and regions to promote equity and ensure fair distribution of resources. To implement inclusive climate finance, there is a need to devise viable models and systems which serve vulnerable countries and marginalized population groups, resulting in ensuring equitable access to and distribution of climate finance. Furthermore, inclusive financial systems substantially impact the lives of vulnerable households in their responses to climate change. However, vulnerable countries often lack an overarching framework to understand, explain, and mainstream inclusive finance in climate change. This framework must entail the approach in which financial services can support vulnerable communities in the face of climate threats. Below, we present a framework for Pakistan to effectively utilise the L&DF.

Since financial services are critical to climate adaptation and mitigation, financial exclusion precludes vulnerable groups from developing resilience. If a significant fraction of the vulnerable population is unable to adapt to climate change, their vulnerability to economic shocks will be aggravated, resulting in poverty and unemployment. This social inequity and exclusion from economic opportunities could cause instability and conflict. However, inclusive climate finance has the potential to develop resilience while facilitating the transition to a low-carbon and sustainable economy. Inclusive climate finance could also reduce the financial exclusion experienced by vulnerable groups and foster equitable access to resources.

The lack of inclusiveness in climate finance is one of the major factors which resulted in the slow evolution of green financing in Pakistan. Hence, it is important to note that irrespective of the modalities of the disbursement/operationalization of L&DF, the inclusiveness of climate finance would be a critical factor that will contribute to the success of L&DF. This study clearly indicates that the climate finance ecosystem in Pakistan must be inclusive to achieve the desired objectives of climate finance as well as the soon-to-be-materialised L&DF. The inclusiveness of the climate finance

ecosystem could be better attended by ensuring that the neglected elements are given due importance in processes.

6.3 Pakistan's inclusive strategic framework for L&DF

Pakistan needs an inclusive strategic framework to access the L&DF without difficulty in developing and submitting proposals and procedural delays. This would require ample preparation and groundwork in anticipation of future engagement with the L&DF so that the country is eligible for an adequate amount of funds from L&DF. This strategic framework has several key aspects which are discussed below.

a. Technical capacity and coordination

Technical capacity to access, mobilise, and implement the funding from L&DF should be the priority of Pakistan as the country could not properly avail the CDM due to a lack of technical and institutional capacity to help project proponents in developing the CDM projects. In addition to the lack of human, technical, and financial capacity, challenges regarding coordination and inter-sectoral harmony impeded the efforts in the past to adopt a comprehensive plan of action. Hence, this must be addressed to access international climate finance.

b. Integrated approach

Integration of financial institutions and services of government, the central bank, commercial banks, and other financial institutions is vital for financial inclusion. These financial institutions must have a homogenous understanding and approach and uniform practices when it comes to climate finance and expected resources from L&DF. This will enable Pakistan to benefit from key stakeholders in devising effective policies and practices to access, mobilise, and implement L&DF for the climate resilience and social and economic uplift of vulnerable communities and sectors while considering equity concerns. This approach can help avoid potential conflicts and trade-offs and foster a harmonious and collaborative approach for robust results.

c. Clear and policy-guided position

Pakistan must have a clear position with respect to the L&DF which underpins the relevant policies such as the National Adaptation Plan 2023, the Final Updated National Climate Change Policy-2021, the National Disaster Risk Management Policy 2013, and Resilient Recovery, Rehabilitation, and Reconstruction Framework (4RF). These strategic policy documents will guide the efforts as well as the extensive collaboration between agencies to devise an inclusive plan.

d. Solid implementation plan

A solid implementation plan with clearly outlined intended objectives and social impacts in terms of reduced exposure and improved resilience would enable Pakistan to pitch the funding requests. This implementation plan should be designed by technical experts from the Ministry of Climate Change, the National Disaster Management Authority (NDMA), the provincial disaster management authorities, the Federal Flood Commission, the Global Change Impact Study Centre (GCISC), SDGs Division Planning Commission, and other key stakeholders.

e. Targeting diverse pots of resources

Unlike in the past, Pakistan must target multiple funding opportunities under L&DF and aim for funding from a variety of donors and finance institutions. This would enhance the country's chances to access and mobilize adequate funding to develop resilience to climate change while also developing its capacity to manage funds directly without involving intermediaries such as UNDP, ADB, and other multilateral. Furthermore, international resources from L&DF should be augmented with domestic public and private funding to improve efficiency, accountability, and transparency. This would require a robust and consolidated approach to manage and implement an architecture of climate and disaster funds while also increasing the scales.

f. Local government and community participation

The essence of inclusiveness is the participation of all relevant stakeholders in the development processes. In this respect, the participation of local stakeholders such as local government departments and municipal authorities, community organizations, and vulnerable groups in the implementation of L&DF is highly important. This will develop their capacity and confidence in addition to the technical understanding required for the implementation of L&DF. This is also important as climate change and disaster management policies in Pakistan have been designed using the top-down approach, hence these policies have an innate tendency to cause social exclusion.

Chapter 7 Conclusion and policy recommendations

7.1 Conclusion

Attracting adequate international climate financing remained a challenge for Pakistan due to the lack of a comprehensive approach, limited institutional capacity to access the emerging climate financing landscape, lack of inclusiveness, and inconsistent policies. Our study has uncovered a number of key governing principles which should consciously be adopted to improve the climate finance ecosystem as well as the prospects of L&DF in Pakistan. These governing principles have informed our analysis to effectively mobilise, access, and implement climate finance, including L&DF in Pakistan. This analysis investigated several key dimensions and impediments to the development of an efficient and agile climate finance Pakistan. This includes the country's technical and institutional capacity to implement climate finance, required data and empirical evidence, past experiences, including CDM, and inclusiveness of climate finance in Pakistan, among others.

Addressing these key governing principles and then applying them in the case of Pakistan would transform the ecosystem of climate financing in Pakistan. This would add to the existing climate financing, which includes both national and transnational financing for mitigation and adaptation measures taken to tackle climate change. Similarly, bringing the principles of climate justice to the center of the climate finance policy and discussion would also help in anchoring financial support, including L&DF. Nevertheless, the development of a climate finance ecosystem would enable a green transformation in Pakistan, resulting in much-needed financing of green industrialization which the country needs for long-term sustainable and resilient economic growth and development.

7.2 Policy recommendations

Our study provides insightful recommendations for the process of L&DF and the ways in which this could be best operationalized to achieve its intended goals. These cross-cutting recommendations will

enable policymakers and planners in developing countries to position themselves to seize this opportunity.

7.2.1 Clarity on the scope

It is very crucial for Pakistan to gain clarity on the scope of L&DF and propose projects and initiatives which are not only in line with the criteria but also indicate clear activities and measurable outcomes using data and MRVs. This entails the identification of specific projects, projected investments, and expected contributions in terms of climate resilience. In addition to grants and concessional financing, some of the projects should also be identified using market-based mechanism approaches such as incentive schemes and the possibility of profitable investments. This also means adjustments to the social, economic, cultural, and geographic context and local conditions.

7.2.2 Technical capacity

Technical capacity remained a challenge in the context of climate change and as it stands there is a lack of technical and institutional capabilities and research and know-how of the proposed L&DF. Hence, proposing a flexible and grants-based approach might be a better way to deal with technical constraints which hindered the access to similar funds in the past. In this respect, the Ministry of Climate Change of Pakistan must establish a cell to dedicate its efforts to prepare Pakistan in terms of capacity and readiness to capitalize on the L&DF.

To avoid the repetition of mistakes and shortcomings in availing the CDM opportunity, Pakistan must establish a proficient and committed team of experts. This team should thoroughly examine the eligibility criteria, evaluate necessary resources and technology, and prioritize strategies to maximize the benefits of the proposed L&DF

7.2.3 Establishment of a domestic fund

If Pakistan establishes its own domestic climate fund, this fund could help Pakistan in improving the capacity of key departments and agencies to implement the L&DF. The L&DF would however come for the sectors, which have a history of suffering losses and damages. This would require developing protocols and guidelines by the government in consultation with the key stakeholders. It is important to mention that the UNDP framework of climate expenditure review is inadequate for L&DF as well as climate finance-related funds which Pakistan may seek in the future.

7.2.4 Suitable windows and instruments

Identification of suitable L&DF support windows and instruments would help Pakistan in aligning its preparation for specific opportunities. This will also help in devising a strategy to implement the accrued resources and make informed investment decisions. For example, Pakistan may need to

develop guidelines for the domestic market about green bond sales. Similarly, such preparations could help in attracting private domestic or foreign investment which will require improvement in Pakistan's legal and institutional framework for public-private partnerships.

7.2.5 Transparency

Transparency in the access, mobilization, and use of L&DF is multifaceted and cross-cutting topic. This, however, mainly deals with adopting the approaches that have been proven successful in the past to provide support at the local level and most vulnerable communities. This would require participatory and representative decision-making approaches, involving key stakeholders such as the Ministry of Climate Change, the Ministry of Industries and Production, the Ministry of Finance, the Planning Commission, the National Disaster Management Authority, and other line departments in provinces in Pakistan.

7.2.6 Inclusiveness and integration

The ministries, departments, and agencies at the federal, provincial, and local levels in Pakistan lack a collaborative approach which results in a lack of synergies in addition to wasteful overlaps and a lack of clarity on the scope and departmental role of interdisciplinary and complex matters. Thus, it is extremely crucial for Pakistan to adopt an overarching, comprehensive, integrated, and collaborative approach to secure and implement resources from L&DF.

7.2.7 Compliance

The cash flow of previous climate finance funds pledged by developed countries shows that the committed resources to developing countries have not been fully released, indicating that the responsibilities and commitments made by the developed world have yet to be fulfilled. Hence, it is very important to ensure compliance for this new pot of money for L&DF to be delivered as per commitment and agreed terms and conditions. In this respect, Pakistan should prepare itself to engage with available funding opportunities in L&DF so that the delay and subsequent uncertainty and lack of compliance by the funding bodies could be mitigated.

References

Ahmed, A. and Salman, A. (2012) Clean Development Mechanism (CDM) Business in Pakistan: Perceptions and Realities file:///C:/Users/HP%20Pavilion/Downloads/CDM%20paper.pdf

Anwar, (2015). Something in the air: Govt snuffs out CDM cell, deprives the country of carbon credit facility. The Express Tribune. <https://tribune.com.pk/story/834786/something-in-the-air-govt-snuffs-out-cdm-cell-deprives-country-of-carbon-credit-facility>

(Ganapatiet al., 2008) The clean development mechanism in China and India: A comparative institutional analysis, Wiley online library <https://onlinelibrary.wiley.com/doi/epdf/10.1002/pad.515>

(Khurshid, 2022). Does Pakistan know how to benefit from the COP27 fund? The Express Tribune. <https://tribune.com.pk/story/2388502/does-pakistan-know-how-to-benefit-from-cop27-fund>

(Khurshid, 2023). Pakistan fails to earn dollars through carbon credits. The Express Tribune. <https://tribune.com.pk/story/2408383/pakistan-fails-to-earn-dollars-through-carbon-credits>

(Kiani, 2023). Centre allows Sindh to earn \$200m through carbon credits. Dawn. <https://www.dawn.com/news/1756575>

(Press Information Bureau Delhi, 2023). Ministry of Power & Ministry of Environment, Forests & Climate Change to develop Carbon Credit Trading Scheme for Decarbonisation. <https://pib.gov.in/PressReleasePage.aspx?PRID=1923458>

(Singal, 2023). How carbon credits can help India reach its net-zero goals. Business Today. <https://www.businesstoday.in/magazine/drive/story/how-carbon-credits-can-help-india-reach-its-net-zero-goals-385533-2023-06-14>

(The Express Tribune, 2020). PM Imran launches Pakistan's largest tree plantation drive. <https://tribune.com.pk/story/2258738/pm-imran-launches-pakistans-largest-tree-plantation-drive>

(UNFCCC) Designated National Authorities (DNA) <https://cdm.unfccc.int/DNA/DNA/view.html?CID=164>.

(UNFCCC, 2012). News Release: Kyoto Protocol's CDM passes one billionth certified emission reduction milestone, https://cdm.unfccc.int/CDMNews/issues/issues/I_POQZOY6FWYYKFKOSAZ5GYH2250DRQK/viewnewsitem.html.

(UNFCCC) CDM: Renewable Energy based PoA in Pakistan https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/9G8CQ23D04MJRUZPI5KVTOFE1LAYXS/view?cp=1.

(UNFCCC) Status of CDM in Pakistan and Institutional arrangements https://unfccc.int/sites/default/files/03._saadullah_ayaz_cdm_presentation.pdf.

(UNFCCC) The Clean Development Mechanism https://unfccc.int/process-and-meetings/the-kyoto-protocol/mechanisms-under-the-kyoto-protocol/the-clean-development-mechanism?gclid=Cj0KCQjw9fqNBhDSARIsAHlcQYR1o0dHRjyl0vC80OhKrXOyFPI3oPhZtdjAZ5gtzavuTykBrS-6JsYaAgi9EALw_wcB

(Winkelmen et al., 2011) Explaining the differential distribution of Clean Development Mechanism projects across host countries, Science Direct <https://www.sciencedirect.com/science/article/pii/S0301421510008608>

Africa Renewal, UNECA. (2023). Africa Climate Summit: Nairobi Declaration makes strong push for accelerated climate action and financing mechanisms. United Nations. <https://www.un.org/africarenewal/magazine/september-2023/africa-climate-summit-nairobi-declaration-makes-strong-push-accelerated#:~:text=%E2%80%9CWe%20call%20for%20a%20comprehensive,to%20Action%2C%20adopted%20at%20the>

Bashir, M. A., Dengfeng, Z., Imran Khan, M., Shahzad, F., & Khalil, S. (2023). Novel research methods on the net-zero economy of climate finance in the energy sector. Economic research-Ekonomska istraživanja, 36(1), 2389-2399. <https://www.tandfonline.com/doi/full/10.1080/1331677X.2022.2097111>

Climate Action Network, Global Campaign to Demand Climate Justice (DCJ), and Women and Gender Constituency (2022). Proposed Governing Instrument: Loss and Damage Fund. Climate Action Network. <https://climatenetwork.org/resource/can-proposed-governing-instrument-loss-and-damage-fund/>

Dahiya, B., & Okitasari, M. (2022). Accessing the Loss and Damage climate fund. *Science*, 378(6626), 1285-1285.

Data Commons. Pakistan
https://datacommons.org/place/country/PAK/?utm_medium=explore&mprop=amount&popt=Emissions&cpv=emittedThing,CarbonDioxide&hl=en

Ebrahim, Z (2022, November 11). Experts welcome 'futuristic' initiative to restore Indus River in Pakistan. The third pole. <https://www.thethirdpole.net/en/climate/experts-welcome-futuristic-initiative-to-restore-indus-river-in-pakistan/>

Federal Ministry of Economic Development, (2022, November 16) Global Shield against Climate Risks starting to operate: Germany and Pakistan agree close cooperation. Government of Germany. <https://www.bmz.de/en/news/press-releases/global-shield-germany-and-pakistan-agree-close-cooperation--128508>

Gallagher, C. and Addison, S. (2022), How can loss and damage finance reach those enduring climate catastrophe?, IIED, <https://www.iied.org/how-can-loss-damage-finance-reach-those-enduring-climate-catastrophe#:~:text=Loss%20and%20damage%20can%20only,in%20coordinated%20and%20complementary%20ways.>

Gewirtzman, J., Natson, S., Richards, J. A., Hoffmeister, V., Durand, A., Weikmans, R., ... & Roberts, J. T. (2018). Financing loss and damage: reviewing options under the Warsaw International Mechanism. *Climate Policy*, 18(8), 1076-1086. <https://www.tandfonline.com/doi/full/10.1080/14693062.2018.1450724>

Gogoi, E., Bahadur, A. V., & del Rio, C. R. (2017). Mainstreaming adaptation to climate change within governance systems in South Asia: An analytical framework and examples from practice. ACT learning paper. <https://www.opml.co.uk/files/Publications/8617-action-on-climate-today-act/mainstreaming-adaptation-to-climate-change-within-governance-systems-in-south-asia.pdf?noredirect=1>

International Institute for Environment and Development, Government of Scotland. (2022). Practical Action for Addressing Loss and Damage. Government of Scotland and Global Resilience Partnership. <https://www.globalresiliencepartnership.org/resource/practical-action-for-adression-loss-and-damage/>

Kakakhel, K. (2022, October 21). Whatever happens at COP27, climate finance must be overhauled. The Third Pole. <https://www.thethirdpole.net/en/climate/opinion-whatever-happens-at-cop27-climate-finance-must-be-overhauled/>.

Kakakhel, S, (2023, May 11). Reviewing Pakistan's climate action. The News. <https://www.thenews.com.pk/print/1069026-reviewing-pakistan-s-climate-action>

Khan, D., and Usmani, Abdul W., (2018). Climate budget review guide Khyber Pakhtunkhwa assembly. United Nations Development Programme. <https://www.undp.org/sites/g/files/zskgke326/files/migration/pk/KP-Budget-Review-03.pdf>

Kundi, Ali, I, (2023, May 23). NDRMF to provide over Rs3b for flood rehab schemes in Sindh. The Nation. <https://www.nation.com.pk/20-May-2023/ndrmf-to-provide-over-rs3b-for-flood-rehab-schemes-in-sindh>

Lo, J, (2023, March 31). At Luxor talks, splits remain but hopes high for loss and damage fund this year. Climate home news. <https://www.climatechangenews.com/2023/03/31/after-luxor-talks-splits-remain-but-hopes-high-for-loss-and-damage-fund-this-year/>

Mako, W. P., Nabi, I., Mahmood, A., & Khan, S. (2022, May). Recent developments in climate finance: Implications for Pakistan. IGC. <https://www.theigc.org/sites/default/files/2022/09/Mako-et-al-2022-Working-paper.pdf>

Masud, M. A. K., Sahara, J., & Kabir, M. H. (2023). A Relationship between Climate Finance and Climate Risk: Evidence from the South Asian Region. *Climate*, 11(6), 119.

Masullo, I., Larsen, G., & Brown, L. (2015). "Direct Access" to Climate Finance: Lessons Learned by National Institutions. World Resources Institute. https://files.wri.org/d8/s3fs-public/22DIRECT_ACCESS_TO_CLIMATE_FINANCE_LESSONS_LEARNED_BY_NATIONAL_INSTITUTIONS.pdf

Ministry of Climate Change & United Nations Pakistan, (2022). Living Indus. UN Pakistan and Government of Pakistan. <https://pakistan.un.org/sites/default/files/2022-09/Living%20Indus%20-%20Investing%20in%20Ecological%20Restoration%20-%20Final%20Version.pdf>

Nabi, I., Mako, W., Mahmood, A., (2022, September 12). How Pakistan can finance its greenhouse gas emissions reduction. IGC. <https://www.theigc.org/blogs/climate-priorities-developing-countries/how-pakistan-can-finance-its-greenhouse-gas-emissions>

Resch, E., Allan, S., Álvarez, L. G., & Bisht, H. (2017). Mainstreaming, accessing and institutionalizing finance for climate change adaptation. ACT learning paper. <https://www.preventionweb.net/publication/mainstreaming-accessing-and-institutionalising-finance-climate-change-adaptation>

Richard, Anne J., Schalatek, L., Achampong, L., White, H., (2023). The loss and damage finance landscape. Heinrich-Böll-Stiftung. Washington DC. <https://us.boell.org/en/2023/05/11/loss-and-damage-finance-landscape>

Shaikh, H. (2023, February 27). How power, capitalism, and politics are perpetuating coal use in Pakistan. <https://www.theigc.org/blogs/how-power-capitalism-and-politics-are-perpetuating-coal-use-pakistan>

Sheikh, Ali, T, (2022, September 22). Loss and damage. Dawn. <https://www.dawn.com/news/1711389>

Sheikh, Ali, T., (2023, July 27). Ignoring climate thresholds. Dawn. <https://www.dawn.com/news/1767064/ignoring-climate-thresholds>.

Sheikh, Tauqeer A. (2021, October 30). Comment: Pakistan commits to halving emissions, but pins success on finance. The third pole. <https://www.thethirdpole.net/en/climate/pakistan-ndc-commits-to-halving-emissions-finance-key/>

Sheikh, Tauqeer, A. (2023, June 1). Climate-smart NFC awards. <https://www.dawn.com/news/1757189/climate-smart-nfc-awards>

Singh, T. (2022, December 2). 'The ax always falls on the most vulnerable': Pakistan demands debt cancellation and climate justice. Peoples Dispatch. <https://peoplesdispatch.org/2022/12/02/the-ax-always-falls-on-the-most-vulnerable-pakistan-demands-debt-cancellation-and-climate-justice/>.

UNDRR (2019). Disaster Risk Reduction in Pakistan: Status Report 2019. Bangkok, Thailand, United Nations Office for Disaster Risk Reduction (UNDRR), Regional Office for Asia and the Pacific https://www.preventionweb.net/files/68260_682307pakistandrmstatusreport.pdf

Van der Geest, K., & Schindler, M. (2017). Handbook for assessing loss and damage in vulnerable communities. https://collections.unu.edu/eserv/UNU:6032/Online_No_21_Handbook_180430.pdf.

UNEP (United Nations Environment Programme) (2016) The Adaptation Finance Gap Report 2016. Nairobi: UNEP.

Pizarro, R., Delgado, R., Eguino, H., and Pereira, A. L. (2021), Climate Change Public Budget Tagging: Connections across Financial and Environmental Classification Systems, Inter-American Development Bank.

GoP (2021), Updated Nationally Determined Contribution (NDC), Pakistan, Government of Pakistan.

CDPR (2022), Recent Developments in Climate Finance: Implications for Pakistan, Consortium for Development Policy Research (CDPR), Policy Brief PB-2107.