

RESILIENT RECOVERY, REHABILITATION, AND RECONSTRUCTION FRAMEWORK

PAKISTAN (4RF)



Government of Pakistan
Ministry of Planning,
Development and Special Initiatives
Islamabad



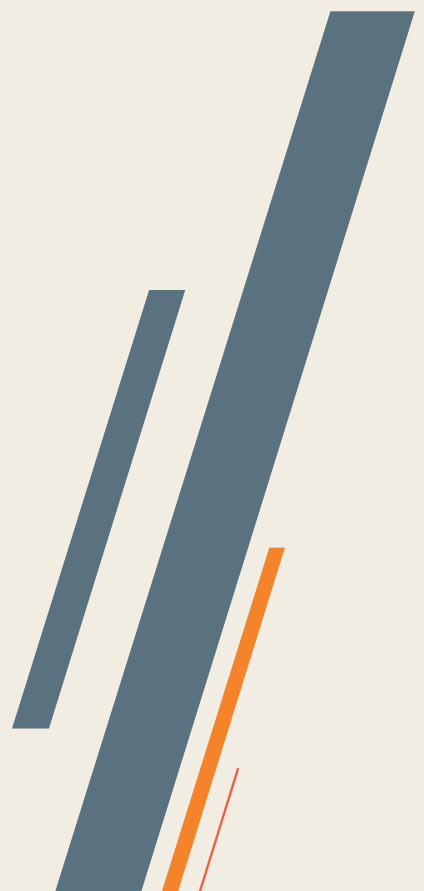
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December, 2022



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Disclaimer

This report is based on the findings of the Post-Disaster Needs Assessment (PDNA) that took place in Pakistan following the floods of 2022. The PDNA was based on the data collected between September and mid-October 2022. Although all efforts had been made to improve the accuracy of the information collected and analyzed, the PDNA assessment was produced in a quick timeframe to ensure the relevance of the estimations. Given the ongoing nature of the disaster and the lack of access to the inundated areas at the time of publication, remotely sourced data was triangulated and validated where possible against ground-based information obtained from the Government of Pakistan, local agencies, and international partners. It provides an overall picture of the effects of the floods on the population, physical assets, infrastructure, and service delivery, but it is not a replacement of in-depth sector-specific assessments. More detailed sectoral analyses can be found in the Supplemental Report, which also includes a full list of contributors. This report is a work in progress as several flood affected district are still inundated and the exact details of damages are being collected. All monetary estimates are rounded off to the nearest whole number and may not add up to the totals.



ACKNOWLEDGMENTS

The Ministry of Planning, Development and Special Initiatives led the Resilient Recovery, Rehabilitation and Reconstruction Framework (4RF). The Asian Development Bank, the European Union, the United Nations Development Programme, and the World Bank Group contributed to chapters 1 to 7 and supported the process of prioritization and sequencing of activities under the four Strategic Recovery Objectives, based on the needs identified across the 17 sectors of the PDNA. The four partners also supported the development of the cross-cutting chapters on the Policy Framework, Institutional Arrangements, Financing Strategy and Financial Arrangements and Implementation and monitoring. Chapter 8, on 'Achieving Sustainable Climate Resilience', and the Financing Mechanism included in the table 'Sources of Financing and Gaps' in the chapter Financing Strategy and Financial Management, including the expected support from international partners and the Government's own contributions, reflect the Government's current expectations (the four supporting partners have not contributed to this part¹). This report has benefited from the guidance and inputs of many government agencies and departments including, at the federal level, the Planning Commission, the Economic Affairs Ministry, the Ministry of Climate Change, the Ministry of Foreign Affairs, Ministry of Water Resources, and National Disaster Management Authority. The report has also been guided and informed by provincial and district governments of Sindh, Balochistan, Khyber Pakhtunkhwa and Punjab, including the Planning and Development Departments and Provincial Disaster Management Agencies. The hard work of everyone who contributed to produce this document, which will guide the efforts of all those involved in recovering from impacts of the 2022 Pakistan floods, is gratefully acknowledged. Photographs used in this publication were taken by Ministry of Planning Development & Special Initiatives and partners unless stated otherwise.

¹ The contents of chapter on 'Achieving Sustainable Climate Resilience' and the Government's current financing expectations do not necessarily reflect the views of the contributing partners, their member states or the World Bank Group and Asian Development Bank's respective management, Board members and shareholders.



ACRONYMS

4RF	Resilient Recovery, Rehabilitation, and Reconstruction Framework	MSME	Micro, Small and Medium Enterprises
ADB	Asian Development Bank	NCC-FPP	National Coordination Committee on Foreign Funded Projects
ADP	Annual Development Programme	NCD	Noncommunicable Disease
BISP	Benazir Income Support Program	NDMA	National Disaster Management Authority
bps	Basis Points	NDMP	National Disaster Management Plan
CD	Communicable Disease	NFPP	National Flood Protection Plan
CSO	Civil Society Organization	NGO	Non-Governmental Organization
DRM	Disaster Risk Management	P&D	Planning and Development
DRR	Disaster Risk Reduction	PC-1	Planning Commission Form -1
ECNEC	Executive Committee of the National Economic Council	PDMA	Provincial Disaster Management Authorities
FFC	Federal Flood Commission	PDNA	Post Disaster Needs Assessment
GBV	Gender-Based Violence	PFM	Public Financial Management
GIS	Geographic Information System	PPP	Public-Private Partnership
GRM	Grievance Redress Mechanism	PSC	Policy and Strategy Committee
IDP	Internally Displaced Person	PSDP	Public Sector Development Programme
IFI	International Financing Institution	RRU	Recovery and Reconstruction Unit
IOB	Independent Oversight Board	SRO	Strategic Recovery Objective
M&E	Monitoring and Evaluation	UHC	Universal Health Coverage
ME3F	Monitoring, Evaluating and Following the Flow of Funds for Reconstruction	WASH	Water, Sanitation and Hygiene
MFI	Microfinance Institution	WB	World Bank
MoPDSI	Ministry of Planning Development & Special Initiatives		



CONTENTS

EXECUTIVE SUMMARY	10
INTRODUCTION	18
SCOPE, PURPOSE AND GOALS	22
MACROECONOMIC STABILIZATION FOR RECOVERY	30
POLICY FRAMEWORK.....	34
INSTITUTIONAL ARRANGEMENTS	38
FINANCING STRATEGY AND MANAGEMENT.....	46
IMPLEMENTATION AND MONITORING ARRANGEMENTS	52
STRATEGIC RECOVERY OBJECTIVES (SROS)	60
ACHIEVING SUSTAINABLE CLIMATE RESILIENCE.....	106
INPUT FROM PROVINCES	120





EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

Context

Between June and August 2022, torrential rains and a combination of riverine, urban, and flash flooding led to an unprecedented disaster in Pakistan. At the height of the flooding, one-third of the country was under water, 33 million people were affected, and nearly 8 million people reportedly displaced. The floods took the lives of more than 1,700 people, one-third of whom were children. More than half of all the districts in the country were declared as "calamity-hit" with the majority of those affected located in the provinces of Sindh, Balochistan, and Khyber Pakhtunkhwa. The 2022 floods also highlighted Pakistan's high vulnerability to climate change¹ Pakistan consistently ranks among the top 10 countries worldwide most affected by climate change despite being a very small contributor to it with under 1 percent of global greenhouse gas emissions in 2018.² The country has observed changing weather patterns, including variations in precipitation and temperatures, increased frequency and severity of tropical storms and coastal rains, glacial melt, glacial lake outburst flooding, sea level rise, loss of biodiversity, desertification, and droughts³. While the poor are the most vulnerable because of their reliance on agriculture, livestock, fisheries, forests, and groundwater, the aforementioned events have severely impacted the overall economy, especially the industrial and agricultural base of the country.

While the underlying drivers of the disaster impacts are not limited to climate change, the scale of the flooding Pakistan has seen is unprecedented. Pakistan did invest in the area of disaster risk management (DRM) following the 2010 floods which affected 20 million people, but still the country's systems and institutions were not adequately equipped for the unprecedented scale of this climate-induced disaster which consisted of flooding from heavy monsoon rains as well as riverine floods. The 2022 flooding has further magnified the underlying institutional and systemic challenges, including weak urban planning and water resource management, inadequate infrastructure maintenance, complex governance, structural inequalities, and limited Disaster Risk Reduction (DRR) capacity. Simultaneous, multiple shocks, including natural hazards, COVID-19, rising inflation, an energy crisis, and fiscal challenges continue to compound the impacts. Underlying political and economic instability is exacerbating the disaster impacts and undermining recovery. Resilient and adaptable infrastructure, communities and governance are critical to breaking the nation's cycle of climate-induced disaster and poverty.

1 Eckstein, David, Vera Künzel, and Laura Schäfer. 2021. "Global Climate Risk Index 2021." Germanwatch Briefing Paper. <https://www.germanwatch.org/en/19777>.

2 World Bank Group. 2022. "Pakistan Country Climate and Development Report." CCDR Series. World Bank, Washington, DC. p. 6. <https://openknowledge.worldbank.org/handle/10986/38277>.

3 Government of Pakistan. 2021. "Updated Nationally Determined Contributions 2021." <https://unfccc.int/sites/default/files/NDC/202206/Pakistan%20Updated%20NDC%202021.pdf>.



Pakistan's Resilient Recovery, Rehabilitation, and Reconstruction Framework (4RF)

In response to the 2022 floods, the Resilient Recovery, Rehabilitation, and Reconstruction Framework (4RF) is the Government of Pakistan's strategic policy and prioritization document which will guide the recovery, rehabilitation and reconstruction of the country. The 4RF follows a globally recognized approach and methodology for recovery strategy development. The framework draws from the findings of the Post Disaster Needs Assessment (PDNA),⁴ and presents sequenced priorities across sectors around four Strategic Recovery Objectives (SRO), a policy framework, a financing strategy, and implementation and monitoring arrangements. The 4RF was developed through a consultative process with key stakeholders, including federal and provincial governments, Civil Society Organizations (CSO), international development partners and other stakeholders. The 4RF will form the basis for the government's comprehensive disaster recovery plans, including a detailed national and provincial recovery plans. The 4RF will further facilitate engagement with development partners for financial and implementation support. It will also support coordination of actors across the public, private, and non-profit sectors on provincial and national programs. Importantly, the 4RF is a living document that can be updated regularly as priorities and resources change. It thus forms the basis for the Monitoring and Evaluation (M&E) of the recovery program. The 4RF and the detailed national and provincial recovery plans will continuously and mutually inform each other.

As climate change accelerates the severity and frequency of disasters, institutional reforms and investments must go beyond business as usual and instead "build back better" and develop systemic resilience. Global best practice also suggests that a credible recovery strategy is critical for effective and coherent reconstruction and for optimum resource mobilization and utilization.

Long-Term Resilience

The 4RF is a critical starting point to that the transformational measures are taken for a resilient recovery and that the disaster will not have multi-generational impacts through reduced developmental gains. It is also a foundation on which the country will build and strengthen long-term resilience to natural hazards and climate change. This is critical considering the increase in frequency of disasters, particularly those that are climate induced. The Government of Pakistan recognizes the importance of long-term

⁴ <https://thedocs.worldbank.org/en/doc/4a0114eb7d1cecbbf2f65c5ce0789db-0310012022/original/Pakistan-Floods-2022-PDNA-Main-Report.pdf>

resilience in the aftermath of the unprecedented flooding, and is committed to consolidating the ongoing efforts and undertaking new measures towards resilience, which will entail higher costs. In this regard, the government has a number of long-term strategies for resilience and adaptation, including the National Adaptation Plan of the Ministry of Climate Change and the National Disaster Management Plan of the National Disaster Management Authority.

Approach and Scope

The 4RF adopts an outcome-based approach and organizes the recovery needs to achieve the four Strategic Recovery Objectives (SROs):

- SRO1: Enhance governance and the capacities of the state institutions to restore lives and livelihoods of the affected people, especially the most vulnerable
- SRO2: Restore livelihoods and economic opportunities
- SRO3: Ensure social inclusion and participation
- SRO4: Restore and improve basic services and physical infrastructure in a resilient and sustainable manner

The cross-cutting issues supporting the prioritization include: (i) a policy framework; (ii) institutional arrangements; (iii) financing strategy and financial management; and (iv) implementation and monitoring arrangements.

Summary of the Strategic Recovery Objectives

Strategic Recovery Objective 1: Enhance governance and the capacities of the state institutions to restore lives and livelihoods of the affected people, especially the most vulnerable

SRO1 seeks to rebuild governance-related physical infrastructure that has been destroyed and damaged by the floods, as well as restore and enable a governance structure and system that fosters efficiency, effectiveness, transparency and inclusiveness. The key will be to enable all tiers of the government to prepare and respond to natural hazards and climate change through gender-informed and community-led, structural and non-structural risk reduction measures, including through ecosystem adaptation and landscape restoration. Strategic priorities include short-term objectives, such as improving public financial management, public procurement, audit, and anti-corruption measures; medium-term objectives, such as undertaking detailed and localized multi-hazard risk assessments and integrating data into local level decision support

systems; and long-term objectives, such as strengthening meteorological monitoring and early warning systems and increasing technical capacities of climate change and environmental management agencies at federal and provincial levels.

Strategic Recovery Objective 2: Restore livelihoods and economic opportunities

SRO2 seeks to restore livelihoods and economic opportunities through a multi-sectoral approach. It has two key pillars: the first promotes livelihoods recovery through agriculture and employment restoration, while the second focuses on boosting economic opportunities through commerce, industry, tourism, markets and financial interventions. Strategic priorities include short-term objectives, such as direct cash contributions, in-kind inputs, and cash-for-work interventions as well as restoration of jobs through e-commerce and job guarantee programs; medium-term objectives, such as rehabilitation of damaged public and private infrastructure by using employment intensive approaches and implementing business regulatory reforms; and long-term objectives, such as legal, policy, and institutional reforms for the development of the credit market and provision of interest free loans or community investment funds through local Non-Governmental Organizations (NGO) for the without micro-finance institutions.

Strategic Recovery Objective 3: Ensure social inclusion and participation

SRO3 seeks to ensure that no one is left behind and that mainstreaming approaches are taken so that social inclusion leads to social sustainability. Strategic priorities include short-term objectives, such as the provision of protection services, psychosocial support, adoption of community-driven development approaches; medium-term objectives, such as establishing missing facilities and more robust protection for those more vulnerable to violence, trafficking and exploitation; and long-term objectives, such as the acceleration of community-level disaster preparedness activities with social inclusion and gender equality sensitivity, school meals programs targeting for the most vulnerable, multi-purpose cash grants for the most vulnerable (women and children) and rehabilitation of flood-affected heritage sites.

Strategic Recovery Objective 4: Restore and improve basic services and physical infrastructure in a resilient and sustainable manner

SRO4 seeks to restore basic social services for the affected communities and carry out resilient infrastructure rehabilitation and reconstruction, supported by strengthening human capital, institutions, and policies to better respond to future disasters. Strate-

gic priorities include immediate and short-term objectives, such as supporting reconstruction and rehabilitation of housing, prioritizing the most vulnerable, repairing and improving existing physical infrastructure, repairing water infrastructure and strengthening weak sections before the next monsoon; medium-term objectives, such as a detailed technical evaluation of damaged transport and communication infrastructure, improvement of contingency plans and their performance in the health sector; and long-term objectives, such as the establishment of a regulatory framework and tariff structure for Water, Sanitation and Hygiene (WASH) and municipal services, enhancing the disaster resilience of the energy distribution network, a flood susceptibility analysis of the entire infrastructure network, and climate and disaster-resilient rehabilitation of irrigation, drainage, dams, and dikes.

Table 1. Summary of Resilient Recovery

	Cost by Time Horizon (US\$ Million)			Total Cost (US\$ Million)
	Immediate and Short-term (up to one year)	Medium-term (up to three years)	Long-term (up to five to seven years)	
SR01: Enhance governance and the capacities of the institutions to restore lives and livelihoods of the people, especially the most vulnerable	116.3	161.4	135.9	413.6
SR02: Restore livelihoods and economic opportunities	3,395.2	755.5	201.1	4,027.6
SR03: Ensure social inclusion and participation	1,602.4	77.9	55.6	1,735.9
SR04: Restore and improve basic services and physical infrastructure in a resilient and sustainable manner	1,670.7	5,178.5	3,233.7	10,082.9
Total	6,784.6	6,173.3	3,626.3	16,260

Instituting an Ecosystem for a Resilient Recovery

Macroeconomic Stability: Pakistan's macroeconomic outlook is predicated on a strong fiscal response. This assumes that substantial public spending on flood relief, recovery, and rehabilitation will partially offset the adverse macroeconomic impacts of the floods. The government is already taking fiscal measures in response to the floods in the form of a flood relief cash transfer scheme. Accordingly, the FY23 government budget target is expected to be adapted.

Policy Reforms and Regulations: The 4RF aims to promote coherence and coordination across the different tiers of government, provinces and areas where recovery efforts are already underway. It builds on lessons learnt from the past crises and seeks to strengthen service delivery to the populations, especially the most vulnerable and marginalized; empower local governments and communities to play a major role in their own recovery; and implement standards and codes to build-back better. These goals will be achieved through multi-stakeholder partnerships and data-driven decision-making. The 4RF recognizes housing, agriculture and livelihoods as the main affected sectors and therefore prioritizes operational reforms relevant to these sectors as crucial to accelerate recovery.

Institutional Arrangements: Institutional arrangements for the implementation of routine activities under recurrent and development budgets are not designed for the magnitude, urgency and severity of the needs of the post-2022 flood reconstruction program. For an efficient and effective recovery, an institutional framework based on a central point of coordination and management at the federal, provincial and district levels will be developed.

While the federal government will lead the overall coordination and policy formulation through a dedicated Recovery and Reconstruction Unit (RRU) in the Ministry of Planning Development & Special Initiatives (MoPDSI), the provincial and local governments will be responsible for implementing the 4RF. Professional human resources will be housed in special units in the MoPDSI at the federal level and in special units in Planning & Development departments at the provincial level, with links to units at the district level. Furthermore, an Independent Oversight Board (IOB), third-party monitoring and a Grievance Redress Mechanism (GRM) will be established. Lastly, private-sector capabilities will be leveraged where necessary.

Financing Strategy and Management: Given the current fiscal challenges, coupled with the global economic situation, the financial envelope for the 4RF must be a shared responsibility among the federal and provincial governments, bilateral and multilateral partners and the international community at large. This will be coupled with measures to improve the efficient use of public resources and policy measures to increase fiscal space. Mobilization of private sector financing and improvement of the Public-Private Partnership (PPP) framework will be critical. International financing will be critical to address gaps in areas, with emphasis on concessional and grant financing, and on-budget channels. The proposal for sources of funding suggested in this report is: local financing - 50% (30% PSDP/ADP, 15% PPP and 5% CSOs); multilateral, bilateral partners and green financing - 50%. The gap identified in 4RF is 8.15 billion USD.

Implementation and Monitoring: The implementation of the 4RF will be executed in an efficient and transparent manner, supported by strong government commitment at the federal and provincial levels. The implementation mechanisms proposed include a Policy and Strategy Committee (PSC), a Technical Implementation Management Sub-Committee, and a Provincial-level Implementation Group. Implementation will also require formalized PPPs; a robust M&E framework; an SRO-level Strategic Results Framework; a Sectoral and Integrated Results Framework; Internal Controls and External Audits; and audits by a global, independent, third-party international audit firm and an independent, third-party social audit firm. Moreover, a 'Monitoring, Evaluating and Following the Flow of Funds for Reconstruction' platform (ME3F) will be developed to ensure transparent and adequate targeting of support.¹ Accountability should also be maintained through a GRM, community engagement, and communication and visibility measures.

Achieving Sustainable Climate Resilience: This part of 4RF presents a long-term resilient reconstruction plan "Achieving Sustainable Climate Resilience" which incorporates climate resilience in the design of the existing and planned strategic infrastructure projects. This includes National Flood Protection Plan, National Highways (N-5, N-55, N-25), National Railway Lines (ML-1, ML-2, ML-3) and other strategic projects. The cumulative long-term requirements to implement these projects will be US\$ 13.5 billion over a period of 10 years.

¹ The objective of the ME3F, which could be co-led by the World Bank and the UN under a multi-donor trust fund to be established, is to put in place credible and rigorous monitoring tools of advanced analytics, to measure the impact of reconstruction spending, follow the flow of funds to beneficiaries and ensure transparency, adequate targeting, and the integrity of the flow of funds for the reconstruction process. This independent platform would give confidence to both the Government and donors that their funding contributions, will reach those most in need.



INTRODUCTION

INTRODUCTION

Between June and August 2022, torrential rains and a combination of riverine, urban, and flash flooding led to an unprecedented disaster in Pakistan. According to the National Disaster Management Authority (NDMA), around 33 million people - that is, one in every seven Pakistanis - have been affected by the floods, including nearly 8 million displaced. The floods have taken the lives of more than 1,700 people, one-third of whom were children.¹ The floods came on the heels of a severe heatwave - previously a 1-in-1,000-year event - and drought emergency during which temperatures continuously remained above 45°C (113°F), resulting in crop losses, power outages, and forest fires.²

Pakistan's high vulnerability to climate change is a risk multiplier, compounding its human and economic development challenges. Pakistan ranks among the top 10 countries worldwide most affected by climate change³. Extreme weather events have been increasing in frequency and intensity, impacting ecosystems, people, settlements, and infrastructure. The ND-Gain Index has ranked Pakistan as the 39th most vulnerable country and the 27th least ready country in the world to address the impacts of climate change.⁴

Pakistan has been facing many challenges on the economic front even before the floods. The financial outlay has worsened with floods, and market risk perceptions are on the rise and are expected to impact growth negatively. Prior to the floods, the fall-out of the global economic crisis and the pandemic had led to a significant increase in poverty. Combined, the climate catastrophe and economic harm of the floods have deepened the country's already significant inequality and further exacerbated the socioeconomic hardships of the poor and marginalized.

The recent floods have negatively impacted human development indicators. According to new simulations by the World Bank, learning poverty could increase to 79 percent.⁵ Trends in acute waterborne disease have increased in most flood-affected provinces, while the risks of other diarrheal diseases, including cholera, are very high. In affected

1 NDMA. October 19, 2022. "NDMA Floods (2022): Sitrep Report No.128." <https://cms.ndma.gov.pk/storage/app/public/situation-reports/October2022/QECa7rSLzWlNuxZFhrHV.pdf>.

2 Pakistan Meteorological Department. 2022. "Pakistan's Monthly Climate Summary: August 2022." Government of Pakistan. http://www.pmd.gov.pk/cdpc/Pakistan_Monthly_Climate_Summary_August_2022.pdf.

3 Eckstein, David, Vera Künzel, and Laura Schäfer. 2021. "Global Climate Risk Index 2021." Germanwatch Briefing Paper. <https://www.germanwatch.org/en/19777>.

4 ND-GAIN Index (dataset). "Pakistan." <https://gain-new.crc.nd.edu/country/pakistan>

5 Saavedra, J. and Sherburne-Benz, L. (2022) Pakistan's floods are deepening its learning crisis, World Bank Blogs. Available at: <https://blogs.worldbank.org/endpovertyinsouthasia/pakistans-floods-are-deepening-its-learning-crisis>.

districts, around 660,000 women are pregnant with no access to health facilities. It is important to note that even prior to the flooding, many of the calamity-hit districts showed higher monetary and non-monetary deprivations, especially among households in rural areas. The impact of the floods is likely to increase existing inequalities, revealing serious differences in safety, education, decision-making, and employment. Vulnerable groups, such as women, children, people with disabilities, and refugees, are likely to be disproportionately affected by the floods due to their limited access to and availability of social protection and coping mechanisms. The inadequate management of the floods and their impact, combined with the economic crisis, has underscored the importance of strengthening the government's existing capacities to function.

The floods have also exacerbated long-standing structural weaknesses, threatening a sustained recovery. Ensuring macroeconomic stabilization while simultaneously supporting relief and recovery is a complex challenge. Limited fiscal space has impacted the delivery of public services and the quality of infrastructure in virtually all sectors. Political stability and support are critical for a coherent and timely response. As climate change accelerates the severity and frequency of disasters, institutional reforms and investments must go beyond business as usual. There is a need to build systemic resilience. If transformational measures are not taken for a resilient recovery, the disaster will have multi-generational impacts through the reduction of developmental gains.

Linkages among federal, provincial and district-level governance will be strengthened to respond to the unique challenges posed by climatic shocks. Existing institutional and implementation arrangements, as well as coordination of the different tiers of government, including between federal and provincial governments, need to be reviewed for better effectiveness and efficiency. There is a need for mechanisms to swiftly formulate policies and reform agendas to address the fallout of compounded crises. At this critical juncture, a paradigm shift is needed to mainstream resilience to natural hazards in development planning and asset management. A participatory and inclusive approach needs to be adopted to bring together various stakeholders, including civil society, government, private sector, academia, think tanks, and the international community, around a shared vision.

There will be a need to combine international financial support with domestic measures to improve efficiency in public resource allocation and measures to create fiscal space for resilient reconstruction and recovery. Additionally, financial assistance will be insufficient to exit these crises without the strategic agenda laid out in the 4RF.

Reform measures to increase confidence in the financial systems will be needed to attract foreign financing to the recovery program, in both the public and private sectors. However, given the multitude of risks involved, strong accountability mechanisms, which ensure transparent, efficient, and equitable use of resources, will be paramount to accessing foreign assistance. Such mechanisms can support the swift implementation of an agenda of structural reforms with clear priorities, commitments, and public oversight.

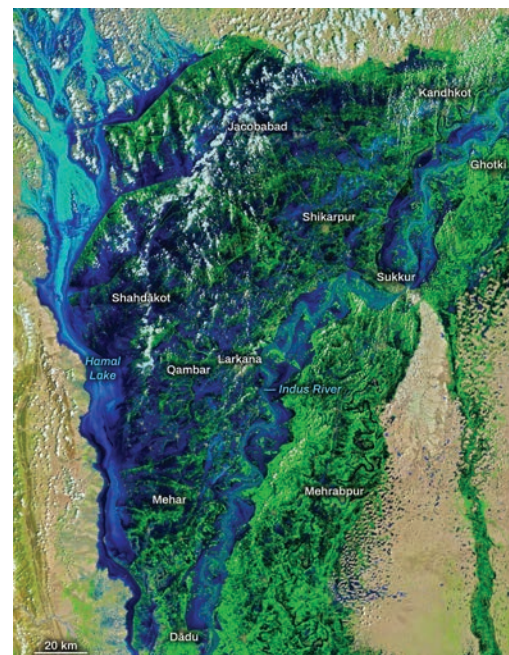
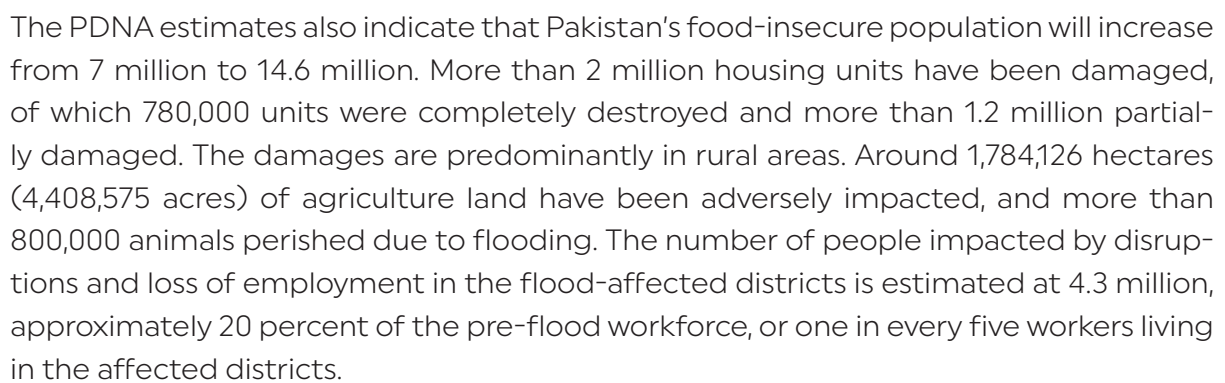
Summary of the Post-Disaster Needs Assessment

The PDNA estimates that total damages exceed US\$14.9 billion, and total economic losses stand at US\$15.2 billion. Estimated needs for rehabilitation and reconstruction are at least US\$16.3 billion, including a build-back-better premium, but excluding interventions to support Pakistan's adaptation to climate change, the country's overall long-term resilience to future climate shocks and the recovery needs of the private sector and private assets beyond minimum government compensation.

Table 2. Damage, Loss, and Needs by Region

	DAMAGE		LOSS		NEEDS	
Region	(Billion PKR)	(US\$ Million)	(Billion PKR)	(US\$ Million)	(Billion PKR)	(US\$ Million)
Balochistan	349	1,625	541	2,516	491	2,286
Khyber Pakhtunkhwa	201	935	141	658	168	780
Punjab	111	515	122	566	160	746
Sindh	1,948	9,068	2,444	11,376	1,688	7,860
Cross-Provincial	587	2,731	14	67	975	4,540
Special Regions	7	32	11	49	10	48
Grand Total	3,203	14,906	3,272	15,232	3,492	16,260

Note: All estimates in this report were calculated in PKR and converted to US\$ prior to rounding (US\$1 = 214.8 PKR on average between June and September 2022). The costs are initial estimates and variances may exist due to limitations such as data access on account of ongoing flooding and lack of baseline information.





SCOPE, PURPOSE AND GOALS

Global experience has shown that a credible recovery strategy is critical for effective and coherent reconstruction, as well as for successful resource mobilization. The 4RF is such a strategic level document for an overall recovery vision for Pakistan, building on the findings of the PDNA and defining the path to resilient recovery along the SROs. It presents strategic prioritization of interventions across all sectors in each of the provinces, as well as at the federal level, for integrated multi-sectoral recovery and reconstruction. It elaborates an enabling policy environment and the reforms needed. It also describes the implementation arrangements, setting principles of transparency, inclusion, good governance in reconstruction, financing strategies whilst pursuing overall macroeconomic stability. All are underpinned by an institutional proposal for effective coordination and implementation oversight as the national recovery, reconstruction, and resilience is rolled out.

The recovery and reconstruction should prioritize the urgent needs of the affected population and ensure an efficient, equitable, coordinated, and transparent delivery, led by the government and supported by the international community. Although the focus will be on the affected areas, the creation of the recovery framework presents an opportunity to systematically embed resilience to natural hazards and climate change in Pakistan's development planning - an inflection point in the country's continued growth. Transformational action will be critically important to achieving the vision of an inclusive and resilient recovery through a "Whole of Pakistan" approach, leading to sustainable development for the people and country.

Drawing from the PDNA,⁶ the 4RF presents sequenced priorities across sectors in each of the provinces and at the federal level for integrated, multi-sectoral recovery. It underlines the necessary policy and regulatory framework for an effective, resilient reconstruction strategy. It also includes a financing strategy and an implementation plan. The 4RF will serve as a basis to engage with partners for financial and implementation support, as well as to coordinate and direct efforts across a range of actors in public and non-public sectors across provincial and national programs.

The 4RF adopts an outcome-based approach and organizes the recovery needs around four SROs: (i) SRO1: Enhance governance and the capacities of the state institutions to restore lives and livelihoods of the affected people, especially the most vulnerable; (ii) SRO2: Restore livelihoods and economic opportunities; (iii) SRO3: Ensure social inclu-

⁶ <https://thedocs.worldbank.org/en/doc/4a0114eb7d1cecbbf2f65c5ce0789db-0310012022/original/Pakistan-Floods-2022-PDNA-Main-Report.pdf>

sion and participation; and (iv) SRO4: Restore and improve basic services and physical infrastructure in a resilient and sustainable manner.

The cross-cutting issues supporting the prioritization include: (i) a policy framework; (ii) institutional arrangements; (iii) a financing strategy and financial management; and (iv) implementation and monitoring arrangements. As per internationally accepted methodology, the prioritization among and within the sectors that underpin achieving the SROs and estimation of recovery needs account for a build-back better premium, but it does not comprehensively include the new and broader investments needed to strengthen Pakistan's long-term adaptation to climate change and overall resilience to future climate shocks, or reconstruction needs of the affected private entities. However, the strategic principles included under the 4RF regarding institutional arrangements, financing strategy, implementation and monitoring provide a blueprint for planning, financing, implementing, and monitoring long-term climate adaptation in Pakistan.

The 4RF is prepared around four SROs with input from the 17 sectors of the PDNA. It will involve cross-cutting issues relevant to recovery and reconstruction integrated in a sector prioritization matrix of each sector. It will include priorities identified at activity and programmatic levels. All existing work done by the line ministries including PDNA and post-PDNA strategies are a basis for sector prioritization.

The 4RF will support a common framework for national and international partners. Therefore, it will help to establish a process that aligns the efforts of these stakeholders for effective and efficient recovery. It will also function as a vehicle for donor financing, coordination and accountability. To the extent possible, international partners can adjust their respective existing programming frameworks towards the objectives and priorities contained in the 4RF. New programming exercises should follow the 4RF thereby enhancing the aid effectiveness.

The 4RF Process

A "Whole of Pakistan" approach was adopted for the 4RF, engaging representatives and stakeholders from distinct spheres of Pakistani society. These engagements included a variety of individuals from national and local government authorities, UN agencies, local and international NGOs, CSOs, and donor agencies. This informed the 4RF's findings, analyses, and recommendations on the emerging needs and priorities of the affected populations, and the present resilient recovery strategy.

A special effort was made to include stakeholders actively involved in the process of assessing damage, providing aid, and supporting the recovery of affected areas. To

ensure inclusivity, smaller SRO-specific breakout sessions were held after the plenary sessions to discuss technical details with stakeholders. The virtual Stakeholder Engagement Meetings, held on November 30 and December 2, 2022, organized by the Government of Pakistan and facilitated by core international partners, aimed to provide a platform for a participatory and inclusive process. Stakeholders were asked to share their on-ground insights, including current relief activities, and priority recovery and reconstruction needs and suggestions for implementation of the identified sequenced priorities. The SRO-specific conversations were structured around three key questions:

- How should the needs be prioritized as short, medium, and long-term?
- How should the activities be implemented?
- What are the policy needs to support efficient recovery, rehabilitation and reconstruction?

Geographic and Thematic Coverage

Geographic:

The geographic scope of the 4RF covers the 94 calamity-hit districts assessed in the PDNA in the four provinces of Sindh, Balochistan, Khyber Pakhtunkhwa and Punjab, . The analysis also includes estimates for special regions and cross-provincial priorities.⁷

Temporal:

The 4RF looks at the recovery, rehabilitation and reconstruction needs identified in the PDNA within a period of five to seven years, divided into three phases:

Figure 1. 4RF Temporal Scope



⁷ Special regions include districts outside of the four main provinces that have been affected by the floods and declared "calamity-hit." Cross-provincial includes assets that affect more than one province or are calculated at the national level (e.g., railways, roads, telecommunications).

Sectoral:

The sectors assessed in the PDNA were mapped to the SROs as below:

Figure 2. PDNA Sectors Mapped to SROs

SRO 1	Improve governance and capacities of the state.	<ul style="list-style-type: none"> Governance; Disaster Risk Reduction and Resilience; Environment and Climate Change.
SRO 2	Restore livelihoods and economic opportunities.	<ul style="list-style-type: none"> Agriculture, Food, Livestock, and Fisheries; Jobs and Livelihoods. Commerce and Industry; Finance and Markets; Tourism.
SRO 3	Ensure social inclusion and participation.	<ul style="list-style-type: none"> Social Protection; Culture and Heritage; Social Sustainability, Inclusion, and Gender.
SRO 4	Restore basic services and infrastructure.	<ul style="list-style-type: none"> Health; Education; WASH, Municipal Services, and Community Infrastructure. Transport and Communication; Energy; Housing; Water Resources and Irrigation.

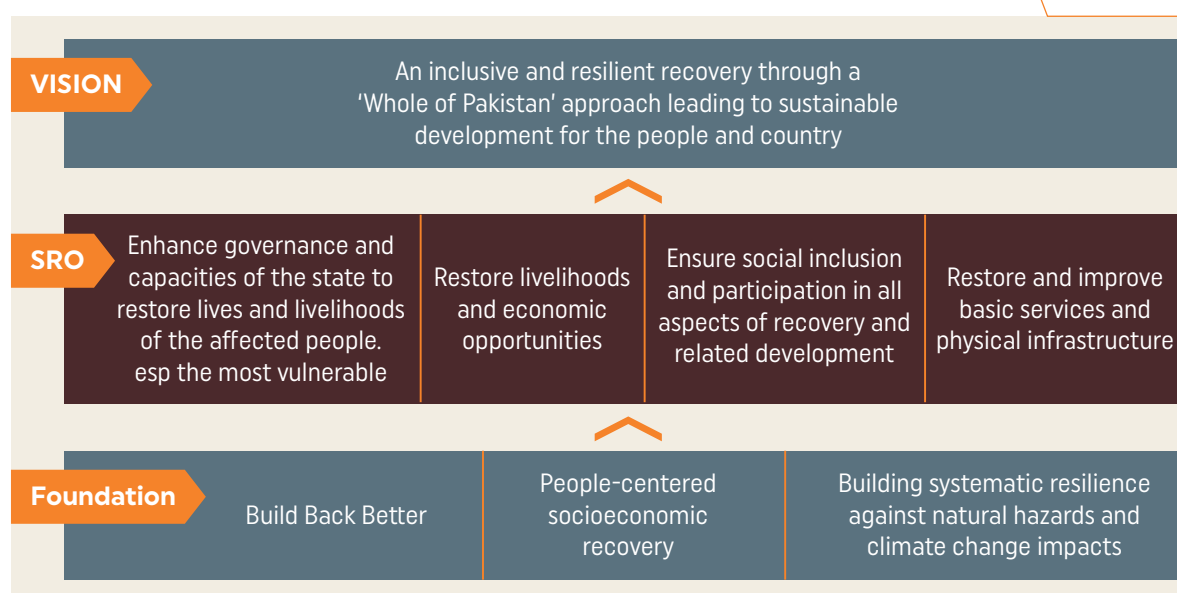


Photo: Daniel Berehulak

Recovery Vision and Strategy Objectives

The vision of Pakistan's recovery is to achieve an inclusive and resilient recovery through a "Whole of Pakistan" approach, leading to sustainable development for the people and country. The framework's vision, SROs and foundation, represented in the figure below, will be critical.

Figure 3. Pakistan's Resilient Recovery: Vision, Strategic Recovery Objectives, and Foundation



In the 4RF, strategic prioritization of interventions across all sectors, along with stakeholder mapping and resource mobilization planning, were initiated. Needs were prioritized based on criteria such as urgency, institutional capacity, and financial feasibility. The identified activities prioritize the urgent needs of affected populations and will take an inclusive, participatory, and conflict-sensitive approach, ensuring an efficient, equitable, coordinated, and transparent delivery that is led by the government and supported by the international community. The Strategic Recovery Objectives include broad priority activities and programs for flood recovery and will form the basis for further fine tuning of the priorities for project proposals and investment opportunities.

Limitations & Assumptions

Limitations

Rapid Time Frame: The 4RF was prepared in an extremely tight timeframe, with fast-tracked federal, provincial, and civil society consultations. However, as it is meant to be a living document, it will continue to be refined and revised as the priorities and resources change.

Specificity to the 2022 Floods: The 4RF is limited to needs as defined in the PDNA carried out following the 2022 floods. As such, it does not cover recovery from other events.

Long-term Resilience: The PDNA included a premium for 'building back better' and corresponding costs, in relation to recovery and reconstruction from the Floods 2022. Therefore, the 4RF focuses on only this part of the overall resilience and adaptability agenda. Long term climate resilience and adaptation are reflected in the National Flood Protection Plan, National Adaptation Plan of the Ministry of Climate Change, and the National Disaster Management Plan of the NDMA.

Data Availability: The 4RF is informed by the PDNA prioritizing the needs it identified. Therefore, the PDNA's limitations on data availability, lack of baseline information, and data disaggregation also affect the first version of the 4RF. The PDNA addressed these limitations and challenges arising therefrom through the design of the assessment methodology and close cooperation among government authorities, international organizations, CSOs, and private sector institutions. Within the context of the 4RF, these inherent challenges will be mitigated by keeping the framework as a living document and by updating it annually or at critical milestone.

Assumptions

Some specific assumptions are made for the purpose of this assessment:

- Damage, loss, and needs are presented based on the findings of PDNA; an exchange rate of US\$1 = PKR 214.8 is used throughout the report.
- The 4RF is derived from the PDNA, which is not a substitute for in-depth, sector-level assessments for future recovery projects.

- Since the 4RF is informed by the PDNA, it is pertinent to note that the PDNA assessment methodology was time-bound and damage, loss, and needs may be higher than what is reported in the PDNA, as certain areas are still inundated and the full extent of damage in those areas is yet to be determined. However, the PDNA provides an estimate on infrastructure and service delivery, and the findings are not expected to increase significantly over time.
- The geographic and sectoral distribution were selected in coordination with the Government of Pakistan and international partners based on areas and sectors that were most impacted. This does not suggest that other areas or sectors were unaffected by the flooding.
- The 4RF covers a timeframe of up to seven years and does not include priorities, actions or investments for long-term national resilience within its 4 SROs.



Photo: Daniel Berehulak



MACROECONOMIC STABILIZATION FOR RECOVERY



MACROECONOMIC STABILIZATION FOR RECOVERY

Pakistan's macroeconomic environment remains challenging and is further encumbered by the recent devastating floods. Supported by an accommodative macroeconomic policy, Pakistan's economy expanded at a robust pace in FY21 and FY22. However, low productivity growth, high global commodity prices, and the global economic slowdown have all contributed to high trade and current accounts deficits, which have in turn exerted significant pressure on domestic prices, the exchange rate, and foreign reserves. Market sentiment deteriorated, the Rupee depreciated sharply, and bond yields spiked over late FY22 and early FY23, reflecting heightened macroeconomic risks. The government has begun implementing policies to constrain aggregate demand, including a tight monetary stance (375 Basis Points [bps] increase in the policy rate between May and November 2022), a contractionary fiscal budget, and increases in administered energy prices. Continued implementation may not be sustainable due to the unprecedented large-scale flooding and a challenging domestic environment. The ongoing pandemic and unanticipated surges in global commodity prices pose additional risks to Pakistan's economic recovery in the aftermath of the floods.

The economic and poverty outlook has deteriorated significantly following the 2022 floods. Overall GDP decline as a direct impact of the floods is estimated to be around 2.2 percent,¹ due to high base effects, flood-related damages and disruptions, a tight monetary stance, high inflation, and a less conducive global environment. The floods are expected to impose a lingering drag on output in the medium-term through the loss of livelihoods and human capital, disruption to crop cycles, infrastructure damage, and possible financial sector impacts. Preliminary estimates suggest that, as a direct consequence of the floods, the national poverty rate could increase by 2.5 to 4.0 percentage points, pushing between 5.8 and 9 million people into poverty². The size and duration of shocks will vary across locations and households, depending on the intensity of the flooding and the quality of relief and reconstruction efforts. Even in the best case, reversing these negative shocks to household welfare will take considerable time. Some losses - such as to human capital and of land productivity - could set in motion more sustained declines in welfare and will need specific policy attention.

¹ Government of Pakistan. 2022. "Pakistan Floods 2022: Post-Disaster Needs Assessment. Main Report." Ministry of Planning Development & Special Initiatives.

² The World Bank. October 2022. "Pakistan Development Update October 2022: Inflation and the Poor."

The 2022 floods, macroeconomic stabilization policies, and administrative measures have already slowed economic activity in FY23, while inflationary pressures persist. Preliminary estimates of important Kharif crops report a decline in the production of sugarcane, rice, maize, and cotton in FY23 due to flooding. Monetary fiscal stabilization measures, coupled with import compression strategies to correct the imbalances, suppressed the Large-scale Manufacturing index by 0.4 percent year-on-year in July - September 2022 (Q1 FY23), compared to a growth of 10.1 percent in July - September 2021 (Q1 FY22). Average inflation in July - November FY23 increased to 25.1 percent, compared to 9.3 percent in July - November FY22. During this period, urban inflation increased to 23.4 percent, while rural inflation rose to 27.7 percent, compared to 9.6 and 9.0 percent, respectively, during July - November 2022.

A tight monetary and fiscal policy stance has resulted in the narrowing of the current account deficit, but the Rupee and international reserves remain under pressure. During July - October FY23, the current account recorded a deficit of US\$2.8 billion, compared to a deficit of US\$5.3 billion in July - October FY22. Exports increased by 2.9 percent year-on-year, whereas imports declined by 11.6 percent during this period, leading to a trade deficit of US\$11.6 billion in July - October FY23, down from US\$15.1 billion in the same period last year. Workers' remittances decreased by 8.6 percent in July - October FY23. The financial account saw a net inflow of US\$1.9 billion, compared to net inflows of US\$5.7 billion in July - October FY22. Elevated financing needs due to the historic flooding have maintained pressure on the Rupee, which has depreciated by 8.7 percent against the US dollar since end-June 2022. The State Bank of Pakistan's gross reserves (including cash reserve requirement and cash holdings) were recorded at US\$8.5 billion on November 18, 2022, equivalent to only 1.2 months of imported goods and services.

The fiscal deficit expanded during July - September FY23 because of a higher increase in spending due to the catastrophic floods. The fiscal deficit (excluding grants) for July - September FY23 was recorded at PKR 809 billion, compared to PKR 438 billion in July - September FY22. Total revenue increased by 11.5 percent in July - September 2022, reaching PKR 2,017 billion, compared to PKR 1,809 billion in July - September 2021. During the same period, tax revenue grew by 17.9 percent year-on-year on account of an increase in direct taxes and revenue from the petroleum development levy. In contrast, non-tax revenue declined by 29.0 percent, primarily due to lower profits of the Pakistan Telecommunication Authority and the State Bank of Pakistan. On the expenditure side, current expenditure increased by 29 percent, whereas development expenditure and net lending declined by 16.9 percent. This led to an increase of 25.8 percent

in total expenditure during July - September 2022, as expenditure rose to PKR 2,826 billion, compared to PKR 2,247 billion in July - September 2021.

The flooding has exacerbated Pakistan's macroeconomic risks. Amid the worsening external liquidity position and tight financing conditions, global credit rating agencies, including Fitch Ratings, Moody's Investor Service, and S&P Global, downgraded Pakistan's outlook from "stable" to "negative" over late FY22 and early FY23. Macroeconomic risks have intensified due to the impacts of the flooding. On December 1, 2022, the yields on Pakistan's 5- and 10-year Eurobonds were recorded at 36.21 percent and 24.92 percent, respectively, compared to 18.17 percent and 15.13 percent at end-June 2022. Pakistan's 5-year credit default swap reached 7,611.6 bps on December 1, 2022, after peaking at 12,388.4 bps on November 21, 2022. At end-June 2022, it was recorded at 1,442.1 bps.

The macroeconomic outlook is predicated on a strong fiscal response. The above growth outlook assumes that substantial public spending on flood relief, recovery, and rehabilitation will partially offset the adverse macroeconomic impacts of the floods. The government is already taking fiscal measures in response to the floods. A flood relief cash transfer scheme is underway, through which 1.1 million targeted households are being provided with PKR 25,000 (US\$116.4) to meet emergency needs. A temporary elimination of customs duties on essential items for flood-associated relief work has already been introduced. Given new expenditures, revenue relief measures, and overall revenue declines, the budget reallocations are expected to be required to meet relief and recovery needs. Accordingly, the FY23 government budget target is expected to be relaxed.



POLICY FRAMEWORK



POLICY FRAMEWORK

Enabling Policy Framework

The combined impact of the pandemic, economic crisis, and the flood exposed the country's underlying risks and vulnerabilities. In order to achieve the recovery vision 'An inclusive and resilient recovery through a *"Whole of Pakistan" approach, leading to sustainable development for the people and country*', the 4RF's policy framework aims to address Pakistan's most urgent and immediate post-disaster needs, while setting the direction for building long-term resilience. The 4RF brings together all 17 PDNA sectors under four outcomes to strengthen their inter-linkages so that recovery interventions are integrated and multi-sectoral.

Since 2010, Pakistan has made progress to strengthen disaster preparedness, early warning, response, and risk reduction at the national and sub-national levels. There is, however, limited formalized guidance and provision for post-disaster recovery. Moreover, there is inadequate policy articulation to guide recovery that considers the multi-dimensional and systemic nature of risks, build resilience of the country and its people, and support transition from humanitarian response to recovery.

The 4RF aims to promote coherence and coordination across different tiers of government. It builds on the lessons learnt from past crises and seeks to strengthen the provision of service delivery, empower local governments and communities, and implement standards and codes to build-back better. These goals will be achieved through multi-stakeholder partnerships and data-driven decision-making. The 4RF recognizes housing, agriculture and livelihoods as the main affected sectors and, therefore, prioritizes operational reforms relevant to these sectors as crucial to accelerate recovery.

Cross-cutting Areas for Institutional Action

The PDNA highlighted guiding principles for resilient and inclusive recovery. These principles should be followed in planning and implementing recovery across all sectors.

First, recovery will follow a community-driven and 'people-centered' approach. The 4RF has given due consideration to community driven approaches in post-disaster recovery as a fundamental human right. Disaster recovery requires a bottom-up, continuous, and iterative learning and participatory process that is essential for sustained impact. Recovery activities will be developed and implemented with meaningful consultation and participation of communities, taking into account local practices and norms. With every member of an affected community given the chance, directly or by using indigenous

knowledge and skills, to participate in the design, implementation and monitoring of community-level initiatives, there is a higher likelihood that the 4RF accurately reflects their real needs and interests. Participation will further ensure that the provincial and area stakeholders have genuine ownership and control over the recovery processes in all phases of the programming cycle: assessment, planning, implementation and M&E. Community led monitoring, in particular, will help report any social concerns that occur during the implementation phase for mid-course correction.

Second, recovery will be 'pro poor' and socially inclusive. In Pakistan's recovery response, a participatory, people-centered and inclusive approach must include internally displaced persons (IDP), refugees, women, persons with disabilities, the elderly, religious minorities, and transgender persons. The 4RF promotes equality and opportunities for the poorest households, women, and other vulnerable and marginalized groups, who have been disproportionately impacted by the floods, as well as by the preceding crises. With 7.9 million IDPs due to the floods, it is important that specific measures recognizing IDPs as a disproportionately affected group with specific needs are implemented. Monitoring progress towards IDPs achieving a durable solution will require systematically collecting and reporting data, disaggregated by sex, age, disability, on IDPs and their choice of solutions, capacities, and reintegration needs over time. Mechanisms of exclusion tend to exacerbate existing inequalities during disasters. Recovery interventions will not effectively reduce disaster risks for everyone if the needs of vulnerable or marginalized population groups in the flood-affected areas are not considered.

Third, recovery mechanisms will be rapid and efficient. As mentioned, it is critical that operational reforms in agriculture, livelihoods and housing are prioritized. Agriculture and livelihoods interventions must align with the upcoming harvest seasons. Housing, basic services, and other critical infrastructure need to be rapidly re-instated to restore safe communities. The recovery will leverage efficient government and development procedures, processes, and modalities. This includes fast-tracked emergency assistance approval mechanisms, building on existing implementation mechanisms, and, where appropriate, direct contracting for consultant and contractor selection. Interventions will make use of existing government structures, such as the Benazir Income Support Program (BISP), for efficient targeting and delivery of support to affected households. As required, new special purpose vehicles will be established for rapid deployment of rehabilitation and reconstruction of housing.

Fourth, green and resilient principles will be incorporated through a 'build back better' approach. The goal of building back better is to rapidly reduce the likelihood of mortality and morbidity in future events, and where possible, generate future growth opportu-

nities. This approach will ensure that flood-affected communities, assets, infrastructure, and livelihoods will be less vulnerable and more resilient to climate change and disaster risks and more environmentally sustainable than before the floods. Where possible, the recovery activities will take steps to transform sectors and systems to benefit the most vulnerable communities. Infrastructure investments should incorporate adequate asset management planning and resourcing, including updating of standard operating procedures to address flood risks and reconstructed or designed to be climate resilient and adaptive.

Fifth, recovery must implement integrated, holistic solutions. Recovery interventions will comprise an appropriate balance of structural (physical infrastructure), non-structural (capacity, systems), and policy-based measures. Infrastructure-oriented solutions will balance 'grey' and 'green' infrastructure to optimize benefits, costs, and sustainability. Recovery will balance public and private sector roles and activities. Activities should make use of local materials, skills, and machinery. Cross-cutting climate change adaptation and mitigation interventions will be identified, taking advantage of potential climate change resilience co-benefits to the environment, gender, health, and low carbon development.

Sixth, adopt a risk-informed approach to resilience. Reducing climate and disaster risks requires an understanding, preferably quantitative, of historical and future risks of flood and other natural hazards. Design standards and materials selection will be informed by a risk-based approach to managing climate and other disaster hazards. If time permits, a systems-level approach with adequate redundancy can support longer-term sustainability and growth. Multi-hazard risk mapping and land use planning will inform recovery interventions. Building laws, awareness and supervision can ensure that construction is not carried out on hazardous terrain and encroachments on riverbanks. This requires improved oversight to keep haphazard and structurally dangerous infrastructure development under check. Community led disaster data and information systems are required to not only assess major disasters but ensure continuous recording of localized damages and losses from floods, drought, landslides and other hazards.

Seventh, adhere to environmental and social safeguards. Recovery interventions will be preceded by environmental and social (resettlement) assessment and planning to address associated impacts and risks. The implementing agency will identify and address potential direct, indirect, cumulative, and induced impacts and risks and determine their significance and scope in consultation with stakeholders, including affected people. Environmental management processes will be monitored and reported on, during and after implementation. Environmental and social safeguards will avoid relocation as much as possible.



INSTITUTIONAL ARRANGEMENTS



INSTITUTIONAL ARRANGEMENTS

As Pakistan faces one of the largest recovery and reconstruction challenges ever, the government is committed to establishing an effective, transparent, and accountable mechanism, including appropriate institutional arrangements, for efficient recovery. In this regard, the government is aspiring to attract domestic and international assistance which can support the government's own resources to produce results on the ground to restore livelihoods and communities. Pakistan's successful recovery and reconstruction efforts from the earthquake of October 2005 and the experience of the 2010 floods recovery serve as a good starting point for responding to this challenge. The NDMA highlighted three themes: lack of coordination, particularly between federal and provincial governments and the government and international community; lack of understanding of the roles and responsibilities of stakeholders, especially the multiple agencies mandated for disaster management at all levels of government; and lack of capacity of all stakeholders, both in the public and non-public domain, due to an increased workload. The lessons from these experiences will be applied to the recovery in the wake of this most-recent multi-jurisdictional disaster. For effective and efficient recovery, moving forward the institutional framework will feature a single point of coordination and management at the federal, provincial and district levels.

Institutionalizing Urgency: Two themes that need to span the entire post-disaster continuum are the "need for speed" and "flexibility". Most government procedures are designed for normal times and for the implementation of normal development and recurrent budgets. Given the urgent need to address the dire circumstances of those impacted by floods, and given the scale of the disaster, the recovery program requires modified procedures and practices to meet the urgency of the recovery needs.

Coordinating centrally, implementing locally: Given the magnitude of the recovery effort, it is important that governments at all levels build full-time teams of dedicated professionals whose mission is exclusively focused on recovery, coordination of recovery policies, financing, planning, implementation and monitoring. This capacity will be housed in a dedicated Recovery and Reconstruction Unit (RRU) in the MoPDSI at the federal level and with links to dedicated RRUs at provincial and district levels. These units will draw upon the best expertise in both the public and private sectors and supplement the same through international technical assistance and expertise as needed.

A Central Coordinating Mechanism through the MoPDSI Recovery and Reconstruction Unit: As the recovery effort spans multiple subnational jurisdictions (i.e., provinces/special regions), the need for central coordination and planning through the RRU described above is even more important. Common standards, guidelines, and policies will be put in place to ensure equitable treatment of beneficiaries and communities across sub-national jurisdictions, so that the affected populations get equitable benefits. There will also be situations where cooperation across provinces/special regions may be needed, which will be facilitated by the central RRU. Efficiencies may be lost if provinces/special regions contract separately for similar services, driving up costs. A comprehensive M&E system, which uses a Geographic Information System (GIS), will be employed to coordinate the efforts and monitor progress as one example.

With a variety of funding sources, including sub-national budgets, International Financing Institutions (IFI) funding, bilateral funding, etc., steps will be taken to coordinate and prioritize fund flows and develop overarching guidelines for allocative efficiencies. Off-budget funding will be coordinated from the outset to ensure that it is being channeled in a manner that is part of the larger recovery program and is contributing towards achieving the SROs. At the same time, the central coordination of donors will allow the government to set common standards for executing programs in such areas as procurement, auditing, reporting, pay standards, and M&E procedures.

The roles and responsibilities of the RRU in MoPDSI may be, but are not limited to:

- Ensuring transparency and accountability in recovery, and maintaining credibility among beneficiaries and donors in a global fundraising campaign;
- Coordinating multi-source funding and providing overarching guidelines;
- Prioritizing and sequencing assistance based on need, but also on capacity to deliver;
- Developing an overarching policy framework that will guide the entire recovery effort;
- Establishing special dispensation for recovery processes, specifically fiduciary requirements (i.e., fast-tracked, time-based recovery plans and corresponding investment approvals, etc.), while ensuring consistency throughout the affected region;
- Developing and ensuring enforcement of minimum standards;
- Overseeing public information campaigns and public relations, including coordination with donors and the international community;

- Coordinating the work of line ministries; and
- Bridging recovery efforts where gaps emerge in the affected areas.

Within the broader context of central coordination, through the central RRU in MoPDSI, each recovery activity will be designed and implemented at the relevant competent tier of government. Local-level implementation will be encouraged to ensure that solutions are tailored to local conditions and that more rapid feedback loops exist between local communities and implementing agencies.

Multi-tiered Mandates: While the federal government will lead overall coordination and policy formulation, the provincial and local governments will be primarily responsible for implementing the recovery, rehabilitation and reconstruction programs at the provincial level. It is recognized that provinces may choose to establish provincial strategies, as in the case of Khyber Pakhtunkhwa, to better meet provincial priorities and policies, and increase the efficiency of local-level recovery efforts. Provinces and special regions will take the lead in implementation of the reconstruction program, including coordination, policy, planning and monitoring at the provincial/special regions level.

Establishment of an Independent Oversight Board (IOB), Third Party Monitoring and Grievance Redress Mechanism: While the government will lead the recovery effort, an independent oversight mechanism representing the interests of stakeholders will be established to ensure accountability and transparency over the management of the reconstruction program. An IOB will be constituted at the national level composed of prominent citizens, professionals, etc. Key development partners will also be represented on the IOB as observers. The IOB may perform some or all of the following functions:

- Hold regular public consultations with representatives of the affected communities to solicit citizen feedback on the ongoing recovery and reconstruction efforts and to gather recommendations for changes to the recovery strategy;
- Approve and implement a M&E workplan to oversee the performance of the recovery plan;
- Produce an annual report for wide dissemination on the progress of reconstruction, including a review of the quality and timeliness of the implemented operations and their consistency with the reconstruction plan; and
- Make periodic assessments and recommendations to enhance the efficiency, transparency and accountability of use of funds.

Beyond a formal oversight board, steps will be taken to put in place formal, independent systems for third-party monitoring and public complaints/grievance redress. Third-party monitoring will focus on checking the quality of a sample of individual reconstruction projects, their consistency with the recovery program and their responsiveness to local community needs. CSOs will be provided access at different phases of project implementation (especially procurement) for third-party monitoring and verification. An independent and robust GRM will also be established, where beneficiaries can report problems.

Implementation through Existing Government Institutions as “First-Choice”: Whenever possible, implementation arrangements need to respect the mandate of existing institutions. Setting up parallel structures should be avoided. Instead, existing institutions should be supported with additional capacity to satisfy the additional requirements and expectations associated with large-scale reconstruction programs. However, where the size and/or nature of the recovery necessitates setting up a parallel structure, these should be rationalized and established with a specific mandate and legal basis. The establishment of the Housing Company in Sindh for housing reconstruction is a good example of such a parallel structure with special dispensation for rapid implementation of the housing reconstruction program.

Build Capacity in Local Government: Disasters hit local governments hardest as they are called upon to meet exceptional challenges well beyond the scope of their normal, pre-disaster duties and capacities. Indeed, as a result of the flooding, local governments are suffering reduced capacity, and have lost buildings, transportation, and basic equipment. On top of this, recovery will require local governments to manage budgets and work program that are more significant than pre-disaster responsibilities. As a result, it is unrealistic to expect local governments to implement massive reconstruction programs in the absence of substantial additional support. Therefore, local governments will be supported in the short-term and a program of capacity building will be implemented in the long-term. The provincial/special regions RRU will provide immediate support for project preparation, implementation, and quality control at local levels.

Optimize Use of Private Sector Capabilities: Private sector services and capacities will be tapped where needed and appropriate. Some capacities required for reconstruction will be outsourced so that government institutions can continue to perform their normal operations. Outsourcing could benefit from innovative options like turnkey (design-build) and PPP models. Strict compliance with and efficient use of fast-track procurement and implementation procedures will incentivize the participation of capable and reputable consulting firms, contractors, and suppliers in reconstruction.

Outline Institutional Arrangements: Based on the above, the outline of institutional arrangements for flood recovery and reconstruction are as follows and graphically represented in the figure below.

Federal Level

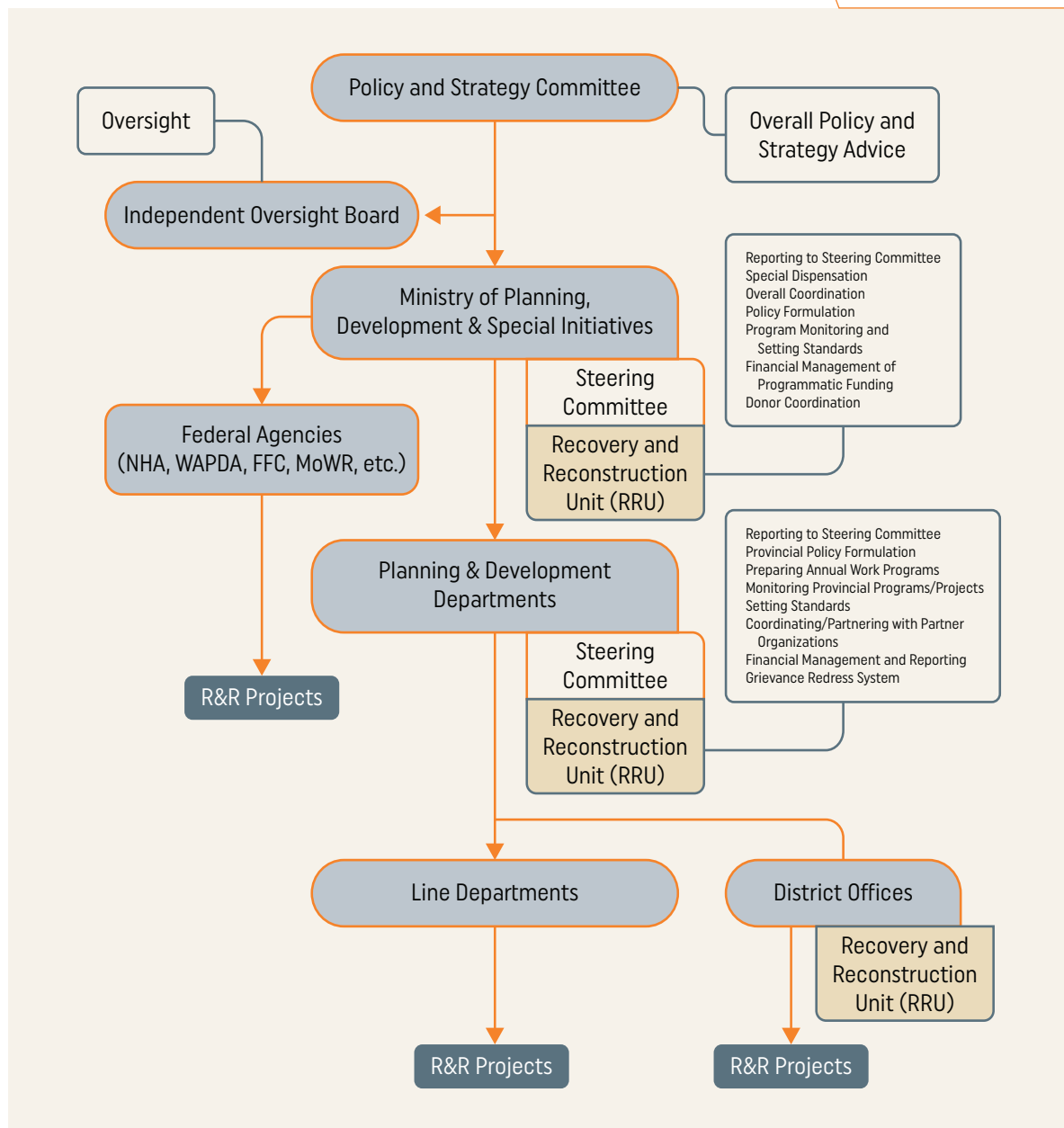
The PSC will provide the highest level of policy and strategic guidance to the federal and province/special regions. The PSC will ensure the equitable allocation of reconstruction resources among the provinces and the regions, and resolve inter-provincial issues related to reconstruction policy and implementation.

The IOB will be set up based on the guidance above and will provide independent oversight of the recovery program. It will report its findings to the PSC, and in turn, the PSC will report to recovery partners and the public.

The RRU in the MoPDSI will coordinate national policies, planning, on- and off-budget financing, and implementation and monitoring of the recovery program. The RRU in the MoPDSI would be the first point of contact for all the external on- and off-budget partners and will act as the Secretariat for the Government - Donor Coordination Group. This will ensure synergy and the equitable allocation of overall reconstruction resources among provinces/special regions and among sectors. The RRU in the MoPDSI will monitor overall reconstruction implementation (on- and off-budget) and provide regular progress overview reports to PSC, IOB, reconstruction partners and the public. For this purpose, the RRU in the MoPDSI will establish a comprehensive M&E system in partnership with the RRU in the Planning and Development (P&D) Departments at provincial/special regional level, complementing the existing systems at federal/provincial/special regional levels.

The RRU in the MoPDSI will be guided by a Steering Committee headed by the Secretary of the MoPDSI and will have representation from all the affected provinces/special regions (at the Chief Secretary of P&D-level) and relevant federal ministries (at the Secretary-level). The Steering Committee will review reconstruction implementation and provide guidance. It will resolve issues faced by the provinces in mobilizing funding, and facilitate in mobilizing additional external resources, if needed. It will be the link between the PSC and the RRU in the MoPDSI.

Figure 4. Outline of Institutional Arrangements for Flood Recovery and Reconstruction



Provincial/Special Regions Level

The institutional structure recognizes the lead role of the provincial and special regional governments in recovery based on the reconstruction policies and strategies issued by the federal government. Each of the provincial/special regional governments will establish a Steering Committee to provide overall guidance and oversight at the provincial/special regional level for the implementation of reconstruction programs. The Steering Committee will be chaired by the Additional Chief Secretary, P&D and will include secretaries of the departments involved in reconstruction implementation. It will also have appropriate representation of the districts.

A provincial/special regions RRU within the P&D Department will be responsible for coordination of reconstruction policies, planning, financing and implementation and monitoring. It will ensure compliance with reconstruction policies and strategies across the various sectors. It will also ensure that fast-track procedures are operationalized for reconstruction implementation. The RRU in the MoPDSI will act as the clearinghouse for reconstruction programs to be approved at federal or the provincial/special regions level. It will also facilitate the participation of off-budget partners in reconstruction implementation in the provinces/special regions.

The existing provincial forums will approve the reconstruction projects submitted by the provincial departments. A representative of the RRU in the MoPDSI will be co-opted in the approval forum at the provincial level to improve coordination and synergies. With regard to federally transferred funds, the provinces will have the authority to approve projects up to a threshold to be determined by the government, including the possibility of unlimited delegated authority to approve subprojects under umbrella Planning Commission Form -1 (PC-1) approved at the federal level.

The District Offices will set up an RRU responsible for planning, designing, and implementing reconstruction projects which are to be implemented at the district and local levels. They will also facilitate partnerships with the local CSOs, NGOs, private sector, etc., for implementation of local-level reconstruction projects.

United Nations Agencies

The UN System will provide advice on monitoring and support for implementation where appropriate. The UN organizations, along with other development partners, will work with provincial governments to provide policy and implementation advice and assistance. The UN will work to integrate the recovery M&E Framework with the Sustainable Development Goals.



FINANCING STRATEGY AND FINANCIAL MANAGEMENT

FINANCING STRATEGY AND MANAGEMENT

The objective of the 4RF financing strategy is to guide the identification, channeling and management of recovery, rehabilitation and reconstruction finances. It gives an overview of where the resources will come from, how the different types of financing will complement and leverage each other and how the use of funds will be monitored. The outcome of the financing strategy is to ensure the most efficient use of funds over the lifespan of the recovery, rehabilitation and reconstruction program, against short-, medium- and long-term priorities.

Box 1. Guiding Principles of the 4RF Financing Strategy

- ▶ Demonstrate government commitment to necessary reforms to free up fiscal space and facilitate private investment for recovery needs.
- ▶ Enable strategic collaboration and more coherent dialogue among the government, international community and affected populations on recovery and reconstruction.
- ▶ Ensure the appropriate allocation of resources through the right financing mix and complementarity of the different types of financing.
- ▶ Promote transparency and accountability in financing.
- ▶ Increase the coordination of international financial support and reduce transaction costs.
- ▶ Ensure high fiduciary standards and sound financial management.

Pakistan was facing macroeconomic challenges even prior to the catastrophic floods. The floods, combined with the COVID-19 pandemic and the ongoing global economic crisis, exacerbated the scale and intensity of the country's economic issues. Despite these constraints, Pakistan mobilized significant domestic resources to fund immediate relief and early recovery activities. Since the beginning of the floods in June 2022, the federal and provincial governments have been actively reprioritizing spending under existing projects. Funds under existing PC-1s have been repurposed to address relief and early recovery, while additional PC-1s have been restructured on an urgent basis within federal and provincial programs, particularly in Sindh and Khyber Pakhtunkhwa. The Government of Khyber Pakhtunkhwa has, for example, re-appropriated/diverted PKR 19 billion from its ongoing Annual Development Programme (ADP) to restorative and rehabilitative works. Despite these efforts, it is clear that the expenditure needs at both federal and provincial level have increased manifold.

Furthermore, federal and provincial governments have been revisiting the FY23 and FY24 pipelines of multilateral development partners to reorientate them towards priorities identified in the PDNA. This requires a careful exercise in balancing future resources against reconstruction and recovery with medium-term investments in human development for a more sustainable socio-economic recovery. The next step in this process will be to conduct a reallocation of existing Public Sector Development Programme (PSDP) and ADP funds through a multi-year plan and budgetary adjustments to reflect this reprioritization.

The reallocation of domestic resources will be coupled with measures to enhance revenue generation where possible and improve efficiency in the use of public resources. Additional measures have been identified that will increase revenues in the short-, medium- and long-term. These include policy measures to increase tax compliance and revenues, such as the reduction of exemptions that do not contribute to recovery, and refocusing of exemptions that will support a more efficient recovery and reconstruction program. The reduction of import tariffs on goods necessary for recovery or imported inputs that can support a recovery in Pakistan's exports and a reduction of exemptions to non-productive sectors will ensure more efficient flows of resources for recovery. A number of tax reforms can be implemented in the short-term to increase revenues. These include the simplification of tax rates and the introduction of new taxes on property, profits, and demerit goods. Implementation of these reforms will require a highly complex process of consensus building. However, in the context of the unprecedented national emergency and the magnitude of the recovery challenge, reaching national consensus on such reforms should be considered a national imperative for all stakeholders involved.

As efforts to raise domestic resources continue, financing the 4RF will require mobilization of unprecedented resources over the course of the coming years. While Pakistan has already taken major steps to address immediate needs and is committed to continue mobilizing its own resources for medium- and long-term recovery, the crisis is of a magnitude which calls for international and bilateral partners to generously contribute towards achieving the 4RF objectives. Resource mobilization will also leverage international development assistance, bilateral financing, green financing and private sector funding to complement already-committed government financing. The emphasis for international financing will be on concessional and grant financing, to complement the domestic and private sector resources that will drive the recovery, rehabilitation and reconstruction program under the 4RF.

The 4RF also recognizes the key role that the private sector will play in the recovery process. Measures to mobilize private sector financing will include efforts to improve access to finance to firms and households, including support to microfinance sector. Blended finance and de-risking tools will be critical in mitigating risks and encouraging private-sector investment in underserved segments, such as agribusiness, Micro, Small and Medium Enterprises (MSME), low-income housing, non-government backed infrastructure, etc.

PPPs will be adopted to develop, operate and maintain infrastructure more effectively and efficiently. Enhancements to the PPP framework to allow private participation will be embedded in the overall recovery plans for infrastructure, while improved capacity and institutions for PPP will allow increased private participation in infrastructure. These frameworks will be strengthened by integrating climate costs in project designs and in the form of compensation payments in contracts in the scope of technical studies. 'Resilience' will be part of the evaluation criteria for tenders, with measures such as the requirement to include climate experts on project approval committees and partnerships with the insurance industry and engineering firms on the use of climate screening and risk forecasting tools. Moreover, structured and transparent procurement models under bankable concessions will help catalyze private investment in urban infrastructure and services, green buildings, transportation, water and sanitation, waste management, and transmission and distribution. Provincial governments can be supported to build fiscal and institutional capacity by development finance advisory services, enabling them to access commercial sources of finance to supplement scarce fiscal resources and donor reform-based funding. Unlocking private investments, including PPPs, will be critical and will require the adoption of bankable frameworks and improved financial capacity of provincial authorities.

Channeling Financing for Efficient Recovery, Rehabilitation and Reconstruction

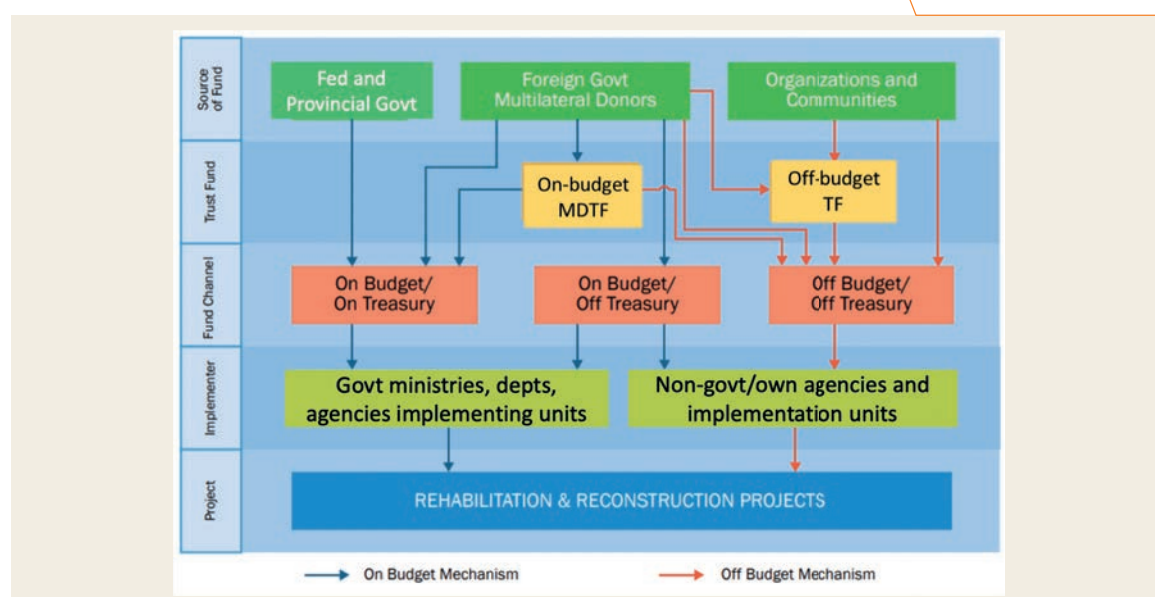
The 4RF financing strategy considers the different characteristics of each financing source and allocates them to short-, medium- and long-term priorities through the most appropriate channels.

The 4RF financing strategy seeks to coordinate all types of financing through on and off-budget mechanisms. Wherever possible, the use of government processes, systems and entities is encouraged. On-budget financing should be prioritized, and the cost of implementation should be given due consideration when choosing the implementing agency. Global reconstruction experience has demonstrated that finances are better leveraged, and provide better value for money, if they are coordinated under the leadership of the government, and implemented using the principle of subsidiarity, i.e. im-

plemented at the lowest logical level of governance. The use of international funds will be decided through forums that bring together federal and provincial governments such as the National Coordination Committee on Foreign Funded Projects (NCC-FPP) and Executive Committee of the National Economic Council (ECNEC).

The figure below shows the different channels through which financing can be directed to activities on the ground, including pooled mechanisms for on- and off-budget financing, including from private donors. The 2022 Khyber Pakhtunkhwa Flood Response Plan includes details of the Climate-Resilient Infrastructure Fund for provincial-level development of public infrastructure. Drawing on global best practice, it highlights that on-budget funds can also be implemented through non-government actors in cases where they have on the ground capacity that can be easily contracted and, in this way, provide much-needed surge capacity. The BISP Nashunoma program, which is rapidly scaling up in response to the floods, is an example of the government contracting a UN agency, in this case the World Food Program. Another example is the People's Primary Healthcare Initiative (PPHI) in Sindh and Balochistan which are Section 42 Companies utilizing both private and international financing for primary healthcare in flood-affected areas in Sindh and Balochistan. In other global examples, NGOs and CSOs have been contracted to bring additional capacity on the ground for government-managed programs. Private firms can also be brought in to enhance government capacity, particularly in areas such as procurement, environmental and social safeguards management.

Figure 5. Channels for Recovery, Rehabilitation and Reconstruction Financing



Funds Flow Expenditure Accounting

The 4RF financing strategy recognizes the need to mobilize financing throughout the short-, medium- and long-term phases of the program, and therefore the need to engage with donors and the general public to maintain confidence. This will be done through regular funds flow expenditure accounting, demonstrating commitments against disbursements. While an important element of transparent reporting, regular analysis of commitments and disbursement will support active management of reconstruction funds and ensure funds are directed to fill gaps as the reconstruction program evolves.

Source of Financing Gap

Source of Funding	Share in Percentage	Share in USD (Bn)
Local	50	8.18
Multilateral DB, Bilateral and Green Financing	50	8.15
Total	100	16.3
Gap		8.15 Bn USD

Auditing and Monitoring Oversight

Auditing, monitoring and oversight of the 4RF program will take place at multiple levels and will be adapted to the nature of the activities. For example, the owner-driven housing project in Sindh will make use of a third-party monitoring agent to ensure oversight and monitoring of disbursement of funds to eligible beneficiaries and completion of works. This will be in addition to the use of existing government systems of audit, including the Auditor General of Pakistan and provincial-level auditing systems.



IMPLEMENTATION AND MONITORING ARRANGEMENTS



IMPLEMENTATION AND MONITORING ARRANGEMENTS

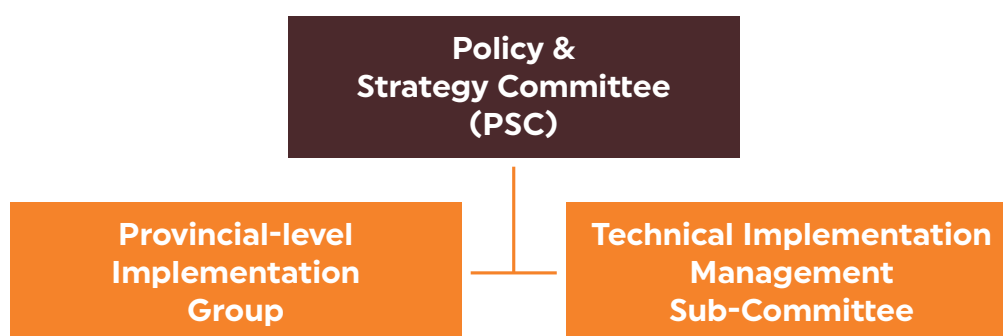
The implementation of the 4RF will require an efficient and transparent implementation mechanism, supported by strong government commitment at the federal and provincial levels. In order to achieve this, the following implementation mechanisms are proposed:

Policy & Strategy Committee (PSC): A governing body that will ensure overall coordination of the 4RF interventions and approve federal and provincial 4RF's policies, plans, strategies and standards. Members of the PSC will be drawn from federal and provincial line departments and ministries, donors, civil society with optional private sector members (e.g. Provincial Disaster Management Authorities [PDMAs], NGOs, CSOs); it will meet quarterly.

Technical Implementation Management Sub-Committee: This sub-committee will be responsible for overall implementation management and supervision of the program and strategic objectives that are set and approved by the PSC. It will assist in the formulation of recovery and reconstruction policies, plans, strategies and standards. Its key responsibilities will include preparation of progress reports, financial reports, work plans, the governance framework, implementation mechanisms and backstopping support to government on key priority implementation areas. Under direct supervision of the PSC, it will be led by the MoPDSI, and be composed of technical experts and representative of donors, civil society, the private sector, academia and federal and provincial governments, including the Auditor General Office, NDMA, FFC, etc. It will provide periodic reports on implementation progress to the PSC and other partners.

Provincial-level Implementation Committee: Each provincial/regional government will establish a Recovery & Reconstruction Implementation Committee for implementation of recovery plan projects and programs at the provincial and local levels. This Committee shall be responsible for the development of provincial-level implementation plans, a policy framework for implementation at sub-national governance levels, creation of coordination mechanisms at provincial and sub-national governance levels, etc. The Committee may include the Chief Minister as Chair, an opposition Member of the Provincial Assembly, the Chief Secretary, Additional Chief Secretary and the Secretaries of the departments involved in recovery/reconstruction implementation, PDMA,

FFC, NGOs, civil society from the affected districts, as well as representatives from the private sector, commerce and industry. This Committee shall meet on a quarterly basis and report progress and updates to the PSC and its steering committee. This Committee will also ensure the inclusive and participative response and recovery projects planning, implementation and management at district levels.



Need for PPPs: Recovery phase implementation shall have a clear and specific focus for private sector involvement, as well as formal relationships that link private entities to the government's response and recovery institutions in the form of PPPs. The PPPs will enhance both the government's and the private sector's ability to recover from financial losses; loss of market share; and damage to infrastructure, equipment, products, or business interruption by assembling resources and other activities. It will also facilitate compliance with regulatory and safety requirements, which is a cross-cutting concern and a government priority. Therefore, it's important that representatives of the private sector be members of the PSC and its steering committee, provincial steering committees, and optionally at sub-national governance structures.

M&E Framework: To establish a robust and integrated M&E system for recovery-phase implementation, existing M&E mechanisms at the federal and provincial levels need to be reviewed, gaps identified, and revised M&E systems developed. It will build on the Directorate General M&E structure and its core function of planning, M&E of ADP and Foreign Funded Programs for better performance, transparency and governance along with improved service delivery and public benefits measuring the direct and indirect impact of development projects.

The M&E system will be focused on what to monitor and evaluate (Results and Outcomes), when to monitor and evaluate (periodic progress reports to the PSC), how to monitor and evaluate (existing monitoring tools and mechanisms upgraded), who will monitor and evaluate (e.g. existing M&E directorates in P&D Departments, etc.), and

how to use the results (strategic alignment and guidance by the PSC, etc.). The MoPDSI, as Secretariat, will monitor the recovery and reconstruction implementation (on- and off-budget) and provide reports to the PSC and its steering committee as well as to recovery & reconstruction partners and the public at large. Independent third-party evaluations will ensure an independent review of the 4RF implementation.

Keeping in mind the urgency and magnitude of work for the recovery phase, the existing monitoring systems may be upgraded. Both results framework and monitoring will be developed and implemented at two levels: one at the strategic framework level around the SROs; and the other at the program/project level. These two levels should be designed to monitor everything that is being planned, including: institutional (capacity development, operational reforms, etc.); policy articulation; financing (inflows and budget-based, as well as accounting and reporting back); and implementation of programs/projects.

In addition to the two-levels monitoring, and to provide real time information to relevant stakeholders, an M&E management information system, or dashboard, shall be developed to inform the government and general public. As part of this, the Government Interface, hosted at the MoPDSI (federal level) and P&D Departments (provincial level), will provide real-time progress updates to stakeholders on Key Performance Indicators. Additionally, the Citizen Interface will provide real-time transparent financial and progress tracking for citizens to ensure transparency and accountability.

Overall, The M&E system for recovery will: (i) track physical progress of recovery and reconstruction activities; (ii) track results for other recovery activities outside scope of government M&E, i.e. in-kind and cash transfers; (iii) provide regular and comprehensive information on allocation and disbursement of funds (public, donors and private sector); (iv) provide data for evaluating economic and social impacts of recovery programs; and (v) inform outcome-based mid-term review of the recovery implementation.

Strategic Results Framework (SRO-Level): A results framework with qualitative and quantitative indicators and sub-indicators will be prepared to track and monitor progress and focus on outcomes and impacts. A coherent, high-level results framework that will clearly define the results areas, related outcomes and outputs covering the identified SROs.

For each of the SROs, the strategies (plan) are in the final stage of finalization. As the next step, there is a need to develop a Results Framework, with indicators and sub indicators for each SRO Strategy / Plan. For each outcome and related outputs, qualitative and/or quantitative indicators will be set along with the baseline and targets.

Sectoral and Integrated Results Frameworks (Sector-specific, Program-level): There is also a need to have sector-specific results frameworks with clearly defined outcomes, outputs and indicators. The relevant departments such as P&D, agriculture and live-stock, transport, etc., will be responsible for the development of these sectoral results-based frameworks. Each sector-specific results framework will contribute to the related high-level recovery phase results framework covering the SROs.

Internal Controls and External Audits: The MoPDSI considers that the recovery phase requires enhanced fiduciary safeguards and risk mitigation measures, including internal controls and external audits. Various existing avenues for internal control should be employed in an integrated and comprehensive manner to ensure that the funds are being allocated, spent and reported in a judicious manner. The Auditor General of Pakistan, as the external auditor and in conformity with the International Standards of Auditing, should audit all programs and projects for the recovery phase, channeled through the budget systems. Additionally, provincial audits are required and should have a similar framework.

Third Party External Audit, Independent M&E and Social Audit: As large-scale recovery programs require independent oversight and audit of the systems, procedures and controls adopted, a third-party independent international audit firm will be hired. Likewise, to ensure transparency, gauge community perception and citizen satisfaction of the recovery phase activities, an independent third-party social audit firm will be hired. The findings will be presented to the PSC and IOB. The Third-Party Monitoring Agent (TPMA) will be hired at the national level to monitor the national recovery as well as specific activities or projects, for example cash disbursement to beneficiaries and owner-driven reconstruction progress in the Sindh Housing program. Moreover, a ME3F platform will be developed to ensure transparent and adequate targeting of support.

Midterm and Final Evaluation: Each recovery phase shall be subject to midterm and final evaluations. A panel of national and international consultants and/or independent M&E firms shall be hired for the mid-term and final evaluations of each phase.

Reporting Mechanisms: As owner of the Central Monitoring Dashboard, the MoPDSI will update key performance indicators. The provinces will provide results-based reports on key performance indicators online from their respective provincial management information systems and dashboards so that the information is available to both the public, relevant stakeholders, and international partners. The Central Monitoring Dashboard shall be updated monthly. Similarly, the off-budget programs, especially NGO implementation, will provide feedback and report information on the Project Monitoring and Evaluation System (PMES).

Complaints Management: An easy-to-use grievance and complaint system at sub-national governance levels will be established to provide broad and easy access to affected populations. Setting up GRMs and conflict resolution systems at sub-national governance levels is highly desirable as it promotes equity in access among affected communities, minorities and women.

Ensuring Effective and Inclusive Community Engagement and Participation: Recovery phase implementation will be based on participatory and inclusive mechanisms whereby community members will be included and consulted throughout the process in assessments, defining problems and needs, identifying solutions and implementing projects, and providing feedback. A community-driven development approach may be adopted and outsourcing execution to a social mobilization partner may be considered. This will result in local ownership and proactive involvement by local communities in the development process.

Communication and Visibility Measures: An effective communication strategy can bolster trust between the government and citizens. Effective public communication can provide citizens with truthful and accurate information, engage them in the recovery effort, correct false or misleading information, and allow a better understanding of public attitudes, including fears, concerns, and expectations. An effective communication strategy will include: (i) public communication on progress reporting that is available on government websites on timely basis; (ii) financial tracking data shall be promptly made available online; and (iii) the Right to Information and Right to Services Acts, along with the recovery plan on supporting the implementation of this law shall be the corner stone of the communication strategy.

Risk Management: Risks and associated mitigation measures will be identified in the early stages of design and implementation of the 4RF. An activity's risks will be mea-

sured against its benefits, rather than simply choosing the lowest-risk option. Options for minimizing, avoiding, sharing or mitigating, and accepting risks will be developed based on the likelihood and potential impact of the risk. Risk will then be actively managed, for example by making risk management a standing agenda item of all high-level and other committee meetings. A 4RF program risk register will be maintained with periodic updates and assessments.

Standard Implementation and Procurement Procedures: Implementation modalities of the 4RF will require existing project approval and procurement, reporting, and staffing procedures to be reviewed and simplified to meet the critical response requirements of the recovery process. The lead implementation partners, particularly the MoPDSI, along with relevant departments at federal and provincial levels, will work together to develop a 4RF-specific and simplified procedures and processes across all sectors and entities for more rapid 4RF implementation. The implementation will be based on the following adaptive and efficient procurement mechanisms:

Pre-Arranged Procurement: Creating a pre-established list of qualified contractors. This list can be categorized by type of expertise and competencies. The prequalifying system will expedite issuing contracts and evaluating tender responses. The pre-qualifying system will also eliminate inexperienced contractors that lack the expertise required to successfully implement the 4RF related projects.

Fast-Track Procurement: A simplified, preferably "e-procurement" (as identified by the PDNA), and agreed tender and purchasing process will be adopted to quickly get goods and services to the areas where they are needed. It will also aim to provide: (i) waivers to Public Procurement Regulatory Authority (PPRA) rules for emergency procurement; ; (ii) review ceiling and approval limits; and (iii) enable faster procurement through pre-qualified suppliers, as indicated above.



A photograph of a flooded area. In the foreground, a young boy in a light blue shirt and pants sits in a small, round, metal boat, using a long wooden pole to navigate. The water is dark and rippled. In the background, there are trees, including palm trees, and a partially submerged building. The sky is overcast.

STRATEGIC RECOVERY OBJECTIVES (SROS)

STRATEGIC RECOVERY OBJECTIVES (SROS)

Strategic Recovery Objective 1: Enhance Governance and the Capacities of the State Institutions to Restore Lives and Livelihoods of the Affected People, especially the Most Vulnerable

Sectors: Governance, Environment, Climate Change, and Disaster Risk Reduction

Rationale and Overview

Good governance is critical in effectively managing recovery from the devastation of the recent floods. It is also essential in putting Pakistan back on track for accelerated economic transformation, allowing government to innovate business processes for improved service delivery, enhancing the quality of public institutions and policies, public



investment decisions and their subsequent impact on citizen trust and human capital development.

This SRO seeks to restore governance services to pre-floods level, while enabling a governance structure and a system that fosters efficiency, effectiveness, transparency, accountability, and inclusiveness. It supports the Government of Pakistan by rebuilding physical infrastructure that has been destroyed/damaged by floods; improves its capacities to prepare for, and respond to, the challenges posed by natural and man-made hazards; and helps build resilience to the impacts of climate change through the application of gender-informed and community-led risk reduction measures. A key objective will be to rebuild the natural infrastructure of Pakistan, including through ecosystem-based adaptation and landscape restoration. A number of prioritized interventions are recommended comprising a mix of legislative and policy actions, institutional and operational effectiveness and large-scale application of nature-based solutions in rebuilding the country's renewable natural capital.

Sector Context

The 2022 floods severely disrupted governance and service delivery systems as physical assets worth US\$60.1 million belonging to local governments, public offices, police, judiciary and prisons were destroyed across all provinces and special regions. This has severely limited the capability to deliver services and many facilities remain non-operational; all the while citizens continue to face critical issues and require immediate support.

The floods have placed an immense strain on the capacities of the institutions managing DRR as well as climate change at the federal and provincial levels. The federal Ministry of Climate Change was created in 2012. Although still in nascency, it has been at the forefront of pressing the country's case on climate justice and needs further support going forward. The provincial and local government institutions (notably their Environmental Protection Agencies and Forestry and Wildlife Departments), which manage renewable natural resources and pollution control, require additional funds to effectively address climate change and environmental challenges. When provided with adequate resources, Forestry and Wildlife Departments have demonstrated their ability to support landscape restoration. While these agencies provide the first and most cost-effective line of defense against floods, their budgets have been reallocated to fund various elements of the flood recovery efforts. It is essential that long-term financing mechanisms in sufficient amounts are secured for building the country's natural defenses against climate change. Environmental regulations need to be updated

and the institutions' capacities enhanced for effective enforcement. Legislation, policies and strategies covering disaster resilience and climate change at the federal and provincial levels must also be updated to make them relevant to emerging challenges.

Gaps and capacity constraints in the country's DRM system, especially at the sub-national and local levels, have been highlighted by the scale and nature of 2022 floods. A number of institutions have been mandated at the federal and provincial levels to manage various aspects of DRR, including the NDMA, the PDMA, the Pakistan Meteorological Department and Federal Flood Commission. However, these entities are facing significant capacity gaps in terms of trained personnel, equipment, technical expertise and most importantly financial resources. While the floods have highlighted the ability of the technical agencies to effectively forecast the magnitude of impending disasters and ensure the provision of actionable information and early warning to all the stakeholders, they have also brought to light the limitations of the federal and provincial authorities to undertake timely preventive measures to effectively coordinate the response and recovery efforts with all stakeholders. The most vulnerable, such as women, girls, the elderly, and people with disabilities, have faced increased hardships, while Gender-Based Violence (GBV) has reportedly increased due to tensions caused by the floods at the household and community levels.

The Public Financial Management (PFM) frameworks exist at the federal and provincial levels, however, varying levels of capacity and the presence of local governments and non-implemented Provincial Finance Commission awards have left local authorities without meaningful financial resources and capabilities to manage and implement large, urgent public investments. The system of budgeting, project design, project management, project execution and procurement are inadequate at the local level. Legal system reviews suggest that major problems with Pakistan's judicial system are related to the district courts and their slow dispensation of justice.

Strategic Priorities

a) Priorities for Policy and Operational Reforms

Short-Term

- Initiate PFM, public procurement and audit reforms and measures to prevent corruption in disaster risk financing at the federal and provincial levels;

- Set up robust and openly accessible monitoring and reporting mechanisms and platforms for improved transparency and accountability;
- Review existing laws, policies, strategies and plans to identify gaps and make improvements;
- Conduct consultations with federal and provincial entities to agree on parameters of new and upgraded policy instruments for recovery and DRR;
- Conduct consultations on the establishment of Climate and DRM Funds at the sub-national/provincial levels.

Medium-Term

- Develop and implement frameworks for emergency procurement that are clear, transparent, and publicly accessible to enable ongoing monitoring. These frameworks will prioritize strong controls, while specifying the circumstances under which normal procedures may be suspended and mandating accountability measures such as timely reporting, best value for money, auditing requirements, and award-tracking;
- repair National Disaster Management Plan II (NDMP) and provincial-level disaster management plans;
- Update and define financing and implementation arrangements for the National Flood Protection Plan IV (NFPP);
- Reduce financial burden on public resources through identification of risk transfer solutions, including flood risk insurance.

Long-Term

- Draft and approve provincial-level disaster management and climate change legislation, policies, plans and strategies;
- Support policy reforms focused on strengthening governance and rule of law institutions;
- Strengthen governance structures to be more inclusive and participatory, enabling effective coordination and ensuring that measures, rules, and regulations are in place for timely service delivery.

Safeguarding vulnerable groups should also be imbedded in all designed and implemented interventions, with a special focus on strengthening law enforcement agencies' capacity to deliver gender-sensitive policing.

b) Priorities for Investments/Programs to Support Recovery, Rehabilitation and Reconstruction

Short-Term

- Establish a national landscape restoration program (to be executed by the provinces) to invest in rebuilding natural infrastructure as the first line of defense against climate change, including floods and droughts. Programs will include identification of restoration priorities; the creation of a sustainable long-term financing mechanism; a financing mechanism to incentivize communities to invest in and sustain natural infrastructure; ecosystem services; a sound M&E framework; and building the delivery capabilities of government and delivery partners;
- Support immediate operationalization of all non-operational offices, police stations, and judicial complexes, including prosecution offices and prisons, for effective management of the flood rehabilitation work as restoring public sector presence and capacity is essential for (re) building citizen trust;
- Ensure integration of risk reduction measures into recovery investments, taking into consideration evolving flood hazard landscapes due to climate change;
- Strengthen the capacities of the NDMA and PDMAs, and especially, the district-level actors in all stages of disaster response and humanitarian assistance. Reinforce linkages with community self-help groups trained and equipped for disaster first response so as to improve future disaster response;
- Undertake clean-up of flood-related contamination as well as solid waste and silt removal in flood prone areas;
- Streamline environmental impact assessment and monitoring of flood disaster impacts.

Medium-Term

- Ensure landscape restoration programs are integrated into national and subnational budgets;

- Initiate community and district-level strengthening and capacity development interventions, supplemented by provision of essential equipment and stockpiles at the district level to ensure a timely response to future disasters;
- Mainstream DRM in planning, implementation and monitoring through capacity enhancement of public officials;
- Undertake detailed and localized multi-hazard risk assessments and integrate the data into local-level decision support systems for effective response, recovery planning and early warnings;
- Carry out detailed studies, in collaboration with international institutions, on flood forecasting/modeling and the impact of climate change on flooding;
- Strengthen the technical capacities of federal and provincial climate change and environmental administrations to better fulfill their mandate.

Long-Term

- Complete the landscape restoration program under implementation. Strengthen mechanisms to support long-term certainty in flow of funds to provinces. Mobilize private sector investment. Ensure that all key ministries and departments, including forestry, agriculture, irrigation, urban and coastal development are fully aligned with, and support, implementation of the landscape restoration program;
- Strengthen hydro-meteorological monitoring, forecasting and early warning systems; install and replace meteorological radars and automatic weather stations; and expand urban flood management systems in major cities;
- Upgrade public evacuation shelters and routes, and better inform and train communities in timely and organized evacuation;
- Integrate DRR and climate resilience into public sector approvals, planning, implementation, and monitoring.

c) Priorities for Institutional Effectiveness and Better "Ways of Working"

Short-Term

- Establish forums for formal interaction with NGOs and CSOs at the federal and provincial levels for their role in disaster and climate resilience;

- Identify opportunities for public private partnerships in recovery and resilience;
- Establish a comprehensive M&E framework, including an implementation plan of priorities identified under the 4RF that may be used centrally as a mechanism to ensure delivery and quality of investments. This will also act as a provincial coordination tool to ensure a 'whole of government and citizens' approach;
- Facilitate private sector investment and PPPs in DRM, sanitation and solid waste management services in the flood-affected areas;
- Provide support in the form of human resources and technical expertise to the PDMA and provincial climate change entities.

Medium-Term

- Enhance coordination and cooperation among entities responsible for resilience, climate change and development to identify means for risk informed development;
- Develop planning and budgetary tools with linkages to risk information databases to integrate disaster and climate risk into decision making;
- Strengthen governance of recovery efforts, especially at the sub-national level to ensure transparency and accountability toward affected populations. Support the establishment or strengthening of PDMA and provincial climate change entities at the district level in the medium to long-term, and ultimately at the community level to enhance resilience of vulnerable communities;
- Develop mechanisms and capacity building to access and avail international available funding for climate and disaster related projects;
- Formalize strategies to better utilize the concept of retro-active financing for emergent disaster related projects so that the costs incurred through diverting the provincial finances can be recouped through retro-active financing.

Long-Term

- Fully integrate disaster and climate risk considerations into all stages of project management for government projects at the federal and provincial levels;
- Mainstream DRR and climate change adaptation into district-level local development planning, investment programming, and budgeting process.

Table 3. Summary of Damage, Loss, and Needs from the PDNA

(US\$ Million)

PDNA Sector	Damage	Loss	Needs
Governance	60.1	22.6	88.3
Environment and Climate Change	18.3	29.9	164.0
Disaster Risk Reduction	4.7	0	161.3
Total	83.1	52.5	413.6

Table 4. SRO1 Priorities Matrix

Sector Name	Intervention/Activity (Numbered by priority, 1 = highest priority)	Cost of Immediate and Short-term (up to one year) US\$ Million	Cost of Medium-term (up to three years) US\$ Million	Cost of long-term (up to five to seven years) US\$ Million	Total Cost US\$ Million	Funding Commitment to Date	Source of Funding
Governance	Policy/Operational 1. Support to PFM & Accountability Reforms 2. Flood resilient zoning & provincial-level construction and infrastructure bylaws 3. Framework for gender and climate change responsive public investments 4. Cross-sector risk communication strategy, implementation and pilots for disasters	3.8 2.5 1.1 0.1 0.1	2.6 2.5 0.1	0	6.4	0	Bilateral, Multilaterals
	Investments/programs 1. Establish and operationalize dysfunctional district level offices and rule-of-law infrastructure 2. Rebuild flood resilient police stations and prisons 3. Rebuild flood resilient public offices	22.6 22.6	55.4 38.0 17.4	0	78.0	0	Public, PPPs, Multilaterals

	Institutional effectiveness 1. NDU establishment and operationalization 2. M&E dashboard and systems 3. Human resources and capacity building activities	0.3 0.2 0.1	1.1 0.1 1.0	2.5 2.5	3.9 	0 	Bilateral, Multilaterals
Environment and Climate Change	Policy/Operational 1. Environmental impact assessment and disaster impact monitoring	1.5 1.5	1.5 1.5	2.0 2.0	5.0 5.0	0 	Bilateral and Multilateral Donors
	Investments/Programs 1. Emergency cleanup and climate resilience measures for flood-related contamination, solid waste and silt removal and debris recycling support. 2. Emergency package of nature-based solutions and adaptive management 3. Upscaling of ecosystem-based adaptation	53.0 31.0 15.0 7.0	35.0 5.0 30.0	45.0 5.0 40.0	133.0 31.0 25.0 77.0	0 	Government, Bilateral, Multilaterals, Climate Finance
	Institutional Effectiveness 1. Strengthened Technical Capacities of Climate Change and Environmental Management Agencies at Federal and Provincial Levels	5.0 5.0	9.0 9.0	12.0 12.0	26.0 26.0	0 	Bilateral and Multilateral Donors
Disaster Risk Reduction	Policy/Operational 1. Preparation/upgrading of NFPP-IV and NDMP 2. Mainstreaming resilience in development planning through inclusion of disaster risk considerations in planning documents, especially for water, agriculture, and infrastructure sectors.	3.2 0.4 2.8	4.6 0.6 4.0	6.9 0.9 6.0	14.7 1.9 12.8	0 	Government, Bilateral and Multilateral Donors, Microfinance Institutions (MFI)
	Investments/Programs 1. Strengthened systems for meteorological monitoring and early warning 2. Training and Capacity Building of relevant government officials for	23.1 20.7 1.1	44.0 40.0 2.0	56.0 51.0 2.0	123.1 111.7 5.1	 	Government, MFIs, PPPs

response, humanitarian assistance and long-term resilience 3. Upgrading of public evacuation shelters and awareness training for proper use	1.3	2.0	3.0	6.3		
Institutional Effectiveness	3.8	8.2	11.5	23.5		Bilateral and Multilateral Donors
1. Institutional strengthening at district and provincial levels with linkages to the community level	0.4	0.7	2.0	3.1		
2. Strengthening of resilience at community level through local level organizations	2.2	3.0	5.0	10.2		
3. Multi-hazard risk assessments to inform better recovery and development planning	1.2	4.5	4.5	10.2		

Strategic Recovery Objective 2: Restore Livelihoods and Economic Opportunities

Sectors: Agriculture, Livelihoods, Finance and Markets, Commerce and Industry, Tourism

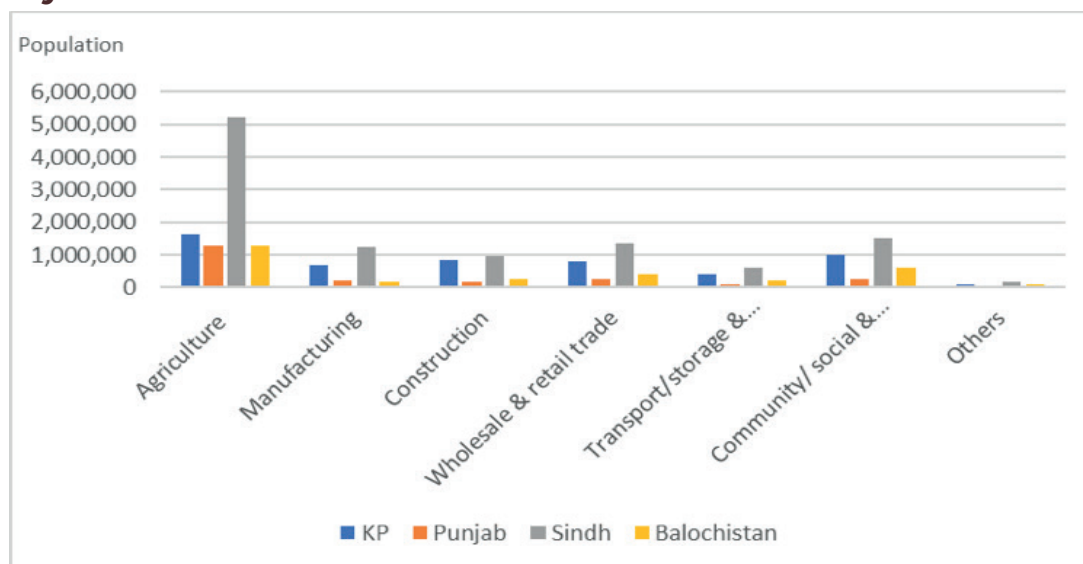
Rationale and Overview

The disruption to livelihoods caused by the 2022 floods has been extensive. Loss of incomes from on-farm, off-farm and non-farm activities is high, with jobs lost or disrupted in all provinces, particularly in Sindh. Impacts can be seen in all sectors of the economy, with greatest impact on the agriculture sector (see figure below).



Photo © UNICEF/Sami Malik

Figure 7. Employment Affected by the Floods, by Province and Sector



Source: ILO Labor Force Survey 2020-2021 and Pakistan PDNA 2022

Livelihood restoration and economic recovery is crucial for communities to move forward and to achieve sustained, long-term, and inclusive economic development. This requires employment creation and income generation interventions, as well as restoration of agriculture activities and non-agricultural manufacturing, personal and community care services, infrastructure, communication, and transportation. This will allow individuals and families to recover their livelihoods, build resilience, and participate more productively in society. Enhancing private sector participation, building the capacity of micro, small, and medium supply chain actors and enhancing access to credit and technology will also be critical for recovery and accelerated economic growth.

The SRO2 aims at restoring livelihoods and economic opportunities through a multi-sectoral approach. It is subdivided into two groups: the first will aim at livelihoods recovery through agriculture and employment restoration, while the second will focus on boosting economic opportunities through commerce, industry, tourism, and market and finance interventions.

Sector Context

The agriculture is Pakistan's largest sector,¹ accounting for 38 percent of the labor force (28.4 percent male and 67.9 percent female)² and is the main contributor to the coun-

¹ The agriculture sector comprises the crop, livestock, fishery/aquaculture, and forestry subsectors.

² Government of Pakistan. 2022. Pakistan Labour Force Survey 2020-21. Pakistan Bureau of Statistics, Islamabad.

try's foreign exchange earnings. The sector contributed 22.7 percent to GDP in 2021–22, of which 4.4 percent came from the crops subsector, 14.0 percent from the livestock subsector, and less than 0.4 percent individually from the fisheries and forestry subsectors.³

The crop subsector is varied in structure and includes landowning, small-scale, self-sufficient households; landless, daily wage, and temporary agricultural workers; and tenants who establish sharecropping agreements with medium to large-scale landowners. While the livestock subsector is the most significant economic sector in Pakistan's rural areas, fisheries employ around 390,000 people directly and indirectly and create at least 900,000 jobs through processing, direct transport, and retail.⁴

Despite the growth of the agriculture sector in the past year, climate change, including drought and floods, and low water storage capacity are major threats to the sector. Deforestation and land degradation have been causing substantial reduction in land productivity and increased rainwater runoff and associated risks. Strict public control, limited access to functioning marketing systems, and weaker extension and financial services are major challenges for smallholder farmers in Pakistan.

The floods particularly affected the country's rural economy. It led to the loss of over 4.4 million acres (1.8 million hectares) of standing crops⁵, leaving millions of already vulnerable farmers with very weak capacity to make investments on Rabi season crops. The floods caused the loss of around 1 million animals, causing a reduction of animal products and meat consumption as well as depriving owners of an important source of income. Aquaculture farmers also faced similar challenges. Moreover, on-farm irrigation and other agriculture-related infrastructure and assets were damaged. This has resulted in the temporary deterioration of livelihoods, reduced self-sufficiency and income, and a potential decline of exports of important crops such as cotton, rice, fruit, and sugar.

Pre-flood employment in the flood-affected districts was 21.8 million people, of whom 3.79 million were women. In addition, approximately 0.5 million children ages 10–14 years were engaged in economic activities. The biggest share of employment was in the agriculture sector, at 43.1 percent, followed by subsectors of the service sector - community and social services at 15.4 percent, wholesale and retail trade at 12.9 percent, and manufacturing at 10.5 percent.

³ Government of Pakistan. 2022. *Pakistan Economic Survey, 2021–22*. Economic Adviser's Wing, Finance Division.

⁴ *Revitalizing Pakistan's Fisheries*, World Bank, 2018

⁵ Rabi season represents winter season planting Nov. / Dec. Harvesting April / Mai, mainly wheat crop planted.

The PDNA report indicates that the employment of 4.3 million people is impacted by the floods. Loss or damage to productive assets and other sources of income have stripped them of alternate means of earning and subsistence. The floods have highlighted several key vulnerabilities of our society and economic system. As a large number of the affected populations work in the informal economy and lowest tiers of supply chains (agriculture producing communities, home-based workers, own account workers, unpaid family help), they face some of the highest degrees of vulnerability due to the uncertain nature of their work, revealing the precariousness of long and complex global value chains. These social inequalities have been rapidly exacerbated by the massive but uneven loss of employment across sectors.

Industry, commerce, tourism, and the financial sector were already reeling under the pressures of a slowing economy even before the onset of the floods. The economy was slowly emerging from the COVID-19 induced economic slowdown when, in early/mid 2021, external and fiscal imbalances along with surging inflation necessitated a significant tightening in both monetary and fiscal policy. These measures led to demand compression as shown by high frequency indicators of economic activity like cement dispatches which were down 8 percent in the fiscal year 2021–22, and down 48 percent in the month of July 2022 compared to the same month the previous year. In addition to a generalized slowdown and decline in demand, high inflation had also started eroding the profit margins of firms and the financial sector input costs rose. Inflation increased to 27.3 percent in August 2022, the highest in 50 years. High inflation and associated interest rate increases began compromising the ability of financial sector borrowers to service loans, exposing the financial sector to downside risks.

The floods and their direct and indirect impacts exacerbated the challenges already facing Pakistan's industry, commerce, tourism, and financial sectors through both direct losses and damages, and indirect losses due to surging inflation and the floods' impact on the agriculture sector, which rippled across all sectors. The extent of the damages and losses is exemplified by the losses sustained by the microfinance sector within the broader financial sector. Of the total outstanding microfinance loan portfolio, it is estimated that approximately 17.6 percent of borrowers and more than 40 percent of loans are in flood-impacted areas, according to the Pakistan Microfinance Network.

Strategic Investment Priorities and Key Policy and Operational Reforms, Programs, Institutional Needs

a) Priorities for Policy and Operational Reforms

Short-Term:

- Input assistance through direct cash contributions, with agreed amounts to targeted smallholder farmers, including crop, livestock, and aquaculture farmers based on acres cultivated or number of animals owned;
- Establish fast-track operational procedures for project approval and implementation, including procurement for time-bound interventions.
- Link flood response plan and other initiatives focused on the support of the rural population with existing poverty reduction strategies at the federal or provincial level to generate synergies and strengthen the nexus with development interventions;
- Regulatory forbearance for the microfinance sector.

Medium-Term:

- Continue implementing business regulatory reforms throughout the recovery period, such as accelerating, streamlining, and processing of regulatory licenses, permits, and certificates.

Long-Term:

- Developing long-term finance instruments to help meet the large infrastructure needs. Some priority reforms include implementing a robust debt management strategy and improving primary and secondary market operations; and developing a sovereign Sukuk issuance program for a wide range of maturities.

b) Priorities for Investments/Programs to Support Recovery, Rehabilitation and Reconstruction

Short-Term:

- Reactivation of crop production, livestock husbandry, and aquaculture farming activities through robust extensions services and scaled-up provision of inputs (seeds, fertilizers, feed, fodder, vaccinations, veterinary drugs, animal restocking, etc.);

- Use, as far as possible, of a cash-for-work approach (e.g., desilting and repair of on-farm irrigation channels, karez cleaning, land leveling or repair of fishponds) or creating employment opportunities through employment-intensive rehabilitation programs focused on the most vulnerable community members (i.e., migrant temporary agriculture wage laborers);
- Rehabilitation of damaged public and private infrastructure (e.g., animal sheds, poultry dairy farms, fishponds, on-farm irrigation) by using employment intensive approaches where appropriate (e.g., offices, hatcheries, research farms) and replacement of lost equipment, machinery, or assets. Emergency employment services that register people and jobs and match demand with supply, further providing skills training to jobseekers for gainful and productive employment;
- Provide sustainable financing solutions, including through risk sharing facilities operated by the private banks and financial institution services for reviving MSMEs and households in flood-impacted areas;
- Provide liquidity to MFIs to: (i) channel funds to affected microenterprises and individuals; (ii) disburse new loans to existing or new clients.
- Facilitating e-commerce and tech platforms for preserving and fostering indigenous skills, arts, and crafts, as well as diversifying opportunities for vulnerable and excluded groups, especially women, persons with disabilities, and farming communities;
- Support fintech/agri-tech companies that facilitate access to finance for farmers;
- Crowd-in the private sector to develop infrastructure, such as grain silos, agri-transportation logistics, and cold storage infrastructure.

Medium-Term:

- Establish and rehabilitate orchards and restock livestock animals through ecologically viable interventions;
- Provide support to vulnerable farming communities to start small-scale businesses;
- Build capacity in risk mitigation practices (e.g., climate smart, ecosystem-based agriculture and livestock management, land resource management). Improved seed and food storage facilities at the household level to reduce normal storage as well as flood losses.

Link capacity building with public service providers (agriculture extension workers, veterinarians, fish hatchery experts, etc.) to build an improved agriculture production system. Agriculture skills training should generate additional income sources for women and youth, reducing poverty and rural flight;

- Improved institutional capacity for reconstruction and climate adaptation, optimizing employment potential and sustainability of training by linking with business and service organizations;
- Build back better through the integration of environmental sustainability and the promotion of a better working environment, particularly focusing on disenfranchised women and youth;
- Provide support to the government's emergency preparedness and response infrastructure, systems, and services as well as to the private sector to enable communities at higher risk of vulnerability to disasters to meet their food, nutrition, and other basic needs.

Long-Term:

- Set up a "very early warning system" and livelihood protection mechanisms (e.g., move livestock and other assets to safe areas) to mitigate flood effects;
- Fiscal space for developing an unemployment benefit scheme as a shock responsive measure;
- Provide long-term adaptation, skills development, access to assets, links to agriculture, financial inclusion, and risk financing to strengthen the livelihoods of communities at higher risk of vulnerability.

c) Considerations for Institutional Effectiveness and Better "Ways of Working"

- Primary focus should be flood-affected households whose livelihood strategy is to first cover their domestic needs and use the surplus production for marketing;
- Enhance the role of Rural Support Programs Network for coordination of implementation in view of a localized interventions approach;
- Involve NGOs and community organizations in the affected areas to lead distribution of assistance packages with local government officials responsible for providing oversight and support. Capitalize on existing platforms like the BISP to target the poor;

- Involve research and extension services in order to ensure the transfer of innovative production practices to rural crop farming, livestock owning, and aquaculture farming households;
- Undertake a new economic and agriculture census;
- Promote training of on-farm processing activities, add value to agriculture products (cheese, ghee, dried fruits, smoked fish, etc.) through quality improvement and increased quantity. Facilitate access to markets while reducing or excluding middlemen in marketing.

Table 5. Summary of Damage, Loss, and Needs from the PDNA

SRO2 Subgroups	PDNA Findings (US\$ Million)		
	Damage	Loss	Needs
Agriculture	3,725.2	9,243.7	4,274.1
Livelihood		607.0	76.0
Commerce, Industry, Tourism, Finance	198.4	3,937.5	1.7
Total	3,923.6	13,788.2	4,351.8

Table 6. SRO 2 Priorities Matrix

Sector						
Intervention/Activity (Numbered by priority, 1 = highest priority)	Cost of Immediate and Short- Term (up to one year) US\$ Million	Cost of Medium- Term (up to three years) US\$ Million	Cost of Long- term (up to five to seven years) US\$ Million	Total Cost US\$ Million	Funding Commitment to Date US\$ Million	Source of Funding/Sup port
AGRICULTURE						
Policy/Operational						
1. Input assistance through direct cash contribution (single window cash transfer modalities as defined in SRO3)	X					Bilateral, NGOs, Government
2. Fast-track operational procedures for procurement and project approval	X					Bilateral, Government
3. Link flood response plans with existing poverty reduction strategies	X					Government
Investments/Programs	3,386.8	697.7	189.6	4,274.1	1,886.5	
1. Restoration of jobs and livelihoods through direct cash distribution, inputs, cash-for-work interventions	2,740.0	393.8	139.5	3,273.3	1,707.9	Bilateral, NGOs, Government
2. Recovery and reconstruction of critical assets, services, and infrastructure	636.9	257.9	42.6	937.4	149.4	Bilateral, NGOs, Government
3. Strengthening governance and stakeholder capacity for reconstruction, especially communities	9.9	46.0	7.5	63.4	29.2	Bilateral, NGOs, Government
Institutional Effectiveness						
1. Enhance the role of Rural Support Programs Network, NGOs, and communities for coordination of implementation in view of a localized interventions approach	X					Rural Support Program, NGOs, Communities

2. Involve research and extension services in order to ensure transfer of innovative production practices to the rural crop farming, livestock-owning, and aquaculture farming households	X					Academia, Think Tanks, Government, Extension Services
LIVELIHOODS						
Policy/Operational						
1. Policies that accelerate gainful and productive jobs and employment		X	X			Government
2. Specific reforms that boost demand aimed at creating alternate jobs and employment	X					Bilateral, Government, NGOs
Investments/Programs	6.7	57.8	11.5	76.0	0.9	
1. Restoration of jobs and livelihoods through e-commerce, emergency employment services, etc.	6.7	33.3	11.5	51.5	0.9	Bilateral, Government, NGOs
2. Recovery and reconstruction of critical assets, services, and infrastructure	0	17.5	0	17.5	0	Bilateral, Government, NGOs
3. Strengthening governance and stakeholder capacity for reconstruction, especially communities	0	7.0	0	7.0	0	Bilateral, Government, NGOs
Institutional Effectiveness						
1. Targeting deserving households through Poverty Wealth Ranking and Poverty Scorecard, if feasible	X					Government, NGOs
FINANCE & MARKETS; COMMERCE & INDUSTRY; TOURISM						
Policy/Operational						
1. Address legal, policy, and institutional hurdles that currently limit the development of the market for credit information	X					Government
2. Detailed environmental and social assessment of tourist infrastructure and incorporating Environmental Impact Assessment mitigation measures before any reconstruction	X					Government, Financial Institutions
3. Developing long-term finance instruments			X			Government, Financial Institutions

Investments/Programs	1.7			1.7	0	
1. Sustainable financing solutions for reviving MSMEs (e.g., matching grants, interest friendly loans)	0.2			0.2	0.	Financial Institutions
1. Local NGOs to provide interest free loans or community investment funds in locations where MFIs are non-existent	X					NGOs
2. Developing a comprehensive database of travel and tourism industry patterns, contribution to GDP and indicators	0.3			0.3	0	Financial Institutions
3. Strengthening the capacity of rescue authorities to improve disaster responsiveness	1.2			1.2	0	Government
4. Credit Guarantee Facility for Microfinance Sector Creditors		X				Financial Institutions
Institutional Effectiveness						
2. Undertake a new economic census			X			Government

For agriculture, committed funding represents 44.5 percent of the overall 4RF needs in SRO2, of which 22.5 percent is provided by federal or provincial government funds and the remaining 77.5 percent by outside sources as follows:¹

- Reallocated funds from ongoing development projects;
- Grants provided by IFIs;
- Donations from donor countries for emergency or recovery assistance; and
- Funds raised by national and international NGOs, UN agencies, and internal and external private donors.

Funding for livelihood recovery represents 1.2 percent of the 4RF needs, with funding outsourced by national and international NGOs and UN agencies (Save the Children, Islamic Relief, International Labor Organization, UN Development Program).

Funding has not yet been identified for the tourism sector. Cost needs for commerce, industry, market, and finance are reflected in other sectors (e.g., agriculture for micro-finance loans through NGOs). Most of the policy and institutional proposals do not require funding and are therefore represented by an "X". Some related to capacity building are already reflected in other sectors.

¹ The data source of the needs and funding availability were gathered through consultation and inputs received from federal level (MNFS&R), provincial departments (agriculture, livestock and fisheries) and the UN agencies (FAO, WFP and UNDP) as well as other humanitarian partners (national and international NGOs) through the FSAW (Food Security Agriculture Working-group) regular meetings. The data were collected up to the 1st of December and would need to be updated over time as new funding becomes available. The final budget for the different interventions needed in short, medium and long term to achieve the 4RF in the agriculture sector (USD 4,274.1 Million) is slightly above the PDNA estimates (USD 3,976.3 Million). This is due to a more detailed analysis regarding interventions needed and identified, and the propositions presented by the provinces and at federal level, in addition to some new additional identified needs especially for the Special Regions. Required operational costs to implement various intervention were also not taken into consideration.

Strategic Recovery Objective 3: Ensure Social Inclusion and Participation

Sectors: Social Sustainability, Inclusion and Gender, Social Protection, and Cultural Heritage

Rationale and Overview

The 4RF envisions pro-poor, pro-vulnerable and gender-sensitive recovery and reconstruction. These principles ensure beneficiaries' rights to dignity, security, and opportunity to lead a good life. It is important to point out the linkages with the other SROs in that Social Protection, Social Sustainability, Inclusion and Gender are themselves cross-cutting issues. There are also strong links among the subsectors of SRO3 as some of the most urgent short-term activities can build on each other. In this context, Cultural Heritage is not only important for Social Sustainability but also provides intangible knowledge that has become key in managing natural resources.

The most vulnerable segments of the population affected by the floods were identified by the PDNA. Women, the elderly, people with disabilities, landless farmers, female on- and off-farm agricultural and livestock/dairy workers, home-based workers connected to agriculture and other sectors (mainly manufacturing), children and infants, IDPs, refugees, transgender persons, people living with HIV/AIDS, youth/adolescents and religious minorities are reflected. Intersectionality has also been considered in addressing the needs of these population groups.



Sector Context

Over the years, Pakistan has taken several progressive steps to promote basic human rights, protect vulnerable social groups against discrimination and violence, and address drivers of social exclusion and discrimination. It has ratified most international human rights conventions, enacted multiple pro-women and pro-transgender legislations, introduced quotas for women, minorities, and lagging regions in jobs and parliament, and implemented special interventions for the empowerment of vulnerable groups including women, transgender people, young people, lagging regions and social groups. These measures have resulted in marginal improvements in the state of social development and inclusion over the years.

However, the pace of progress on social development in Pakistan has remained slow compared to other developing countries. The implementation of most legal and administrative instruments meant for protection of the basic rights of vulnerable groups remains weak, mainly due to persistence of de-facto sources of social and political inequality. The result is that Pakistan consistently ranks low on most global indices measuring the state of social development and equality¹. For example: despite the existence of pro-women laws and programmatic interventions, gender-based disparities persist in health, education, income and employment opportunities, social protection, personal security, control over assets and participation in politics or decision-making processes.² Additionally, women shoulder the burden of unpaid care and domestic work (more than 10 times that of men), further reflecting harmful and restrictive social norms.³ Violence against women and girls and those with disabilities is rampant, and usually spikes around disasters. A Protection Analysis Update in October 2022⁴ reported high rates of vulnerability among girls and women nationwide as a result of the floods, with 62% of respondents reporting that one of the most concerning issues is

1 As indicated in the Gender Inequality Index (WHO), Gender Development Index (UNDP), and the Gender Gap Index (WEF).

2 Women's enrollment in formal education is only 24%, consequently female literacy rates are 49% vs. 70% for men (PSLM 2018 - 2019). Female labor force participation in Pakistan is one of the lowest in the world (21% nationally, and as low as 12% in Balochistan), and 69% of women are in vulnerable employment, earning 16% of what their male counterparts earn. Home-based work accounts for 83% of women's employment in manufacturing, predominantly concentrated in textiles, apparel, leather and footwear. Women comprise 68% of the agriculture labor force and occupy significant roles in livestock production activities, however, are excluded from ownership and control of land, which is the single most important source of security, income, and status in the agricultural economy. (Pakistan Labor Force Surveys, 2017 - 2018, 2020 - 2021; WEF, Gender Gap Report 2022)

Women account for 77% of the population without CNICs (Election Commission of Pakistan. (2021). Pilot Project Report), and only 7.8% of women receive benefits from BISP (PDHS, 2017 - 2018, Table 3.10). The prevalence of GBV in Pakistan is most pronounced among ever married women (especially those married before the age of 18), divorced, separated, or widowed women, young women aged 15 - 19, women living in rural areas, and marginalized populations such as people with disabilities and transgender people. (PDHS 2017 - 2018, Table 16.10) NCSW, UN Women, CGaPs, Norwegian Embassy (2020) Young Women in Pakistan Status Report 2020. Women in Pakistan have the smallest share of senior, managerial, and legislative roles (4.5%) in the world (World Economic Forum, Global Gender Gap Report 2022).

3 The Power of Parity: How Advancing Women's Equality Can Add \$12 Trillion to Global Growth, McKinsey, 2015.

4 UNHCR (2022) Pakistan Protection Analysis Update, Global Protection Cluster. Available at: https://www.globalprotectioncluster.org/sites/default/files/2022-11/pakistan_protection-analysis_oct_2022_final_0.pdf

the lack of safe places in the community, and 80% of respondents reporting that they did not know what GBV services existed in their area.⁵ Similarly, available data points to significant vulnerabilities among the transgender community, including lack of decent and gainful livelihood options, discrimination in access to protection and other services, higher prevalence of HIV/AIDS with low access to preventive and curative medicine, and social persecution and organized violence, particularly in urban settings. The priorities set out below attempt to tackle the root causes of these inequalities and improve the situation of all vulnerable groups.

In the wake of the disastrous floods, the need for social protection measures and emergency support services for vulnerable groups has magnified. Significant social protection assistance has already been extended to the affected communities to cover their most urgent needs. However, the vulnerable sections of the population have encountered specific difficulties in accessing emergency relief assistance and the connected services (including protection from trafficking, violence and exploitation and also limited access to health and education). These difficulties stem from loss of documentation, harmful/inequitable social norms, negative coping strategies, inadequate infrastructure, and weak assistance capacity to deal with specific needs concerning mobility, agency, and information that these vulnerable groups experience.

The 2022 floods also have had a damaging impact on cultural heritage. Available data suggests that at least 149 cultural and historic sites across the country have been severely damaged. The impacted sites include active places of worship as well as tourist sites, which means significant socioeconomic impact from the loss of access to these sites for communities that will play a key role in disaster management strategies and building resilience. Knowledge of intangible cultural heritage, which forms the foundation of all social systems and includes indigenous knowledge and practices such as water management and sustainable construction techniques, is at risk due to the disruption and displacement faced by flood affected communities. Many cultural professionals are part of the informal economy or practice their craft as a 'second job', and many female cultural professionals worked out of their own homes. With the loss of their homes and their equipment, they have lost their means of earning a living. Damaged heritage

⁵ Other risks identified included increased risks of attack when travelling, violence in the home, trafficking, sexual violence and abuse, lack of information pertaining to GBV, and increase in child marriages. Reportedly limited consultations with women and girls on their safety and wellbeing needs at the onset of the flood response were not seen as potentially contributing to rising GBV risks, with the report making recommendations for the humanitarian response to meet the specific needs of women and girls and provide them with adequate/safe access to services. This vulnerability extends to other marginalized groups, such as people living with disabilities, youth, IDP and refugees, and transgender individuals.

sites, loss of income, displacement and possible migration to urban centers or abroad will continue to result in heavy, often irreparable losses to the tangible and intangible cultural heritage of Pakistan, and have a negative impact on sustainability and inclusion goals. Investments in Social Sustainability, Inclusion and Gender play a key role in mitigating and managing existing social tensions and promoting social cohesion.

Strategic Investment Priorities and Key Policy and Operational Reforms, Programs, Institutional Needs

a) Priorities for Policy and Operational Reforms

Short-Term

- Provide emergency protection services and investment in behavioral change interventions;
- Strengthen the government's capacity to respond to protection needs by establishing and expanding coverage of critical protection services. Strengthen GBV and child protection referrals from disaster relief organizations and provincial/district-level protection services.
- Roll-out emergency psycho-social support as an essential service, particularly for vulnerable groups;
- Support community-based early recovery and disaster preparedness efforts. Improve early recovery efforts by adopting community driven development approaches focused on livelihood restoration which can use the workfare social protection benefits, livelihood restoration grants, in particular to women;
- Restore damaged sites. Conduct a detailed needs assessment by engaging community members in data gathering, for funds mobilization.
- Provide urgent stabilization measures for the most fragile sites, following globally accepted best practices;
- Provide equipment, material and trained professionals to facilitate conservation work.

Medium-Term

- Establish missing facilities described above in all affected districts, allowing for more robust protection that includes all of the population groups more vulnerable to violence, trafficking and exploitation;
- Develop and strengthen community disaster management systems drawing on community service delivery platforms.

Long-Term

- Incorporate indigenous water management systems, building techniques, and related knowledge into mainstream practices for improved climate resilience;
- Improve flood protection mechanisms for heritage sites in vulnerable areas;
- Stricter enforcement of construction, conservation, and protection regulations for heritage sites and surrounding areas;
- Collect data on culture and creative industries and creating/updating national inventories for tangible and intangible cultural heritage;
- Strengthen provincial and national cultural policies and establish mechanisms for effective implementation.

b) Priorities for Investments/Programs to Support Recovery, Rehabilitation and Reconstruction

Short-Term

- Support disaggregated data collection, and coordination with community efforts;
- Strengthen sex, age, and disability, ongoing needs assessments (both quantitative and qualitative), communications, M&E in affected districts, and improve representation of excluded groups to identify and address their vulnerabilities;
- Problems already identified as data gaps should spur support to those who have lost identity cards, have mobility problems (use current mobile units already running to address this issue), and raise awareness at community level of outreach actions;
- Invest in behavioral change, and community sensitization interventions to address GBV stigma and discrimination against vulnerable groups.
- Continue unconditional, multi-purpose, needs-based emergency cash transfers for a duration of 12 months for those eligible in the first round and then through dynamic and updated PMT eligibility that considers asset loss and debt;
- Continue conditional cash transfers for education, irrespective of the availability of schools, to keep families engaged in the program;
- Federal and provincial governments should coordinate to ensure that the pregnant woman and child-linked conditional cash transfer program (BISP's Nashonuma) is extended to all of the flood-affected districts;

- Lost identification documents should be addressed as well as birth registrations to ensure that the most vulnerable have access to these benefits and connected services;
- A workfare program would help affected communities identify and utilize local human resources. Efforts to engage women in this paid work should be made with cultural sensitivity;
- Provide ready-to-eat food or freshly cooked meals to schoolchildren in the most vulnerable and marginalized areas;
- Build capacity of heritage management staff for urgent stabilization measures and emergency preparedness.

Medium to Long-Term

- Create a single window service as a viable model to bring all social protection programs under one delivery mechanism and use social protection as leverage for social inclusion;
- Enhance access to innovative employment services (e.g., career counselling, coaching, internships, and training) in cooperation with local institutions (e.g., local labor offices and training centers);
- Enhance alignment, synergy and coordination between federal and provincial social protections to strengthen complementarity and avoid duplications;
- Set up a strong GRM with a portal for emergency management and mitigation within BISP;
- Provide specific top-ups on social assistance to cover additional costs, including those related to disabilities;
- Provide capacity strengthening to federal and provincial governments to improve safety net design and delivery, including through hybrid modalities, inclusive targeting, enhanced food security and nutrition monitoring and data analysis;
- Provide technical support to the government for the development and implementation of a national school meals program and policy frameworks that ensure children receive nutritionally adequate daily meals in targeted communities;
- Bolster community engagement in reconstruction and rebuilding efforts through skill building and training. Community-led development should be a priority;
- Establish early warning systems, protective mechanisms, and evacuation plans for vulnerable sites and movable heritage;

- Streamline administrative structures to improve management and protection of heritage sites;
- Revise or introduce community level disaster preparedness with social inclusion and gender equality sensitivity;
- Integrate this capacity building into the regular training of all aid organizations, including government aid workers and organizations serving the country's disabled population;
- Make gender and disability responsive budgeting a requirement for all priority plans and budgets;
- Invest in behavioral change, and community sensitization interventions to address GBV stigma and discrimination against vulnerable groups.

c) Considerations for Institutional Effectiveness and Better "Ways of Working"

- In Social Sustainability, support early recovery, needs identification and a community disaster management system through community-driven development. The latter will address gaps in the early warning system tailored to the needs of women, people with disabilities, the elderly and any other group that has been identified as vulnerable;
- For Culture and Heritage, a key long-term priority will be to strengthen provincial and national cultural policies as well as establishing mechanisms for effective implementation of these policies. Both current and ongoing or planned reforms in planning and budgeting tools will be key in achieving this priority.

Table 7. Summary of Damage, Loss, and Needs from the PDNA

(US\$ Million)

PDNA Sector	Damage	Loss	Needs
Social Protection			1,626.5
Social Sustainability, Inclusion, and Gender	0.02		100.3
Culture and Heritage	6.0	7.0	9.1
Total	6.02	7.0	1,735.9



Sector Name	Intervention/Activity (Numbered by priority, 1 = highest priority)	Immediate and Short-Term (up to one year) (US\$ Million)	Medium -Term (up to three years) (US\$ Million)	Long-Term (up to five to seven years) (US\$ Million)	Total Cost (US\$ Million)	Funding Commitment to date (US\$ Million)	Source of Funding
SRO3: Ensure social inclusion and participation US\$1,736 million							
Social Sustainability, Inclusion and Gender	Policy/Operational 1. Support additional provision of critical protection services through inclusive crisis centers, including psychosocial support 2. Support government of Pakistan coordination efforts to deliver assistance to vulnerable and marginalized groups, and conduct trainings of social welfare staff 2. Channel additional sub-grants funding to community development councils/committees/village councils to support recovery at the community level		41.3 15.7 0.5 25.1	35.0 15.0	76.3 30.7 0.5 45.1		Bilateral, NGOs, National and Provincial Government Budgets
	Investments/Programs 2. Support disaggregated data collection, ongoing needs assessments, communications, outreach and M&E 2. Conduct behavioral change community sensitization interventions on main protection concerns (including GBV) and share information in accessible formats on available services at community level (through NGOs/CBOs)	0.5 0.5	11.5 1.5 10.0	9.6 3.0 6.6	21.6 5.0 16.6		
	Institutional Effectiveness 2. Develop community disaster management systems linked to existing community service delivery platforms, addressing gaps in the early warning system tailored to the needs of women, people with disabilities, the elderly and other groups		1.0 1.0	1.4 1.4	2.4		
	Policy/Operational 1. Support the development, design and implementation of a school meals program, targeting the most vulnerable population and geographical areas			7.0	7.0		
Social Protection	Investments/Programs 1. Multipurpose Cash Grants 2. Nashonuma Program Expansion 2. Workfare Program 3. Taleemi Wazaif Expansion 3. Adaptive Social Protection System, including Savines and Risk Management	1,599.2 920.5 20.0 531.2 127.5	20.3 16.2 4.1		1,619.5 920.5 36.2 531.2 127.5 4.1		National Budget, IFIs

Strategic Recovery Objective 4: Restore and Improve Basic Services and Physical Infrastructure in a Resilient and Sustainable Manner

Sectors: Transport and Communication; Water Resources, Irrigation, and Flood Protection; Housing; Energy; Education; Health and Nutrition; and WASH, Municipal Services, and Community Infrastructure

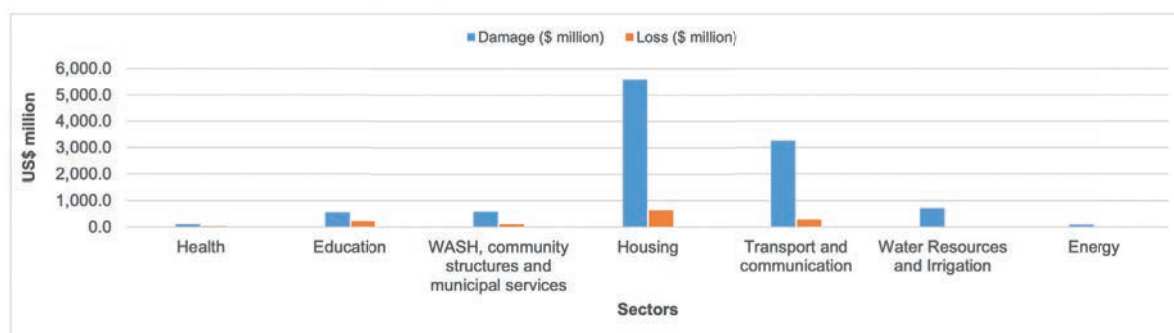
Rationale and Overview

The expansive and high intensity flood affected the lives and livelihood of millions of people across the country, damaged key infrastructure, destroyed homes, interrupted basic services, and slowed economic development. In monetary terms, US\$10.9 billion (62 percent of total damage of US\$14.9 billion) in damages and US\$1.3 billion (8 percent of total loss of US\$15.2 billion) was related-infrastructure and the services sectors, the very backbone of the nation (see figure below). Prolonged interruption in irrigation services and blockage of the drainage network may further extend agriculture losses which were already the floods' highest losses at US\$7.6 billion (50 percent of the total loss). Disruption of roads and rail networks and their associated supply chains were a major component of loss incurred by commerce and industry at US\$3.5 billion (23 percent of the total loss). Damaged infrastructure will continue to inflate the loss due to its direct linkages with social services and productive sectors, if it is not restored in a timely manner.¹ Full restoration of damaged infrastructure is critical in the short to medium term to restore lives, livelihoods and economic activity, which should be a government priority in the recovery phase.



¹ A time base of six month was assumed to restore the essential services and loss estimation.

Figure 8. Damage and Loss to Infrastructure and the Services Sectors



Damage and loss to infrastructure and the services sectors

SRO4 focuses on the restoration of basic social services for the affected communities and resilient infrastructure rehabilitation and reconstruction, supported by strengthening human capital, institutions, and policies to better respond to future disasters. Ensuring the mandated institutions can lead the resilient recovery process will be critical. Effective infrastructure restoration is critical to: (i) provide shelter to the people who have lost their homes in the flood, and help reestablish their lives; (ii) ensure provision of agriculture livelihoods and food security for rural poor by restoring irrigation services; (iii) provide access and energy for markets, trade and industries to restore lost non-farm livelihoods, and (iv) reinstate health, water education facilities for wellbeing, growth and health of the affected population. The women and children who are disproportionately impacted by the floods will benefit the most from restored houses and access to resilient water, health and education facilities. The restoration program will use a people-centered approach, build on ongoing initiatives, introduce innovations to increase effectiveness and ensure quick gain.

Sector Context

SRO4 broadly encompasses seven key sectors that have suffered the highest infrastructure damages. These seven sectors are mutually interdependent, and directly and indirectly contribute to achieving all of the 4RF's SROs (see Table 1). The infrastructure and services sectors are key contributors to the country's socio-economic development. The infrastructure sector, including transport, energy, housing, and water resources, is integral to growth in production, trade, industries and commerce. Similarly, social sectors including education, WASH, community infrastructure and health, are essential basic services necessary to sustain and maintain the quality of life and wellbeing of populations. These social sectors are in turn dependent on adequate access to services, energy, and housing.

Transport and Communication: Pakistan's transport sector contributes more than 13% of GDP¹ and 5.4% of total jobs. Approximately 94% of the country's freight is moved by road. About 263,000 kilometers of road infrastructure, including 14,500 kilometers of national highways and motorways, serve as the means of communication in the country. The road network is also essential for connectivity for all other sectors including health, education, housing, agriculture and trade, and related jobs creation. The 2022 flood damaged approximately 8,330 kilometers of roads (about 3.2 percent of in-service roads) and 3,127 kilometers of railway track (around 40 percent of in-service railway). The damage to the telecommunications infrastructure includes damage to fiber optic transmission lines, feeder cables, and in some cases, transmission towers. Disruption of road networks in the calamity-hit districts has disrupted health and education services, curtailed access to farms and markets and related trade opportunities due to increased transport costs. The damage to the sector was estimated at US\$3.3 billion and recovery cost at US\$5 billion. Both temporary and permanent rehabilitation of the transport network will improve access to social services, housing, trade and agriculture, in the short term, and provide non-farm employment and a boost to construction-related businesses in the short to medium term until other on-and off-farm opportunities are fully restored.

Water Resources, Irrigation and Flood Protection: Many sectors are dependent on water resources and natural drainage for the services they provide, including irrigated agriculture and the food sector, urban and rural WASH, hydro-energy, industry and environment. This sector is crucial for the production of about 80% of the country's food. The Indus Basin Irrigation System,² is the mainstay of the country's water supply and provides food security for over 225 million people. Flood-related damage to the canals, drains, dams and dikes disrupted irrigation supplies, reducing the performance and production capacity of the agriculture sector. Ineffective drainage has resulted in the accumulation of flood water, which leads to health hazards, deteriorating water quality and land degradation. Damage to the dikes exposed significant social and economic risk to the infrastructure they protected. Damage to the water resource and irrigation sector alone was estimated at US\$711 million, exposing the system's vulnerability to disaster and climate risks.³ The sector recovery cost is estimated at US\$782 million. The is-

¹ The Transport, Logistics, and Communication sector includes Road transport, Pakistan Railways, Pakistan International Airlines, Port & Shipping, Communications, Electronic Media in Pakistan, Pakistan Post Office. The estimate of 13% is an estimate based on data in the Pakistan Statistical Yearbook. System

² Indus Basin Irrigation System comprises three reservoirs, seventeen barrages, twelve inter-river link canals, and forty-five canal irrigation systems with 58,500 km of canals and over 107,000 water courses and irrigates more than fourteen million hectares and 6,000 km of levees.

³ Ministry of Planning, Development and Special Initiatives. 2022. Post-Disaster need Assessment (PDNA 2022), Islamabad.

sues flagged during previous disaster, including improper land use control, inadequate planning and infrastructure, and gaps in institutional capacity and governance persist. The National Water Policy (2018) and Flood Risk Reduction Policy (2013) set the strategic direction for flood management and regulation, but their realization on-ground is still marginal.

Housing: The population increase from 134.8 million in 1998 to over 231 million in 2022 has increased the demand for housing. Prior to the 2022 floods, there were approximately 10.3 million housing units in the 94 flood-affected districts. The floods damaged more than 2 million houses across the country, including 780,000 units which were completely destroyed and 1.2 million others partially damaged. The housing loss left poverty-stricken rural populations without shelter. Access to electricity, roads, WASH and social services are an integral part of housing, as is the need for safe disposal of debris and access to and availability of construction materials. The PDNA estimated US\$5.6 billion in damages to the housing sector and recovery needs⁴ US\$2.8 billion based on a one-bedroom resilient core unit of 250 square meters as a replacement cost.

Energy: Energy is a basic need and a key input across all sectors, making it a vital resource for the country's economic development. In recent decades, energy demand⁵ has increased manifold due to an increase in domestic, industrial and commercial needs. The energy demand is projected to grow by 4 – 6 percent annually through 2043, but energy supply has not kept pace with demand. About 50 percent of energy generation comes from publicly owned thermal, hydro and solar plants, and the remaining from privately owned plants, mainly thermal. The petroleum sector in Pakistan is run by mix of public and private sector entities. With depleting gas resources, Pakistan is now importing liquefied natural gas. Physical damage to the energy sector from the floods includes an 11-kilovolt high tension line, 400-volt low tension lines, transformers, poles and conductors, a petroleum distribution pipeline and buildings. The 2022 flooding caused US\$88 million of damage to the sector and recovery and reconstruction need is estimated at US\$117 million.

Education: In 2019, it was estimated that three out of four children attending school in Pakistan were unable to read by age ten.⁶ This reflects Pakistan's learning poverty rate

4 Government of Pakistan. 2022. *Economic survey 2022*. https://www.finance.gov.pk/survey_2022.html accessed 03 December 2022.

5 Energy sector assessment. 2020. <https://www.adb.org/sites/default/files/linked-documents/53165-002-ssa.pdf>

6 World Bank. 2019. *Pakistan Learning Poverty Brief*. <https://thedocs.worldbank.org/en/doc/214101571223451727-0090022019/original/SASSACPKPAKLPBRIEF.pdf> accessed 03 December 2022.

which was estimated at 75 percent before the COVID-19 pandemic, 16.3 percentage points higher than the South Asia regional average. The flood affected essential education services across all 94 calamity-hit districts, impacting 17,205 public education institutions, 94,478 educators and 2.6 million enrolled students, including one million girls. Flood-related education disruptions have further deepened learning losses, following prolonged disruptions during the COVID-19 pandemic. These disruptions will increase learning disparities and severely affect students of lower socioeconomic status. A slow recovery, or absence of one, may transform this into permanent losses, with a high risk of children dropping out of school and being exposed to child labor, early marriage and various other forms of violence, exploitation, and abuse. The damage to the education sector is estimated at US\$559 million and recovery cost at US\$918 million.

Health: Pakistan has made some positive strides in improving the health of its people, but not all citizens have been able to benefit from this progress due to weak health systems, inadequate funding for health and nutrition and marked variation in the level of development of provinces. Only half of the population in Pakistan has access to essential health services/universal health coverage (UHC). The UHC Index service coverage was 49.9 in 2020. Pakistan is faced with high maternal mortality, and vector borne and diarrheal diseases are common. The prevalence of acute malnutrition among children in Pakistan was already significant before the floods, with a stunting rate of over 40% and limited access to nutrition services. The flood damaged close to 13 percent of the country's health facilities, interrupting health services from community to secondary levels. This has disproportionately impacted the health of vulnerable groups, such as the poor, pregnant women, and malnourished children, and increased morbidity and mortality. Areas with disruption of transport, poor drainage and stagnant water are particularly vulnerable, with a high risk of outbreaks of dengue fever, measles, malaria, polio, and cholera. Improved WASH is integral to achieving better health outcomes. Similarly, improvement in health services is directly impacted by access and adequacy of electricity in health facilities. The flood damage and recovery needs for the sector are estimated to be US\$109 million and US\$188 million, respectively.

WASH, Municipal Services and Community Infrastructure: Effective WASH services are critical for the health and well-being of citizens and for sustainable housing. WASH services in turn depend on sustainable sources of water, drainage, housing pattern and energy for pumping water. WASH services in Pakistan have multiple challenges, including quality, access, and sustainability. Municipal water supply is mostly intermittent and not potable. Before the flood only 36 percent of households had access to safely man-

aged water supply services and only 68 percent of the population had basic sanitation facilities, with huge regional disparities. The inadequacy of WASH services is a consequence of weak planning, inadequate technical and financial capacities of the institutions responsible for WASH and insufficient investment. The 2022 flood damaged more than 7,060 schemes, including 4,344 water supply and 2,716 sanitation schemes in the public sector, requiring major repair and reconstruction. Community infrastructure, including access roads, footbridges, rural water supply and sanitation, irrigation channels and localized drainage systems, and communal facilities are poorly managed by government, with no asset inventory. These works are often carried out and managed by communities and financed through vertical programs or NGOs, thereby generating direct employment and development of local capacities. Based on secondary data, the damage to community infrastructure is estimated at US\$56.3 million. The total damage and recovery cost for WASH, municipal services and community infrastructure were estimated at US\$575 million and US\$327 million, respectively.

Strategic Investment Priorities and Key Policy/ Operational Reforms, Programs, Institutional Needs

a) Priorities for Policy and Operational Reforms

Short-Term

Transport and Communication

- Undertake detailed, digitized hydrological studies, incorporating the Global Climate Models analysis, using latest Coupled Model Inter-comparison Project;
- Develop flood and climate resilient design standards;
- Use geospatial multi-criteria analysis or analytical hierarchy process to prioritize infrastructure recovery based on accepted weightings across sectors and at national and provincial levels.

Water Resources and Irrigation

- Develop multi-sector, integrated regional development plans for the most-affected districts for a coordinated recovery across sectors, with guidelines for steering and monitoring the work;
- Assess and revise existing policies, allowing community-based reconstruction using co-design and a cash for work approach for small infrastructure where possible;

- Develop guidelines for prioritization of investments for canals, drains, dams and flood defense levees following climate and disaster risk-based criteria;
- Include climate and disaster vulnerability and risk modelling data into design standards, informing design of all water resources infrastructure to be reconstructed.

Housing

- Develop an overall policy and strategic plan for housing reconstruction, including standards and guidelines for climate and disaster resilient housing;
- Establish or strengthen mechanisms for compliance, quality assurance and accountability, including a GRM for housing reconstruction.

Energy

- Promote end-use energy efficiency, including an awareness campaign to promote use of energy efficient devices and to minimize waste.

Social Services (Health, Education, WASH, Municipal Services and Community Infrastructure)

- Update and operationalize the Safe School Framework for resilience in education, making learning facilities safe and resilient against future disasters and climate risks;
- Review and revise existing contingency plans for restoration and continuity of essential health services, including functional integrated disease surveillance and response system;
- Strengthen the health sector for integrated response to related social determinants of health, including WASH, GBV, education, etc.

Medium-Term

Transport and Communication

- Develop and formally adopt an asset management system;
- Upgrade design and engineering standards.

Water Resources and Irrigation

- Standardize procedures for implementing regional plans for recovery from disaster in terms of oversight, monitoring, evaluation, safeguards and financial management.

Housing

- Establish a land use planning system for managing rural and urban development.
- Develop systems to strengthen land administration and tenure security.

Energy

- Make policies and develop programs with incentives for a system for solarization of new and refurbished homes, especially in areas which are away from the electrical grid.

Social Services (Health, Education, WASH, Municipal Services and Community Infrastructure)

- Operationalize the School Safety Framework and include DRM education into the curriculum, teaching and learning materials, education sector plans, and teacher and education officials' training routines;
- Undertake policy and reform initiatives using UHC as an opportunity to design and implement integrated and comprehensive programs;
- Develop and strengthen evidence-based strategies for health and nutrition emergencies, with due attention to preparedness, health security and resilience;
- Develop sustained coordination mechanism to align government and development partner investments, and integrated services ensuring health security;
- Establish design standards and building codes for planning and implementing climate resilient infrastructure to safely manage WASH and municipal services;
- Establish an appropriate regulatory framework for equitable tariff structures, incentivizing efficiency and sustainability of operations.

Long-Term

Transport and Communication

- Carry out flood susceptibility analysis every five years for the entire infrastructure network using remote sensing/GIS, modelling and ground-truthing with drones. Produce thematic hazard risk zone maps.
- Maintain the networks and allocate funding based on data-driven asset management systems;

Water Resources and Irrigation

- Develop policies enhancing sustainable productivity, which managing disaster risk and regulate water use.

Housing

- Develop a system to regulate institutions dealing with housing and settlement to ensure they have the capacity to plan, construct and manage climate resilient housing, incorporating innovative technology for low-cost housing.

Social Services (Health, Education, WASH, Municipal Services and Community Infrastructure)

- Enact policy and regulatory frameworks to enhance the role of the private sector in WASH and municipal services, including incentives for innovation and renewable energy use;
- Strengthen surveillance and response systems to detect disease outbreaks, employ case-based surveillance and response;
- Integrate surveillance and health information systems; link data to inform plans and responses to threats and service delivery challenges, etc;
- Allocate public financing for social services, including nutrition and health. Predictable funding will ensure resilient system building and governance.

b) Priorities for Investments/Programs to Support Recovery, Rehabilitation and Reconstruction

Short-Term

Transport and Communication

- Use a geospatial, multi-criteria analysis or analytical hierarchy process to prioritize infrastructure, recovery based on accepted weightings for health, education, population density, industry, farms, flood risk rating, and infrastructure at the national and provincial levels;
- Engage in emergency works for restoration of services and basic connectivity and permanent repair of minor damages.

Water Resources and Irrigation

- Evaluate existing structures for possible repair, rehabilitation and improvement;
- Repair all breaches in canals, drains, dams and dikes, *karezes* and other water supply channels and ponds to restore function;

- Strengthen weak sections before the onset of the 2023 monsoon season.

Housing

- Support reconstruction and rehabilitation of housing, prioritizing the most vulnerable, and supporting both homeowners and tenants to rebuild;
- Promote and ensure multi-hazard, climate-adapted reconstruction, including eco- friendly indigenous materials and technologies that communities are familiar with, supporting the community-based settlement rehabilitation and resilience approach;
- Promote access to microfinance and facilitate skills and material supply chain development;
- Support vulnerable and other segments for settlement and documentation of land claims and security of tenure;
- Identify locations of communities exposed to recurrent hazard risks for relocation;
- Crowd in private capital into the housing sector through Development Finance Institution (DFI)-supported market-based risk sharing facilities with local banks and financial institutions to on-lend for affordable housing in flood impacted areas. Promoting private investments in new housing finance companies and supporting the developer finance market will also be critical determinants to enhance supply of housing in the market.

Energy

- Develop design standards across geographies for energy-efficient, resilient housing and for use of energy-efficient local materials for construction.

Social Services (Health, Education, WASH, Municipal Services and Community Infrastructure)

- Safely resume learning by prioritizing foundational learning recovery and continuity of learning action plans to reach every child;
- Assess student learning levels, prioritize teaching the fundamentals, and increase the efficiency of instruction and catch-up learning, with the integration of psychosocial health and wellbeing;
- Focus investment and innovation on the immediate reconstruction/

rehabilitation of schools to ensure safe, inclusive and resilient education facilities;

- Deploy prefabricated health units and mobile clinics to reach the affected communities for the provision of a comprehensive package of essential health and nutrition services;
- Leverage outreach and mobile immunization services for displaced people; restore fixed-site vaccination services, including Expanded Programme on Immunization (EPI) and polio centers, and provide essential medicine, medical equipment, and supplies to the health facilities;
- Resume integrated essential health services such as for communicable and noncommunicable diseases and reproductive health, including family planning, maternal and child health, immunization and nutrition services;
- Repair, rehabilitate and restore WASH and municipal infrastructure components and set up other temporary arrangements to ensure immediate availability of water, sanitation, hygiene, and other municipal services across the affected areas.

Medium-Term

Transport and Communication

- Conduct detailed technical evaluations for the damaged infrastructure in all aspects, including hydrology and hydraulics, structures, pavement, etc., to establish real causes of failures for effective climate resilient remedial measures;
- Rehabilitation and reconstruction based on prioritization criteria.

Water Resources and Irrigation

- Rehabilitate canals and drain dikes to existing design standards; no change in design needed;
- Implement the allied structure for canals, drains and dams with needed improvements for safety, stability, performance and monitoring purposes;
- Carry out improved design for drains, dikes and dams and appurtenant structures, which need improvements and upgrading for multi-hazard resilience;
- Implement improved design and standards in construction for those works.

Housing

- Identify communities exposed to recurrent hazard risk for relocation;
- Relocate communities from sites identified as exposed to recurrent hazard risk.

Energy

- Provide incentives to small micro-finance institutions and the private sector to promote renewable technologies;
- Social Services (Health, Education, WASH, Municipal Services and Community Infrastructure);
- Include improvement of school environment mechanisms and the use of modern equipment, like digital boards, in the reconstruction model to boost education quality;
- Reconstruct resilient health infrastructure (buildings, equipment and logistics) in line with updated design standards and building codes with improved resilient capacities, including replenishment of equipment and supplies;
- Employ innovative, resilient and sustainable reconstruction to upgrade, resize and relocate critical subcomponents to ensure facilities are located and upgraded to best sustain future disasters.

Long-Term

Transport and Communication

- Develop an integrated hydrological modeling framework in conjunction with transportation modeling to perform risk analysis under simulated flood events and effectively model critical infrastructure and preparedness measures;
- Adopt a transport system level approach with built-in network redundancy.

Water Resources and Irrigation

- Construct new structures with improved design (and location, if applicable) that ensures multi-hazard resilience, safety, reliability and performance;
- Assess the need for replacement of structures following improved standards and specifications, and implement the same;

- Social Services (Health, Education, WASH, Municipal Services and Community Infrastructure);
- Support model for disaster resilient hospitals to foster proactive and systemic improvements, from anticipating to managing and monitoring organizational performance during disasters. Hospitals must always be accessible and functioning.

c) Priorities for Institutional Effectiveness and Better "Ways of Working"

Short-Term

Transport and Communication

- Integrate GIS developed by each national and provincial institution to future real-time damage assessments.

Water Resources and Irrigation

- Carryout needs assessment for capacity building of project offices and government departments;
- Assess capacity of consulting and construction industry to deliver services and quality in flood reconstruction, and create incentives to tap best resources for reconstruction.

Housing

- Create provincial-level, centralized institutional arrangements for housing reconstruction along with establishing strong coordination mechanisms.

Social Services (Health, Education, WASH, Municipal Services and Community Infrastructure)

- Strengthen parent and community involvement and coordination across all education levels, especially around risks to learning and enrollment and early warning systems for dropouts and disruptions;
- Strengthen non-formal systems to accommodate out of school children and dropouts who cannot return to formal schools and explore public-private and public-nonprofit partnerships to facilitate return to schooling and government school rehabilitation;
- Enhance surveillance and response capacities related to outbreaks of

vaccine preventable and communicable diseases;

- Enhance health sector coordination at national and sub-national levels, including with development partners, CSOs and the private sector.

Medium-Term

Transport and Communication

- Establish a central technical monitoring unit to monitor progress, as well as ensure compliance with quality control and climate-resilient design for the repair and reconstruction of damaged infrastructure at the national level;
- Establish an integral disaster mitigation fund based on the percentage of infrastructure in high-risk zones and the efforts required by various agencies, including a policy for its utilization, to accelerate response time in future disasters;
- Develop a relevant insurance industry for disaster response.

Water Resources and Irrigation

- Strengthen capacity of provincial irrigation departments and flood commissions to perform their mandated role to implement the 4RF and longer-term national flood protection plans, including planning, quality of design, and monitoring and performance evaluation systems.

Energy

- Develop community owned demonstration solar micro-grids, funded by the government;
- Identify operational and services incentives for the private sector to encourage solar solutions, repair and maintenance, not restricted to household power needs but for small business as well, such as farmhouses (fish), small flour grinder (chakki), fodder cutting, etc.

Social Services (Health, Education, WASH, Municipal Services and Community Infrastructure)

- Integrate teacher education and development on remedial learning and teaching at the right level for all teachers, with relevant orientation for school heads and district officials. Collaborate with the private sector and NGOs as needed;

- Support head teachers technically and financially in achieving remedial learning outcomes and developing school disaster response plans.
- Ensure dedicated technical support to provinces for multi-year, strategic education sector planning, focusing on access and learning environments, teaching, and learning and policy priorities to continue quality and inclusive learning at all levels;
- Provide technical support for inclusive education, incorporating early childhood education, non-formal education, special education, and technical and vocational education;
- Address critical health workforce shortages and capacity building to improve service delivery, including quality of care and M&E of the flood recovery;
- Integrate disease surveillance and health information systems; link data to inform plans and responses to threats and service delivery challenges, etc.
- Increase system calibration to improve monitoring and management and increase the role of local communities in the sustainable operation of these facilities;
- Create appropriate incentives and institutional structures for the sustainable operation and management of WASH and municipal infrastructure services;
- Improve the interface between service providers and their clients and enhance private sector involvement.

Table 9. SRO4 Priorities Matrix

Sector Name/Needs	Intervention / Activity	Immediate and Short-Term Cost (up to 1 year) (US\$ Million)	Medium-Term Cost (up to 3 years) (US\$ Million)	Long-term Cost (up to 5 to 7 years) (US\$ Million)	Total Cost (US\$ Million)	Funding Commitment to date (US\$ Million)	Source of Funding
Education US\$918.0 Million	Policy/ Operational	0.4	4.5	7.6	12.5		Government, UN Agencies, Bilateral and Multilateral Donors, NGOs
	Investments and Programs	83.5	536.5	277.5	897.5		Government, UN Agencies, Bilateral, Multilaterals, NGOs
	Institutional Effectiveness	5.6	1.9	0.5	8.0		Government, UN Agencies, Bilateral, Multilaterals, NGOs
Health and Nutrition US\$188.0 Million	Policy/ Operational	1.7	1.1		2.8		Government, UN Agencies, Bilateral, Multilaterals, NGOs
	Investments and Programs	70.0	110.3		180.3	27.4 (UN Agencies and NGOs)	Government, UN Agencies, Bilateral and Multilateral Donors, NGOs
	Institutional Effectiveness	2.0	2.9		4.9		Government, UN Agencies, Bilateral and Multilateral Donors, NGOs
WASH, Municipal Services and Community Infrastructure US\$326.9 Million	Policy/Operational	3.0	4.0	3.2	10.2		Government, UN Agencies, Bilateral and Multilateral Donors, NGOs
	Investments and Programs	97.3	117.7	78.4	293.4	185.0 (World Bank [WB])	Government, UN Agencies, Bilateral and Multilateral Donors, NGOs
	Institutional Effectiveness	11.7	9.3	2.3	23.3		Government, UN Agencies, Bilateral and Multilateral Donors, NGOs
Transport and Communication US\$4,871.6 million)	Policy/Operational		59.0		59.0	5.0 (WB/ADB [Asian Development Bank])	Government, IFIs, Bilateral

	Investments and Programs	597.5	1,683.7	2,276.7	4,557.9	435.0 (WB/ADB)	Government, IFIs, PPP
	Institutional Effectiveness		152.8	101.9	254.7	10.0 (WB/ADB)	Government, IFI's and bilateral
Digital Infrastructure US\$122.4 Million	Policy/Operational		5.0		5.0		Private Sector, Government
	Investments and Programs	13.0	39.2	58.8	111.0	13.0 (Private Sector)	Private Sector, Commercial Banks, Government
	Institutional Effectiveness		2.6	3.8	6.4		Private, Sector, Government
Energy US\$117 Million)	Policy/Operational	8.0	13.0	4.0	25.0	11.0 (ADB)	Private Sector, Government
	Investments and Programs	24.0	48.0	4.0	76.0	40.0 (ADB)	Private Sector, Government
	Institutional Effectiveness		16.0		16.0		Private Sector, Government
Housing US\$2,757.0 Million	Policy/Operational			0	0		Government, Bilateral, NGOs, Communities, Private Sector, IFIs
	Investments and Programs	695.0	2,052.0		2,747.0	506.0 (WB/GoKP)	Government, Bilateral, Multilaterals, NGOs
	Institutional Effectiveness	5.0	5.0		10.0	10 (WB/GoKP)	Government, Bilateral, Multilaterals, NGOs
Water Resources and Irrigation US\$782 Million	Policy/Operational	1.0	1.0	1.0	3.0	3.0 (WB/ADB)	Government, Bilateral, Multilaterals, NGOs
	Investments and Programs	39.0	310.0	411.0	760.0	200.0 (WB/ADB)	Government, Bilateral, Multilaterals, NGOs
	Institutional Effectiveness	13.0	3.0	3.0	19.0	7.0 (WB/ADB)	Government, Bilateral, Multilaterals, NGOs

Note: The recovery cost of all the sectors has been kept at the level of PDNA estimates. Revisions to the recovery cost are expected in an updated version of the 4RF planned for early next year.



ACHIEVING SUSTAINABLE CLIMATE RESILIENCE

Photo: Fida Hussain/AFP via Getty Images



ACHIEVING SUSTAINABLE CLIMATE RESILIENCE

In the last few decades, Pakistan has faced natural hazards such as flooding, earthquakes and landslides that have escalated into humanitarian disasters, with loss of lives, homes, and livelihood. Natural hazards in Pakistan are likely to increase as a result of climate change and environmental degradation. More extreme weather events, coupled with poor preparedness in communities, can only increase the risks of humanitarian disasters.

A community's ability to prepare for and cope with natural hazards can prevent disasters and save lives. But an unprepared community is unable to cope, resulting in massive loss of life and the undermining of decades of social and economic progress. In order to cope with natural hazards a paradigm shift is required from a reactive to a proactive mode of disaster management.

This new approach to deal with disasters would require a long-term resilient reconstruction plan after reviewing the existing infrastructure of the country. This plan should also offer space for community-based initiatives, which see communities / victims, as part of solution not a problem. Recognizing the increased scale of climate induced natural disasters affecting Pakistan, the Ministry of Planning and Development and Special Initiatives has prepared a long-term Resilience framework which provides the institutional structure across federal & provincial governments to avoid extensive loss and damage during natural hazards, and international appeals time and again for support. The plan is intended to help guide long-term recovery to increase the state's capacity to withstand future shocks.

Pakistan's extreme vulnerability to accelerated climate induced events has exposed it to a multitude of risks. These range from unprecedented heat waves, forest fires, glacial lake outburst floods (GLOF events), and water scarcity alternating with torrential monsoon flooding, growing desertification, droughts, and rising sea levels. All these changes have made Pakistan the ground zero of climate catastrophe where life on earth, water, and under-water has been impacted at exponential levels.

Damage to agricultural productivity, public and private infrastructure, livelihoods, human health, and economic stability has led to irreversible impacts including massive internal displacements as well as GDP losses. Global warming has pushed weather conditions to their extremities, which can be observed in Pakistan's increased susceptibility from flooding to droughts.

Rationale and Overview

The recent floods and past natural calamities combined with the country's very diverse topography has exposed the society to sever natural shocks transpired in the forms of Hill Torrents, GLOF, Drought, Heatwaves and Earthquakes. Specifically, the 2022 floods have been unique in two key aspects: historic rain-fed high flows in some areas and, prolonged flooding in others. Given the above, the need arises for disaster resilience framework to address all kind of disturbances even beyond PDNA.

Disaster resilience is the ability of individuals, communities and states and their institutions to absorb and recover from shocks, whilst positively adapting and transforming their structures and means for living in the face of long-term changes and uncertainty. To meet this objective, the capacity of our system and society are being brought to the acceptable level of functioning. Therefore, we are focusing on Build-back better with the core elements given below:

Table 1: Core Elements of Long-term 4RF

Element	4RF targets
Context	<ul style="list-style-type: none"> - People living in the flood plains and the areas where the flood entered - Institutions relating to flood management - Institutions which deal with people living in the affected areas
Disturbance	<ul style="list-style-type: none"> - Highest Level floods recorded in last 100 years (100-year returns) - Prolonged flows - Environmental hazards caused by effluent discharge
Capacity to respond	<ul style="list-style-type: none"> - Flood management structures to be resilient to 100-year highest flows - Drainage systems to be capable of taking both high and prolonged flows
Reaction	<ul style="list-style-type: none"> - Build back better for irrigation infrastructure and drainage systems - Build back better for WASH- only treated wastewater to be discharged in drains/water bodies flowing into rivers and lakes - Build back for housing and community infrastructure in the short term; building back better in the long term

Key Objectives

The objectives for the long-term resilient reconstruction are to build the damaged and new strategic infrastructure in such a way that it reduces disaster risk and strengthens the institutional and stakeholder capacity to withstand climate induced shocks.

Sector Context

Irrigation and Water Resources: Pakistan manages floods through both structural and non-structural measures. Structural measures include construction of dams, dikes, levees

and other structures while non-structural measures include forecasting, and regulating construction in the flood plains. Damage to irrigation and flood infrastructure primarily happened because of the following factors:

- Sizeable part of the flood protection infrastructure could not cope with the highest flood flows;
- Absence of flood protection infrastructure;
- Inadequate and outdated drainage structures and systems;
- Use of existing drains for discharge of effluents in water bodies;
- Absence of early warning systems in catchment areas;
- Construction in the flood plains - absence of flood plain Acts or weak enforcement where present;
- Weak enforcement of regulations regarding water abstraction and treatment of wastewater in the country.

Transport and Communications: Most damage in transport and communications occurred due to design issues. In most places roads and bridges were not designed to cater for prolonged and high flows. The high-speed water-flow eroded riverbanks and bridges, widened rivers that now require longer bridges, and caused landslides that washed away sections of roads now requiring realignment. In the plains of Punjab, Sindh and Balochistan, a number of embankments were breached, causing overflow of rivers that inundated vast areas and submerged the road network. The damage to roads has been caused by exposure to high velocity of flood water and inundation. In some cases, water flowed over the road causing severe and long-term damage. Some road sections were washed away by water and in other areas road sections were breached to prevent accumulation of water. Furthermore, given the nature of the transport infrastructure, some damage may still manifest itself at a later date, e.g., further landslides in mountainous areas, sink holes as the water recedes and settling of embankments. Similar to roads, the damage to railway lines involved washing away or erosion of embankments, inundation, and landslides. Railway bridges and other supporting structures were severely damaged. Along the railway lines, many stations also got damaged. In telecommunication, major damage to the telecommunication infrastructure involved severing of the optical fiber transmission lines at a number of locations, damage to equipment and feeder cables due to floodwater ponding in exchanges, and in some cases damage to transmission towers and equipment.

Strategic Investment Priorities and Key Policy and Operational Reforms, Institutional Needs

Priorities for Policy Reform

In order to enable people and institutions to cope with the highest flood levels and environmental hazards, a number of policy actions are being taken. Proposed policy actions are as follows:

Table 2: Proposed policy actions

Table 2: Proposed policy actions		
Sector	Short term to Medium-term	Long term
Housing	<ul style="list-style-type: none"> - Reconstruction of houses shall be based on appropriate cost-effective, hazard-resistant engineering standards as far as possible - Flood-resistant engineering designs and construction standards shall be made a condition for disbursement of housing reconstruction grants - Houses located in the 5-year flood plain shall be relocated outside it unless they obtain permission in accordance with flood plain construction regulations 	<ul style="list-style-type: none"> - No housing settlement shall be allowed in the flood plain unless permission obtained in accordance with the Flood Plain Act - In areas prone to significant seismic risk (Seismic Zones 2B, 3 and 4 according to the Building Code of Pakistan 2007), housing reconstruction must cater for appropriate seismic-resistant standards, to minimize the risk to life and property, and to reasonably secure the proposed investments over their useful life
Health	<ul style="list-style-type: none"> - Reconstruction/relocation of facilities in accordance with flood plain requirements 	<ul style="list-style-type: none"> - No facility shall be allowed to be constructed in the flood plain unless permission is obtained in accordance with the Flood Plain Act
Education	<ul style="list-style-type: none"> - Reconstruction/relocation of facilities in accordance with flood plain requirements 	<ul style="list-style-type: none"> - No facility shall be allowed to be constructed in the flood plain unless permission is obtained in accordance with the Flood Plain Act
Culture and heritage	<ul style="list-style-type: none"> - Protection of existing sites from flooding 	
Irrigation and Flood Protection ¹	<ul style="list-style-type: none"> - Flood Plain Acts to be issued in all provinces - Water Acts to be issued by all provinces - Engineering audit of flood and drainage structures to be undertaken to assess 	<ul style="list-style-type: none"> - Existing Flood protection structures to be made capable of withstanding highest/prolonged flood flows - Existing Drainage structures in hill torrents and plains to be made capable of taking highest/prolonged flood flows to rivers/sea

¹ See National Flood Protection Plan –IV for details

	<p>whether they can withstand highest/prolonged flows</p> <ul style="list-style-type: none"> - Surveys of flood plain construction to be undertaken along with their necessity and special building requirements if required to be retained 	<ul style="list-style-type: none"> - New Flood protection structures identified by NFPP-IV, capable of withstanding/managing highest and prolonged flood flows to be constructed (Naulong dam etc.,) - New drainage structures, capable of taking highest/prolonged flood flows to rivers/sea to be constructed in undrained high flood areas
Transport and Communication	<ul style="list-style-type: none"> - Engineering audit/impact assessment of existing transport and communication lines to assess resilience costs 	<ul style="list-style-type: none"> - Bridges on rivers to be redesigned to ensure they don't cause restriction on water flows at 100-year returns - Roads to be made resilient to highest/prolonged flood flows - Rail track to be made resilient to highest / prolonged flood flows (including up-gradation /modernization costs)
WASH	<ul style="list-style-type: none"> - Water Act to be issued by all provinces 	<ul style="list-style-type: none"> - Water regulatory authorities to be set up to ensure untreated wastewater does not flow in rivers and water bodies
Energy	<ul style="list-style-type: none"> - Engineering audit/impact assessment of power generation projects on canals to assess whether they cause any damage 	<ul style="list-style-type: none"> - Power Houses on canals not to cause damage to canal structures

Priorities for Investment/ Programs

Irrigation and Water Resources

Medium-Term

Review of the existing flood management strategy so as to (i) enhance the absorptive capacity of the catchments to reduce rainfall run-off, (ii) build additional reservoirs to absorb flood peaks, (iii) improving flood regulation through diversions, (iv) enhance the safe flood disposal capacities of the existing barrages and river training works, (v) adopt a "living with the floods" approach for the riverine areas in Punjab and Sindh, and (vi) improve and expand flood forecasting and early warning systems.

Updation of National Flood Protection Plan IV (NFPP-IV). Key parts of the Plan which ensure resilience are as follows:

- Major reservoirs to be constructed;
- Existing reservoirs SOPs (revised in 2015 by FFC) to be implemented;

- Rehabilitation / enhancement of flood passing capacity of barrages and bridges;
- Adequate conveyance capacity within river and urban channels to be restored;
- Construction of small dams in provinces;
- Flood Early Warning System to be upgraded;
- Up gradation of gauging networks;
- Strengthening and up gradation of existing flood protection works;
- Comprehensive studies of existing breaching sections;
- Formulate and implement watershed policy;
- River act for river floodplains to be implemented;
- Institutional reforms – capacity building of FFC, NDMA, PIDs, PDMA and other related department;
- Feasibility of Aral tail regulator on Manchar Lake along with 4 km of escape drain.

Implementation of RBOD-II. It will provide the following benefits:

- Improve livelihood of local fishermen;
- Save ecology of Manchar lake;
- Reduce salinity of land of Sindh and Baluchistan and make it useful for agriculture;
- Minimize the flooding and its effects;
- Completion of Nai Gaj Dam being constructed in Dadu district to reduce floods in Sindh province;
- Construction of 53 dams in Sindh under Sindh Climate Resilient Projects will support floods mitigation and reduction;
- Chashma Right Bank Canal (CRBC) modernization and up gradation;
- Completion of Feasibility on enhancing capacity of Hub Dam;
- Feasibility study and detailed design/Construction of feasible dam on Swat River in Kalam or Upstream;
- Construction of significantly damaged infrastructure and building-back-safer measures against flash floods, i.e. floods protection and river training works, for settlements and urban areas in KP and the northern regions and for increasing the freeboard of some flood protections works in Sindh;
- De-silting of Right Bank Outfall Drain (RBOD-1 and 3), Left Bank Outfall Drain (LBOD) and remaining canals is required before start of next monsoon season.

Long-Term

- Construction of Naulong Dam (to save JhalMagsi from flooding in future);
- Feasibility on enhancing capacity of Hub Dam to be completed and main project started;
- Construction of Murunj Dam on Kaha Hill Torrent in Rajanpur (to mitigate flows in the torrent);
- Construction of feasible dams on DG Khan Hill Torrents;
- Construction of Tank Zam Dam on Tank Zam in Tank;
- Construction of DarabanZam Dam on DarabanZam in D.I.Khan;
- Construction of feasible dam on Swat River in Kalam or Upstream;
- Construction of Burj Aziz, Babar Kach and Halak Dams for provision of water to Quetta.

Transport and Communications

Medium-Term

- Rehabilitation of ML-2 Kotri-Dadu-Habibkot-Jacobabad-Kot Addu;
- Review design parameters for highways and runways.

Long-Term

- Rehabilitation and up gradation of ML -1 ;
- Rehabilitate and reconstruct of N-55 (Indus Highway) and N-5 as per resilient design which are the main arteries of the country;
- Restoration of damaged transport and communication by raising profiles of embankments, increasing the length of bridges on main highways and provincial roads and adding more structures including cross-drainage structures and protective works.

The Living Indus Initiative

Pakistan is listed amongst the top 10 most vulnerable countries to the impact of climate change. As a country the onslaught of extreme climate events has been gradual and

incessant since the last two decades. In order to tackle the brunt of extreme events, Pakistan as a state has been mulling to develop resilience vis-à-vis climate events and has made efforts to develop a policy and implementation strategy in this area. As a sequel to this effort, M/O Climate Change has formulated a resilience plan titled "The Living Indus Initiative" containing multifarious interventions to enhance our resilience and adaptation to climate.

Some of these interventions are in perfect consonance with the 4RF strategy that Pakistan has developed in collaboration with our global development partners. These interventions can sink in and be dovetailed within the long-term sustainable climate resilience program.

"The Living Indus Initiative" will form a part of our ongoing efforts and mobilization for climate resilience.

Sustainable Disaster Management Approaches

1. Build a national high-resolution comprehensive database containing all elements of space-air-ground hydrometeorology and hydraulic data to realize real-time and accurate sharing of all kinds of forecasting and monitoring information;
2. Development of a rainstorm flood forecasting and early warning model according to hydrological zoning;
3. Gradual implementation of unified management of flood control regulation throughout the entire Indus River Basin;
4. Formulation of an authoritative and binding flood prevention plan for the Indus River Basin by the Federal Government. The plan must serve as an important basis for implementing flood control decision-making and disaster relief by flood control headquarters at all levels.
5. Formulation of an authoritative and binding flood control regulation scheme for the Indus River Basin by the Federal Government.
6. For the areas downstream of the upper reaches of the Indus River, safety platforms should be built near densely populated residential areas as temporary flood shelters in case of extreme rainstorm flood.
7. In the post-disaster reconstruction of government management facilities, public service facilities and schools, flood resistant buildings with more than two floors should be built as disaster shelters or frontline command posts for disaster prevention and relief.

8. Build a specialized monitoring and early warning platform exclusively for flash floods and hill torrents, develop a series of rainstorm and flood analysis models for small watersheds, and determine a technical pattern to realize forecasting and early warning using short term forecasting, now casting and real time rainfall monitoring data.
9. Establishment of transmission mechanism by upgrading existing information transmission channels to issue early flash flood and hill torrents warning information, configure community early warning facilities and equipment, and send early warning information directly to residents and responsible person in charge of community's flood disaster prevention.
10. Formulate prearranged plans for flash flood and hill torrent disaster prevention at country, township and village levels in hilly areas and to enhance local people awareness of disaster prevention and emergency evacuation capabilities.
11. Study the forecasting technology of cryosphere melt, glacier melt and glacial lake outbursts and implement that technology.
12. To meet the multi-objective needs of flood control, power generation, irrigation, water supply and drainage in the Indus River Basin, on the basis of the existing layout of rivers, connecting channels, irrigation canals and drainage canals, a water network engineering system planning for the Indus River System shall be formulated to realize the synergetic integration of the flood control system, irrigation system and drainage system in the basin and regions, and the balanced allocation of water resources in space, and to promote the effective utilization of flood water resources by constructing pivotal projects and water system connection projects.
13. The proposed water network engineering system to also include option of constructing new irrigation canals to convey water into the irrigated areas, lowlands or newly established economic development areas, and developing new flood diversion channels and drainage canals in the plains on both banks of the Indus River.
14. Establishment of flood impact assessment system, in which roads, culverts, and bridges across rivers need to meet the requirements of flood discharge capacity of the river, and those that do not meet the requirements should be rebuilt or upgraded.

15. Develop and utilize remote sensing image recognition technology to support the construction management of illegal or disorderly developments in rivers.
16. Carry out dredging in key river reaches, construct river regime control and deflection projects such as groins and bank revetments to stabilize the river channels, narrow the migration range of main channel, improve the boundary conditions of the river channel and the flow pattern etc.
17. Implement integrated river basin management and soil and water conservation projects in small watersheds of the upper reaches of mainstream rivers and major tributaries of the Indus River to control or reduce slope runoff and water loss and soil erosion, reduce the disaster risks of flash and hill torrent floods and debris flows, reduce reservoir siltation, and reduce sediment transport on the river channel, to ultimately stabilize the river channel and alleviate the flood control pressure in the middle and lower river reaches. Implementation of forest and grass restoration projects in ecologically fragile areas, strengthening grazing management, construction of check dams, alteration of sloping farmland or terrace farming in mountainous areas.
18. Qualitative and quantitative analysis of the impact of future snow-melting floods and glacial lake outburst, the establishment of service platform for climate change monitoring, prediction and impact analysis, and the gradual formation of normal service capabilities to support monitoring of glacial lakes, landslide dammed lakes in northern mountainous areas, early warning of GLOF risks.
19. In order to augment the capacity to respond to rescue and relief operations of civil institutions, a fleet of six helicopters is also recommended to be procured.

Summary of Needs and Priority Costs

The short-term post disaster period has been divided into the following stages:

- Mobilization: Mobilization arrangements for relief purposes;
- Rescue: Deployment of troops, district administration personnel and evacuation of affected people;
- Relief: Provision of emergency shelters, financial assistance to households for immediate needs; provision of filtered water and non-food items;
- Reconnecting: Restoration of disconnected road and rail networks, power, water supply and telecommunications;
- Recovery.

These stages will be provided for within the USD 16.3 billion PDNA needs assessment. Resilience will be addressed mostly in the rehabilitation and reconstruction stage. Therefore, some part of this funding will be available for resilience interventions.

Sectors	Up to 3 years	3- 10 years
	Early Warning / Preparedness, Mob, Rescue, Relief, Reconnecting and Recovery, Rehab	Reconstruction
Agriculture		
Housing		
SP & Livelihood		
Wash		
Transportation		Needs beyond PDNA USD 13.5 Bn
WR & Irrigation		
Energy		
Cross Cutting		

Picture3. Financial Needs and Timeframe

Long-term interventions will come through multilateral and bilateral programs and national and provincial development projects.

Sources of Financing	1-6 Months					6 Months to 3 yrs		3- 10 years
	EW / Prep	Mob	Res	Relief	Re- connecting	Rec	Rehab	Re-const
GoP	30 % by Federal and Provincial Government							
Multilateral DB	50 % by Multilateral, Bilateral and Green Financing							
Bilateral donors								
Private sector (15%) CSO (5%)	20 % (PPP, Civil Society Organizations)							

The proposal for sources of funding is: local financing - 50% (30% PSDP/ADP, 15% PPP and 5% CSOs); multilateral, bilateral partners and green financing - 50%. The gap identified is 8.15 billion USD.

The summary of Interventions (projects) for long-term resilience is given as under:

Sr No	Sector	Project	Cost PKR	Priority status	Remarks
1	WR-Irrigation (MoWR and Provincial Irrigation Departments)	NFPP- IV	194	First	FPSP-III (Component A)
		NFPP-IV	376	Second	FPSP-III (Component B)
2	Transportation (MOC)	Dualization and Rehabilitation of Road N-25 (Karachi-Quetta-Chaman)	224	First	
		National Highways damages during Floods	58	First	
		Rehabilitation and reconstruction of National Highways and Provincial roads	320	Second	
		Rehabilitation of N-55 (Indus Highway)	220		
		Rehabilitation of N-5	230		
3	Transportation (MOR)	ML-1 (Karachi – Sukkur)	660	First	
		ML-2, Kotri-Dadu-Habibkot-Jacobabad-Kot Addu	219	First	
		ML-2 Kot-Addu -Attock	203	Second	
		ML-3 Rohri-Taftan	276	Second	
4	Environment and Climate Change (MoCC)	Living Indus Initiative	-	-	Cost being calculated
	Total cost beyond PDNA		2980 Bn PKR 13.5 Bn USD		
Total cost including PDNA and LT resilient Plan			13.5 +16.3 = 29.8 Bn	Cost doesn't include The Living Indus Initiatives Project	





INPUT FROM PROVINCES

INPUT FROM PROVINCES

Sindh

I. Conceptualization of Strategic Framework: Core Pillars

Before delving into the specifics of sectoral prioritization of 'Sindh Floods Response: Strategic Framework', it is imperative to conceptualize the strategy and its contours. On an immediate basis, 'Dewatering' is to be prioritized to expeditiously dispose of the excess floodwater. The Strategy will prioritize critical intervention areas to address systemic issues plaguing the province, especially concerning disasters. Simply put, setting unrealistic goals for recovery is 'counter-intuitive' without addressing the longstanding issues of the drainage systems. Public investments will again be jeopardized if the inefficiencies of the drainage network continue.

The four pillars of the Strategic Framework are centered on:

- Rectifying the Systemic Issues;
- People-Centered Approach;
- Building Upon the Existing Models;
- Aligning Existing Budgetary Framework with Resource Commitments.

The first pillar of 'rectifying the systemic issues' is to prioritize the longstanding problems that have plagued the province. The core issue that has come to the forefront is the persistent problems with the drainage system that significantly exacerbated the impact of the recent floods. The recurrent delays in rectifying the drainage problems and completion of drainage networks point to the broader systemic issues pertaining to misplaced priorities in the public sector development framework.

The second pillar of 'People-Centered Approach' is to prioritize the human impact of floods that have directly disrupted the lives of more than 14.5 million in Sindh. The focus on quantifying and monetizing damages and losses must not underplay the fact that the floods have affected every conceivable facet of lives for the affected segments. The adverse impact has disproportionately affected the vulnerable groups, like women

and children. The significant impact has permeated across sectors, like health and education, where daunting challenges of reducing out-of-school children, poor learning outcomes, and immunization & nutrition outcomes of children is already a challenge. The mental toll and trauma of losing livelihood and loved ones require an empathetic, inclusive, and holistic approach to recovery and rehabilitation. The meta-narrative must not shift from rescue & relief towards rehabilitation yet as there are significant relief efforts still needed to address humanitarian needs.

The third pillar of 'Building upon the Existing Models' is to leverage the existing models to address Sindh's recovery plan and not necessarily reinvent the wheel. The plans for flood management that were conceived in the aftermath of 2010 floods may still be relevant. Similarly, the 'Village Rehabilitation Program' under the 'People's Poverty Reduction Program' and concepts of 'cluster-based growth nodes' and 'secondary cities development' may offer useful lessons for viewing the reconstruction and rehabilitation from a 'meso-level' perspective to make truly resilient communities.

The fourth pillar of 'Aligning Existing Budgetary Framework with Resource Commitments' entails that despite the resource constraints, there is significant space available to review and refine the existing development portfolio and realign operational allocations to the sectors which will contribute towards human development and economic recovery.

II. Sectoral Prioritization

Rather than 'diluting' the strategy by spreading the focus upon superfluous sectors, the strategic framework will focus on the following thematic areas:

- Rectifying the Drainage Systems (including Irrigation);
- Housing and Community Facilities;
- Livelihood;
- Communications (Roads Infrastructure);
- Health;
- Education;
- Human Impact (Poverty, Food Security, Psycho-Social impact).

Leveraging 'Public-Private Partnerships' is also a priority area of the government to harness effective sustainable arrangements across sectors for sustainable and efficient flood-related responsiveness.

Rectifying the Drainage System (including Irrigation)

Restoration of drainage and irrigation infrastructure must be prioritized in the short term. However, medium and long-term planning must embed the rectification of longstanding issues with the province's drainage systems.

A well-designed and integrated drainage system is a prerequisite to properly channel and discharge the excess water into the sea. Over time, the natural waterways of the Indus Basin are being choked with the added irrigation infrastructure obstructing the natural flood routes. Clearing the encroachments on the natural waterways must be coupled with strengthening embankments and designing & enforcing regulations pertaining to flood plains. It is also imperative to overhaul the surface drainage including the expeditious completion of the Right Bank Outfall Drain (RBOD). Rehabilitation of the existing drainage infrastructure of the Left Bank Outfall Drain (LBOD) should also be proactively pursued along with the augmentation of its drainage area. It must be acknowledged that the recent torrential rains were unprecedented, but the situation was exacerbated due to the flaws in the drainage systems that cannot be put on the back burner anymore. Without an integrated water drainage system in Sindh, the province will remain at risk and vulnerable to flood-related disasters. Institutional strengthening of the Irrigation Department (including SIDA) and PDMA must also be prioritized.

Housing and Community Facilities

The housing strategy must be pursued in a way that paves the way for 'climate-resilience' to withstand the impact of recurring floods. The 'level' of planning needs to be directed at the community and village-level. Direct cash transfers to individuals for rebuilding damaged houses entail that the houses remain vulnerable to disasters. Unless a 'meso-level' perspective is adopted for the reconstruction of houses, as opposed to the 'micro-level' perspective, the essence of climate-resilient housing cannot be achieved. The climate change-resilient rural housing and allied infrastructure should be undertaken through community-engagement by redesigning villages. Reconstruction and rehabilitation of partially and fully damaged houses should be pursued with allied facilities inside the house i.e., latrine, kitchen, handpump, and solar system, etc. The shared

amenities like proper sewerage system through covered drains should end in disposal stations for the treatment of wastewater based on gravity. Raised street pavements (brick pavements or tuff-pavers) should be adopted to withstand inundation. The overarching idea for climate-resilient houses hinges upon creating climate-resilient communities and villages. The 'Village Rehabilitation Program' component of the 'People's Poverty Reduction Program' offers a useful precedence and benchmark for emulation.

Livelihood

Restoration of livelihood is important from an economic standpoint as well as from the food security perspective. Although the provision of fertilizers, wheat seeds, and oilseeds is important as an immediate response, it is imperative to pivot toward climate-smart agriculture. The concept of climate-smart agriculture encompasses the concepts of 'production efficiency, including improvements in climate adaptive technologies, appropriate cropping patterns, feeding strategies, animal health, breeding, manure & waste management, water-use efficiency, and other innovative practices. Augmenting agricultural productivity is essential from the 'food-security' perspective also. There is significant potential for revitalizing on-farm and off-farm economic activities in Sindh. Small growers, small farmers, and micro-entrepreneurs need to be incentivized to start businesses, improve their productive capacity and generate livelihood opportunities for the downtrodden.

Green investments also need to be fostered to mitigate the effects of climate change. The ILO estimates that "100 million jobs can be created by 2030 by ensuring a green transition that fully takes into account its social dimensions." Being the fifth most populous country in the world, Pakistan can leverage significant benefits with increased demand for green jobs. This may include afforestation on the extended banks of the Indus River, hilly areas, plantation of mangroves in deltaic areas, and urban afforestation. Community members need to be effectively engaged and compensated for the plantation and protection of plants, along with other rebuilding and reconstruction projects. 'Circular economy' approach, like recycling units at the Union- Council level, can yield amplified benefits for the economy and environment.

Communications (Roads Infrastructure)

The short-term measure of the government is to rehabilitate the damaged provincial highways and internal roads infrastructure. However, medium to long-term measures must be oriented toward climate-resilient roads infrastructure with comprehensive protection measures.

The adaptation of a particular method or combination of different road construction methods is quite site-specific. Adequate field investigation, flood water hydraulics calculation, soil study, and so on should be carried out by competent technical experts; likewise, suitable protection measures may also have to be chosen. The protection measures so chosen should be technically sound, locally feasible, economically viable, and environment-friendly. Protection measures may include flexible pavement, embankment protection, floodways, or causeways. Investment in climate-resilient roads removes the need to spend more money on the frequent maintenance and reconstruction of damaged roads. It helps in the better distribution of supplies and relief materials during and after natural disasters and the quick restoration of normal service.

Health

The short-term measure of the government is to rehabilitate the damaged infrastructure to restore critical services. However, medium to long-term measures must be oriented toward climate-resilience healthcare infrastructure along with streamlined emergency preparedness and response mechanisms coupled with contingency plans.

In the medium to long term, investment in climate-resilient health infrastructure must be prioritized. The preparation of healthcare response systems must also be mainstreamed and prioritized along with updated health information systems for a proactive response. Human and financial resources need to be augmented to effectively deal with disasters and improve the coverage of emergency services. The contingency plans must be prepared in order to deal with anticipated recurring disasters owing to climate change. Effective Disaster Risk Reduction and Management needs to be incorporated in the health sector plan/strategy. Outreach efforts for health services need to be prioritized with a focus on immunization and nutrition-related services. Augmentation of human resources, mobile health units, and supplies can be priority interventions in the aftermath of floods.

Education

The immediate response must be focused on the resumption of education services to avoid any further learning losses. The medium to long-term strategy must focus on climate-resilient education infrastructure along with the consolidation of facilities (esp. one-room and or non-functional schools). Temporary learning facilities, virtual learning, and digital inclusion must also be prioritized, especially in the rural areas of Sindh. The crisis must be used as an opportunity to rationalize and consolidate the education facilities (as per international catchment population standards) for adequate climate-resilient infrastructure and improved service delivery. Disaster Risk Management needs to be incorporated into the Education Plan. The learning losses due to the flood impact must be seen along with the prevalent problem of 'out-of-school' children and 'poor learning outcomes' of schools in the children. The existing model of education needs to be rethought and redesigned to impart functional literacy and vocational skills in both public and private schools. Self-paced learning with a focus on transferable, vocational, and entrepreneurial skills may yield the intended results that the prevalent education system has failed to achieve. Skills development needs to be mainstreamed in schools to spur socio-economic transformation. The focus of the strategy must encompass the entire spectrum of private, public, and public-private partnership schools.

The three-pronged strategy must be centered on the resumption of education services, retention of already enrolled students, and enhancement of enrollment by optimizing and augmenting the capacity of public schools, private schools, and schools under public-private partnership. PPP education must be reoriented towards flexible models for fostering entrepreneurship. Education facilities can also serve as points for introducing health services, like immunization, deworming, and nutrition-related interventions.

Human Impact (Poverty, Food Security, Psycho-Social impact)

While it may be tempting to quantify the impact of damages caused due to floods, it is important to center the narrative on the 'human impact'. The mental trauma of losing your loved ones, livelihood, and belongings cannot be monetized. Millions of people that have been affected are in the need of psycho-social support services for returning to some semblance of normalcy. The incidence of 'Gender-Based Violence' might be on the rise due to the mental toll of the damages due to floods.

Sindh's 'People's Poverty Reduction Program' has been ongoing in the province for a decade with multi- pronged interventions like vocational training, community investment funds, village rehabilitation, income- generating grants, low-cost housing, and other components. With a community-based model of local development, the Program has been scaled to all the impoverished districts of Sindh. Over time, the provincial government has built upon the cumulative learnings of the 'People's Poverty Reduction Program' (PPRP) to consolidate the programmatic efforts into a 'Sindh Poverty Reduction Strategy' in 2018 to offer sustainable solutions to both urban and rural poverty. The strategy must be operationalized expeditiously in order to alleviate the sufferings of the flood-affected population and ensure their socio-economic empowerment. Similarly, the mental health aspect of the flood-affected population must not be overlooked.

A comprehensive package of psycho-social support services, including GBV-focused interventions, must be integrated within the existing healthcare facilities. Vulnerability assessments can be undertaken across multiple dimensions spatially to prioritize the phase-wise rollout of initiatives and earmarking resources. The well-being of women and children must be central to any flood-related strategic framework.

III. Leveraging Public-Private Partnerships

In the post-devolution context, Sindh has already been at the forefront of leveraging public-private partnerships across energy, infrastructure, production, and social sectors for improved service delivery. Sindh was the first province to enact the 'Public-Private Partnership' law (i.e. Sindh PPP Act of 2010) to mainstream PPP as an instrument for improved service delivery. The focus of the policy should be to build upon the successful PPP models to enhance the level of private-sector partnerships and investments by simplifying the regulatory regime.

The institutional arrangements for PPP are governed via:

- A high-level Public Private Partnership Policy Board, headed by the Chief Minister of Sindh, to formulate PPP Policy based on strategic goals and implementation in the Province;
- A central PPP Unit established in the Finance Department to assist the PPP Policy Board in formulating and implementing PPP policies;
- PPP Nodes as focal points for specific PPP projects in line departments, like the PPP Node established in the School Education & Literacy Department.

As the discourse for the transition towards the green economy and climate-resilient investments has come to the forefront, it is imperative that Sindh effectively leverages public-private partnerships for sustainable investments. For example, the private sector can be effectively channelized on an equity-based model for investments in the Solar Parks to be developed by the Government. The government's land can be utilized as equity in a Solar Park while subsidizing service providers for providing solar systems on newly-built houses after floods. Similarly, the market for agriculture implements can be a fertile ground for private sector investments. For increasing productivity and farm mechanization, a 'machine pool' (like tractors, bulldozers, levelers) may be expanded with the help of public-private equity and revenue generated through rents. The revenue can be used for the operation & maintenance of the 'machine pool.' Another avenue is to harness the private sector investments for business development services for small & medium enterprises to incentivize innovative climate-adaption and mitigation solutions.



Balochistan

Rescue 1122 Inclusion

The absence of Rescue 1122 service in Balochistan resulted in huge losses. Therefore, district-level Rescue 1122 setup is required in the province. The equipment and training cost needs to be proposed in the relevant allocations.

Education

The new items may be replaced with modern IT equipment like digital boards to boost the quality of education in the province. The reconstruction model should include improvement of school environment mechanisms like that of private schools.

There also is an urgent need to include community-based disaster risk management curriculum. A proper curriculum needs to be developed and incorporated into education courses to prevent the future response to such calamities.

Health

Decision-Support Model has to be put in place for disaster resilient hospitals to foster proactive and systemic improvements, from anticipating to managing and monitoring organizational performance during disasters. Hospitals must always be accessible and functioning. They must also be able to meet sudden increases in demand, particularly during disasters, even when the impacts of the disasters are felt by these institutions and their staff. Disasters are abrupt, unexpected events that can cause great destruction, injuries, and death as well as damage to assets and the environment. Natural disasters include earthquakes, floods, hurricanes, tsunamis, super typhoons, fires, and other extreme weather events such as heat waves, storm-surge and rain bombs. Human made disasters include biological, chemical, and nuclear accident, terrorism, and mass causality incidents.

Housing

The existing towns need to be converted into modern villages. The government of Balochistan has Urban Planning and Development Department. All the towns need to be planned and re-evaluated on the basis of disaster risk assessment and master planning requirements. Modern villages will be constructed at safe places under the supervision of the Urban Planning and Development Department to control unplanned development.

Agriculture

The laboratory tests for different agriculture seeds needs to be established to increase per acre crops.



Khyber Pakhtunkhwa

In Khyber Pakhtunkhwa (KP), natural resource systems exist in the midst of high population density. This enhances vulnerabilities of natural systems, and in turn magnifies loss and damage to human populations. The weather data shows that the province is increasingly suffering from severe heatwaves as well as extraordinary rains, indicating higher-order effects for its natural resource systems. The phenomena are downloading climatic effects on the mountains, rivers and rainfall patterns of the province; at the same time, parts of the province face depleting water resources, threats to crops and tree cover, and heightening incidences of heat waves and freak weather, in turn devastating farm yields and adversely affecting livelihoods. The watershed areas and river basins of KP are upstream of Indus basin and their vulnerability to climate-induced phenomena have local as well as downstream effects. Climate change has started severely affecting age-old agriculture and livelihood patterns woven around mountains, water resources, forests and cultivated land. KP over time has established clean power generation facilities; a particular damage sustained was to power generation in the province, a feature unique to the province.

In responding to climate change, the province has initiated action to: (a) evaluate systems, institutional arrangements and community knowledge, attitude and practice regarding climate induced events parallel to assessing loss and damages; (b) adopt a data-driven approach to direct resources to priorities and identification of key adaptation and mitigation opportunities; and (c) develop adaptation and mitigation strategies for a resilient Khyber Pakhtunkhwa.

KP's response plan takes into account the damages, and systematically seeks to organize the governmental efforts at restoring livelihoods and public services while identifying actions required to building back with resilience. It is an effort towards comprehensively and robustly establishing a quantitative foundation of estimated damages to public and private assets, as well as incipient and deleterious effects of climate change that are creeping upon the KP's natural resources, people, economy and society. As the plan delineates initial estimates, amounts, priorities, conditions, and targets of resource allocations for restoring public infrastructure and compensating the flood-affected citizens, it defines a way forward for governmental action. The province's response planning covers the monitoring mechanisms put in place by the Government of KP to ensure transparency and accountability at all levels and ensure optimal utilization of funds as intended. Very importantly, the FRP takes stock of the governance mechanisms and institutional scheme required to build, maintain and manage resilient structures and systems to mitigate the effects of floods and climate change.

KP's response comprises nine key action areas:

Rehabilitation Plan

A Phase-by-Phase Addition: To restore essential services, damages were carefully assessed. Major damages were sustained on facilities for power generation, education infrastructure, agriculture and public health engineering sectors. To meet these financial needs, the provincial government carried out an extensive internal budget assessment and intra-departmental reappropriation process, which enabled the diversion of around Rs. 19 billion from the Annual Development Programme to restorative and rehabilitative works. To provide immediate financing to restoration and rehabilitation works, the first line of response has repurposed funds from within the development portfolio. Given the sheer quantum of public rehabilitation and reconstruction work required and its financial constraints, the provincial government is adopting a phase-wise rehabilitation, spanning over two years. Higher priority has been accorded to restoration work on the basis of the criticality of infrastructure. The assets shall be restored in two phases; with each phase lasting a year. To ensure high quality implementation, multi-layered and technology-enabled monitoring systems have been commissioned.

Creating Climate Resilience Capacity: Reversing climate vulnerability entails more than just reconstruction. As an effective response, the province plans for a systematic inculcation of resilience-enhancing measures throughout KP, such that provincial susceptibility to climate change and natural disasters is minimized. The province is working on revamping readiness for climate emergencies in critical responding agencies. Its actions focus on the internal adeptness of local district administrations, local government bodies, and preparedness capacities of provincial planning and relief bodies. Plans for the immediate future include a confluence of necessary equipment procurement, specialised personnel training in both a priori climate change data management and a posteriori damage management; legal mandate review and delineation of agency roles and responsibilities in the event of a disaster; and development of overarching coordination and cooperation-enhancing mechanisms for integrated response.

Ordering Financial Solutions – Climate Resilient Infrastructure Fund: Damages sustained by infrastructure in recent floods highlight the need for building resilient structures. To prevent this in an increasingly disaster-prone world, it is imperative that the financing of infrastructure be intertwined with climate-proofing best practices. Therefore, KP is developing its Climate-Resilient Infrastructure Fund (CRIF) that will

be a non-banking financial institution, connecting both public and private developers for the co-development of public and private infrastructure including development through public-private partnerships. In addition to providing financial assistance, the fund will provide advisory services to infrastructure developers and ensure that local engineers and contractors include climate adaptive and mitigative considerations in their designs. CRIF will work to assign continued salience to rejigging infrastructure to resilient designs.

Responsive Data-Driven Development: KP has initiated action in public planning to continually explore, evaluate and incorporate future climate scenarios, projected risks and climate-related vulnerabilities in their everyday work. This involves the successful integration of scientific research and investigation with government planning and policymaking, such that insights gained from the former can bolster overall preparedness and resilience of the latter. KP's Data Driven Development (3D Development) approach will substantively focus on climate change vulnerabilities and geo-specific vulnerability indexes for tailored responses.

Building Resilient Natural Systems: Having considered immediate needs, damages and reparations, the province situates climate change and extreme weather events management in a broader policy framework, identifying adaptive and mitigative measures across a range of areas critical to climate change governance and the creation of disaster resilient systems. These currently extend to (a) integrated watershed, (b) river basin management, (c) afforestation endeavors, (d) combatting desertification and increasing aridity, (e) systematic application of scientific and technological solutions to climate-based challenges.

Application of Scientific and Technological Solutions: While good climate change governance is foundational in paving the way for more resilient systems, certain technological and scientific aids have been known to expand the scope within which governments, and the median citizen, can either combat or prepare themselves for climate change. Technological advancements will be tailored to fill institutional and systemic preparedness gaps. This includes the development of research-based climate resilient infrastructure; the rollout of interventions that sustain the water, energy and food nexus; and the development of human-in-the-loop Artificial Intelligence-informed multi-hazard warning systems. Moreover, data systems developments and integrated platforms will inform the above-mentioned cross-sectoral resilience attempts.

Increasing Access to Flood Insurance: Natural disasters generate significant fiscal risk and budget volatility. High damages are an unplanned demand on public funds. The province plans to institute feasible and pursuable flood and disaster insurance options for its citizens, including the specifics of its coverage, costing and premium characteristics.

Institutions for Adaptation and Mitigation: KP has carried out an institutional analysis of the current systems, policies, programs and institutional arrangements, and identified shortcomings and specific governance reforms needed to organize optimal climate change governance in the province. This analysis reveals that, at present, government agencies work in largely reactive modes and most of the departments operate in fragmentation, without the benefit of information sharing and effective coordination mechanisms. KP is establishing and strengthening an overarching, central coordination authority, which manages interactions between the several departments working on climate change and implementing measures for adaptation and mitigation. Under its auspices, an annual Climate Change Adaptation Report will be submitted to the Provincial Assembly, which will relay each department's progress on the task assigned in the report. Given this information, the Assembly will then debate on policy compliance and make policy directions accordingly.

Public Communications and Community Engagement: State-citizen communication is an integral part of ensuring that disaster effects can be contained and prevented. Communications, in this regard, will be leveraged in the following ways: (i) by operating as a medium through which the Government can educate the public on risks and preventive measures; (ii) by providing the public with adequate notifications, warnings and situation reports during an ongoing disaster; (iii) by supplying the public with usable information on how to receive disaster relief; and (iv) by promoting those actions that will reduce the loss of lives and property in future disasters based on learning from current and past disasters.

KP has now broadened its governance responsibilities to include both post-disaster restorative measures as well as climate resilience planning. Building on its tradition of leading on sustainable development, the province is taking responsible actions for mitigation and adaptation.

Punjab

SRO1: Enhance Governance and Capacities of the State

- Development of mechanisms / Capacity building to access and avail international available funding i.e. Green Climate Fund etc. for climate and disaster related projects;
- Formalizing strategies to better utilize the concept of retro-active financing for emergent disaster related projects so that the costs incurred through diverting the provincial finances can be recouped through retro-active financing;
- Development of Data Clearing House and Decision Support Systems equipped with cutting edge flood-routing and modelling modules. In addition to real-time monitoring, there is an urgent need to develop centralized and integrated flood -routing and inundation modeling knowledge sharing and evaluation platforms for better preparedness against future floods. Upgrade and mainstreaming of pertinent modules already being implemented in Punjab i.e. Punjab Adaptation to Climate Tool (PACT), Agriculture Climate Water (ACWA) Portal, Climate Budget Tagging module etc. is also envisaged under Punjab's Vision;
- Development of modules on DRM capacity expansion programs and trainings based on the existing coping and adaptive capacities of most vulnerable UCs against flood, drought and earthquake risks;
- Development of Early Warning System for Hill Torrents affected districts and most vulnerable riverine floods affected districts;
- Enhancement of the organizational capacity through need-based procurement of state-of-the-art disaster management and prevention equipment for floods and snow storms/blizzards.

SRO2: Restore Livelihoods and Economic Opportunities

- Mainstream DRR and Climate Change Adaptation (CCA) into the districts' regular local development planning, investment programming, and budgeting process;
- Carry out eco-system restoration projects.

SRO3: Ensure Social Inclusion and Participation

- Execution of flood-based canals i.e. Greater Thal Canal etc. and development of most suitable mechanisms for distribution of flood water in the light of Water Apportionment Accord 1991 to avoid future predicaments and ensure participation;

- Enhancement of rescue and relief capacity of district governments to carry out rescue and relief operations efficiently and effectively;
- Development of score cards for evidence-based prioritization of projects envisaged under medium to long term plans for all sectors;
- Carrying detailed climate change, floods and disaster related studies to better understand the phenomenon of climate change i.e. studies regarding "Effects of Climate Change on Frequency of Occurrence of Riverine and Hill Torrent Floods In Central Indus Basin " and "Flood Forecasting /Predictive Modeling for Enabling Resilient Rehabilitation and Socio-Economic Recovery in Indus Basin". These studies will be carried out in collaboration with international institutes i.e. ICIMOD Nepal to encompass international best practices in the requisite studies.

SRO4: Restore and Improve Basic Services and Physical Infrastructure

- Ensuring Mainstreaming of disaster checklist promulgated by the Planning Commission in 2004 to mainstream disaster risk resilience in development process for ensuring integration of disaster risk reduction and climate resilience into public sector approvals, planning, implementation, and monitoring process;
- Introduction of internationally recognized resilience standards in development initiatives;
- Implementation of interventions envisaged under National Flood Protection Plan (NFPP) and FPSP etc.
- Implementation of medium to long term plans of Irrigation Department Punjab, in the calamity-hit districts of Rajanpur and DG Khan that encompass restoration of damaged structures on hill torrents and other flood protection infrastructures, Construction of feasible dams on hill torrents in DG Khan and Rajanpur Districts, and Pachad Area Management through construction of dispersion structures, ponds, channelization of flood water and cross drainage structures and drainage network improvements of 13 hill torrents having discharge over 15000 cusecs. The interventions envisaged to be implemented for achieving these mid-terms to long-term goals include;
 - Construction of 4 No Dams with estimated cost of 145 billion PKR/ 649 million USD;
 - Improvement in Pachad Area Management and Drainage Network of 13 Nos hill torrents with estimated costs amounting to 169 billion PKR / 751 million USD. Four of these projects having cost of 74 million dollars (Mithawan, Sori Lund, Chachar and Vidore hill torrents management projects) have already been got approved by Irrigation Department;
 - Implementation of relevant initiatives is envisaged in Punjab's Vision.





ANNEX: SRO MATRICES

Sector Name	Intervention/Activity (Numbered by priority, 1 = highest priority)	Cost by Time Period (US\$ Million)			Total Cost (US\$ Million)	Funding Commitment to date, including donors (US\$ Million)	Source of Funding
		Immediate and Short- Term (up to one year)	Medium- Term (up to three years)	Long-Term (up to five to seven years)			
SRO1: Enhance Governance and the Capacities of the State Institutions to Restore Lives and Livelihoods of the Affected People, especially the Most Vulnerable (US\$413.6 Million)							
Governance	Policy/Operational	3.8	2.6	0	6.4		Bilateral, Multilaterals
	1.Support to PFM & Accountability Reforms	2.5	2.5				
	2. Flood resilient zoning & provincial level construction/infrastructure bylaws	1.1					
	3. Framework for gender and climate change responsive public investments	0.1					
	4. Cross-sector risk communication strategy, implementation, and pilots for disasters	0.1	0.1				
	Investments/Programs	22.6	55.4	0	78.0		Public Sources, PPPs, Multilaterals
	1. Establish and operationalize dysfunctional district level offices and Rule of Law infrastructure	22.6					
	2. Rebuild flood resilient police stations and prisons		38.0				
	3. Rebuild flood resilient public offices		17.4				
	Institutional Effectiveness	0.3	1.1	2.5	3.9		Bilateral, Multilaterals
1. NDU establishment & operationalization	0.2	0.1					
2. M&E dashboard and systems	0.1						
	3. HR and capacity building activities		1.0	2.5			

Environment and Climate Change	Policy/Operational 1. Environmental Impact assessment and Monitoring of disaster impacts	1.5	1.5	1.5	2.0	5.0	Bilateral and Multi-lateral Donors
	Investments/Programs 1. Emergency Cleanup and Climate Resilience Measures for flood related contaminated sites, solid waste and silt removal and debris recycling support. 2. Emergency Package of Nature Based Solutions and Adaptive Management 3. Upscaling of Ecosystem Based Adaptation	53.0 31.0 15.0 7.0	35.0 0 5.0 30.0	45.0 0 5.0 40.0	133.0 31.0 25.0 77.0	Government, Bilateral and Multilateral Donors Climate Finance	
	Institutional Effectiveness 1. Strengthened Technical Capacities of Climate Change and Environmental Management Agencies at Federal and Provincial Levels	5.0 5.0	9.0 9.0	12.0 12.0	26.0 26.0	Bilateral and Multilateral Donors	
	Policy/Operational 1. Preparation/Upgrading of NIFPP-IV and NDMP 2. Mainstreaming resilience in development planning through inclusion of disaster risk considerations in planning documents especially for water, agriculture and infrastructure sectors.	3.2 0.4 2.8	4.6 0.6 4.0	6.9 0.9 6.0	14.7 1.9 12.8	Government, Bilateral and Multilateral Donors, MFIs	
Disaster Risk Reduction	Investments/Programs 1. Strengthened systems for meteorological monitoring and early warning 2. Training and Capacity Building of relevant government officials for response, humanitarian assistance and long-term resilience 3. Upgrading of Public Evacuation Shelters and Awareness Raising for their proper utilization in times of disasters	23.1 20.7 1.1 1.3	44.0 40.0 2.0 2.0	56.0 51.0 2.0 3.0	123.1 111.7 5.1 6.3	Government, MFIs, PPPs	
	Institutional Effectiveness 1. Institutional strengthening at district and provincial levels with linkages to community levels	3.8 0.4	8.2 0.7	11.5 2.0	23.5 3.1	Bilateral and multilateral Donors	

	2. Strengthening of resilience at community level through local level organizations 3. Undertake multi-hazard risk assessments to inform better recovery and development planning	2.2	3.0	5.0	10.2		
	1.2	4.5	10.2				
SRO2: Restore Livelihoods and Economic Opportunities (US\$4,351.8 Million)							
Agriculture	Policy/Operational	X					Bilateral, NGOs, Government
	1. Input assistance through direct cash contribution (single window cash transfer modalities as defined in SRO3)	X					Bilateral, Government
	2. Fast track operational procedures for procurement and project approval	X					Government
	3. Link floods response plans with existing poverty reduction strategies						
	Investments/Programs						
	1. Restoration of jobs and livelihoods through direct cash distribution, inputs, cash for work interventions	3,386.8 2,740.0	697.7 393.8	189.6 139.5	4,274.1 3,273.3	1,886.5 1,707.9	Bilateral, NGOs, Government
	2. Recovery and reconstruction of critical assets, services, and infrastructure	636.9	257.9	42.6	937.4	149.4	
	3. Strengthening governance and stakeholder capacity for reconstruction, especially communities	9.9	46.0	7.5	63.4	29.2	
Livelihoods	Institutional Effectiveness						RSPs, NGOs, Communities
	1. Enhance the role of Rural Support Programs Network, NGOs, Communities for coordination of implementation in view of a localized interventions approach	X					Academia, Think Tanks, Government Extension Service
	2. Involve research and extension services in order to ensure transfer of innovative production practices to rural crop farming, livestock owning and aquaculture farming households.	X					
	Policy/Operational			X			Government
	1. Policies that accelerate gainful and productive jobs and employment 2. Specific reforms that boost demand aimed at creating alternate jobs and employment	X					Government, Bilateral, NGOs

	Investments/Programs 1. Restoration of jobs and livelihoods through e-commerce, emergency employment services, etc. 2. Recovery and reconstruction of critical assets, services, and infrastructure 3. Strengthening governance and stakeholder capacity for reconstruction, especially communities	6.7 6.7 0 0	57.8 33.3 17.5 7.0	11.5 11.5 0 0	76.0 51.5 17.5 7.0	0.9 0.9 0 0	Government, Bilateral, NGOs
	Institutional Effectiveness 1. Targeting deserving households through Poverty Wealth Ranking and Poverty Scorecard, if feasible.	X					Government, NGOs
	Policy/Operational 1. Address legal, policy, and institutional hurdles that currently limit the development of the market for credit information 2. Detailed E&S assessment of tourist infrastructure and incorporating EIA mitigation measures before commencing any reconstruction 3. Developing long-term finance instruments	X		X			Government Government, Financial Institutions Government, Financial Sector
	Investments/Programs 1. Sustainable financing solutions for reviving SMEs (e.g., matching grants, interest friendly loans) 2. Developing a comprehensive database of travel and tourism industry patterns, contribution to GDP and indicators 3. Strengthening the capacity of rescue authorities to improve disaster responsiveness 4. Credit Guarantee Facility for Microfinance Sector Creditors	1.7 0.2 0.3 1.2 X			1.7 0.2 0.3 1.2		Financial Institutions Financial Institutions Government Financial Institutions
	Institutional Effectiveness 1. Local NGOs to provide Interest Free Loans or Community Investment Fund in locations where MFIs are non-existent	X					NGOs

	2. Undertake a new economic census			X			Government
SRO3: Ensure Social Inclusion and Participation (US\$1,735.9 Million)							
Social Sustainability, Inclusion and Gender	Policy/Operational		41.3	35.0	76.3		Bilateral, NGOs, National and Provincial Budgets
	1,2,3, Support additional provision of critical protection services through inclusive crisis centers, including psychosocial support		15.7	15.0	30.7		
	2 Support Government of Pakistan coordination efforts to deliver assistance to vulnerable and marginalized groups, and conduct trainings of social welfare staff		0.5		0.5		
	2, Channel additional sub-grants funding to community development councils/committees/village councils to support recovery at the community level		25.1	20.0	45.1		
	Investments/Programs	0.5	11.5	9.6	21.6		
	2 Support disaggregated data collection, ongoing needs assessments, communications, outreach and M&E	0.5	1.5	3.0	5.0		
	2, Conduct behavioral change community sensitization interventions on main protection concerns (including GBV) and share information in accessible formats on available services at community level (through NGOs/CBOs)		10.0	6.6	16.6		
	Institutional Effectiveness		1.0	1.4	2.4		
	2, Develop community disaster management systems linked to existing community service delivery platforms, addressing gaps in the early warning system tailored to the needs of women, people with disabilities, the elderly and other groups.		1.0	1.4			
	Policy/Operational			7.0	7.0		
Social Protection	Support in the policy framework development and design and implementation of school meal programs targeting the most vulnerable population and geographical areas.						

	Investments/Programs 1, Multipurpose Cash Grants 2, Nashonuma Program Expansion 2, Workfare Program 3, Taleemil Wazaif Expansion 3, Adaptive Social Protection System, including Savings and Risk Management	1599.2 920.5 20.0 531.2 127.5	20.3 16.2 4.1		1619.5 920.5 36.2 531.2 127.5 4.1		National Budget, IFIs
	Institutional Effectiveness						
Culture and Heritage	Policy/Operational 1 Detailed damage assessment for flood-affected heritage sites 1 Urgent stabilization for most vulnerable sites 1, Fund Mobilization 2 Integration of Indigenous knowledge into mainstream practices, through direct engagement with local communities and stakeholders 3, Development of a DRR strategy for the Culture sector 3, Consultations with stakeholders to update regulations around heritage sites	2.5 2.5 for three Priority 1 interventions	1.4 1.4	0.05 0.025 0.025	4.0 0.4		Bilateral and Multilateral Donors, NGOs, Development Partners, National Budget Possibility of PPP (adoption of cultural sites by private institutions)
	Investments/Programs 2 data collection on the impact on cultural professionals and specific recovery needs for each region and cultural practice 2, Capacity building for heritage management staff 3 Updating and/or developing databases for tangible and intangible cultural heritage at the national and provincial level	0.2 0.2	2.4 1.2 1.2	1.2 1.2	3.8		
	Institutional Effectiveness 3, Strengthening provincial and national cultural policies and establishing mechanisms for effective implementation			1.3 1.3	1.3		
	SRO4: Restore and Improve Basic Services and Physical Infrastructure in a Resilient and Sustainable Manner (US\$10,082.9 Million)						
Education	Policy/Operational 1. Introduce a mandatory and costed DRM component in SRO4 sector plans.	0.4	4.5	7.6	12.5		

	2. Update and operationalize the School Safety Framework. 2. Develop district-based (i) emergency response and evacuation plans and drills, (ii) early warning systems, and (iii) learning continuity plans (SRO4). 3. Establish PPPs with agile and low-cost delivery models, including support to education foundations. 3. Introduce low-interest loans for damaged private schools to allow education continuity during reconstruction.	83.5	536.5	277.5	897.5			
	Investments/Programs 1. Resume learning via a comprehensive TLC package, and develop evidence-based local remedial plans to recover learning loss and bridge learning gaps for affected and out-of-school children. 2. Conduct damage assessment of affected public/private educational institutions, establish temporary or hired facility in fully damaged institutions, rehabilitate, and reconstruct damaged educational institutions, applying BBB principles with updated design standards 2. Introduce vouchers for students, to attend private institutions if their schools are unable to resume operations within 2-3 years. 3. Set up enrollment campaigns, use social and mass media for messaging, especially targeting marginalized children, and girls.							
	Institutional Effectiveness 1. Establish a process to track recovery efforts, linked to the national flood recovery plan and integrated into the national, provincial, and district level tracking and M&E processes. 2. Advance community mobilization/sensitization on access to	5.6	1.9	0.5	8.0			

	learning opportunities and participation in response and recovery efforts. 3. Mobilize and train PTAs, SMCs, and SCs on safe school reopening, MHPSS, IPC, and GBV risk mitigation measures, and preparation of school disaster management plans. 3. Provide continuous, needs-based teacher professional development opportunities. Establish gender-responsive monitoring systems to measure access and learning outcomes, including a registry of newly enrolled out-of-school children and adolescents.								
Health and Nutrition	Policy/Operational 1. Review current contingency plans, assess their performance during the floods and strengthen health sector for integral response. 2. Develop a risk mitigation plan for operational readiness 3. Inclusion of RUTF on the government essential drugs list	1.7 1.4 0.3	1.1 0.9 0.2	2.8 2.3 0.5					
	Investments/Programs 1. Provide comprehensive essential health services (CDs, NCDs, RMNCAH, nutrition) through makeshift units and mobile outreach services; immunization services for displaced people; restore fixed site vaccination services (EPI and Polio centers) 2. Essential medicine, equipment, and supplies to the health facilities 3. Refurbish and maintain affected primary, secondary and tertiary health facilities and replenishment of equipment and supplies. Reestablishment and scaling up of integrated nutrition services including early detection and simplification of childhood wasting treatment, wasting in health facilities and communities.	70.0 66.5	110.3 105	180.3 171.5			27.4 (UN, NGOs)		

WASH, Municipal Services and Community Infrastructure	Institutional Effectiveness 1. Establish referral mechanism with attendant transport for complicated cases, Bridge critical HR gaps and build capacity of health workforce 2. Strengthen surveillance and response systems to detect disease outbreaks, 3. Enhance coordination at national and sub-national levels, including with development partners 4. Strengthen nutrition surveillance and management of severe acute malnutrition, strengthening data collection, analysis, and management of nutrition information system 5. Strengthening national and subnational nutrition coordination and leadership	3.5	5.3				8.8		Government Budget, Development Partners
		2.0	2.9				4.9		
		1.9	2.8				4.7		
		0.1	0.1				0.2		
WASH, Municipal Services and Community Infrastructure	Policy/Operational 1. Establishing appropriate regulatory framework, tariff structure, 2. Establishing proper interface between service providers and their clients and 3. Policy framework for enhanced private sector involvement for operation and maintenance of WASH and municipal services	3.0	4.0			3.2	10.2		Government Budget, Development Partners
	Investments/Programs 1. Disaster and vulnerability assessments, Cleaning, disinfection, repairs, and interim arrangement for restoration of WASH services 2. Resilient WASH facilities rehabilitation and upgrading, 3. Construction of larger, more complex schemes requiring complete reconstruction and resizing	97.3	117.7			78.4	293.4	185.0 (WB)	Government Budget, Development Partners, CSOs
	Institutional Effectiveness 1. Establishing sustainable operation and maintenance systems and increasing the role	11.7	9.3			2.3	23.3		Government Budget,

	of the local communities in sustainable operations and maintenance. 2. Institutional and HR Capacity building of government departments at provincial and district level 3. Clear roles and responsibilities within the government departments on WASH program planning and implementation									Development Partners, CSOs
Energy	Policy/Operational 1. Review the distribution network design to make it more resilient to natural hazards 2. Provide renewable energy systems to supply power to communities that are cut off 3. Rehabilitation of micro- and mini-hydroelectric power plants based on climate resilient designs	8.0	13.0	4.0	25.0	11.0 (ADB)				
			13.0	4.0	17.0					
		8.0			8.0					
	Investments/Programs 1. Fast track infrastructure restoration by rehabilitation of the damaged facilities. 2. Long-term development planning for power generation, transmission, and distribution, increase power supply coverage and explore alternate sources of energy	24.0	48.0	4.0	76.0	40.0 (ADB)				
		24.0	44.0		68.0					
Housing	Institutional Effectiveness 1. Establish emergency SOP including disaster management, stores back-up, prioritization, costing, providing renewable power equipment as emergency supply to cut off areas 2. Long-term sustainable development		16.0		16.0					
			10.0		10.0					
			6.0		6.0					
	Policy/Operational 1. Develop strategic vision with principles, policies, strategies, standards and guidelines for housing 2. Establish/ strengthen mechanisms for compliance, quality, accountability and grievance redress									

	3. Promote/ strengthen strategic land use and settlement planning, management and land administration								
	Investments/Programs	695.0	2,052.0				2,747.0	506.0	
	1. Prioritize and reconstruct/ rehabilitate houses	685.0	2,042.0				2,727.0	(WB/GoKP)	
	2. Promote and ensure multi-hazard climate adapted reconstruction	10.0	10.0				20.0		
Transport and Communication	2. Support vulnerable and other segments for settlement and documentation of land claims and security of tenure								
	Institutional Effectiveness	5.0	5.0				10.0	10.0	
	1. Provincial level centralized institutional arrangements for housing reconstruction	5.0	5.0				10.0	(WB/GoKP)	
	2. Strengthening regulatory system and increase capacity of public and private sectors								
	3. Coordination mechanisms for settlement level mitigation and resilience measures and inter-sectoral investments.								
	Policy/Operational		59.0				59.0	5.0 (WB/ADB)	
	1. Flood Susceptibility Analysis of the entire infrastructure network		40.0				40.0		
	2. Digitized hydrological studies to be carried out including future climate change scenarios		19.0				19.0		
	Investments/programs	597.5	1,683.7				4,557.9	435	ADB: US\$ 150 million for NAH and US\$200 million for Sindh roads
	1. Emergency works for restoration of services and basic connectivity and permanent repair of minor damages							(WB/ADB)	
	2. Rehabilitation and reconstruction plan in the communication sector based on prioritization criteria (national to local) and its implementation					2,276.7			
	3. Geo-spatial prioritization, infrastructure network analysis, and evaluation of damaged infrastructure								
	Institutional effectiveness		152.8				254.7	10 (WB/ADB)	
	1 Project Management, and Institutional Capacity Building					101.9			

Water Resources and Irrigation	Policy/Operational 1, Assess existing operational policies, and suggest actions 1. Advise implementation priorities for canals, drains, dams and dikes 1. Carry out stakeholders' engagement and consultation 2. Develop financial model for operational management	1.0 0.5 0.5	1.0 0.5 0.5	1.0 0.5 0.5	1.0 0.5 0.5	3.0 1.0 0.5	3 (WB/ADB)	ADB US\$110 million WB US\$100 million
	Investments/Programs 1, Repair of breaches and temporary works 2, Recovery of canals, drains, dams and dikes 3, Improvement and upgrading of irrigation, drainage, dams and dike	39.0 39.0	310.0	411.0	411.0	760.0 39.0 411.0	200.0 (WB/ADB)	
	Institutional Effectiveness 1, Identify opportunities for co-design and community contracting 1, Assess the capacity of institutions', consulting services and construction industry 1, Procure, services of consultant, contractor and staff	13.0 10.0 2.0 1.0	3.0	3.0	3.0	19.0 10.0 2.0 7.0	7.0 (WB/ADB)	
	Policy/Operational 1 Flood Susceptibility Analysis of the entire digital infrastructure network		5.0 5.0			5.0 5.0		
Digital Infrastructure	Investments/Programs 1. Emergency works for restoration of services and basic connectivity and permanent repair of minor damages 2. Rehabilitation and reconstruction plan in the communication sector based on prioritization criteria and its implementation	13.0 13.0	39.2	58.8	58.8	111.0 13.0 98.0	13 (private sector)	
	Institutional Effectiveness 1. Project Management, and Institutional Capacity Building		2.6	3.8		6.4		

Note: For SRO2, funding has not yet been identified regarding the tourism sector. Costed needs regarding commerce, industry, market, and finance are reflected in other sectors (e.g., agriculture for micro-finance loans through NGOs). Most of the policy and institutional proposals do not require funding and are therefore represented by an "X". Some related to capacity building are already reflected in other sectors. The recovery cost of all the SRO4-related sectors has been kept at the level of PDNA estimates. Revision to the recovery cost is expected in an updated version of the 4RF planned for early next year.





Government of Pakistan
Ministry of Planning,
Development and Special Initiatives
Islamabad.
Ph: +92 51 9212831

 @PlanComPakistan  PlanComPakistan  pc.gov.pk

