

Pakistan National Anticipatory Action Strategy

2026 - 2030

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Foreword

The National Anticipatory Action Strategy (2026–2030) represents an important step in strengthening Pakistan’s disaster risk management system through a shift from reactive response to forward-looking, anticipatory approaches. As climate-related hazards become more frequent and severe, it is essential that institutions are equipped to act decisively before impacts occur, reducing risks to lives, livelihoods, and national development.

Pakistan has already demonstrated strong operational capacity in early warning, preparedness, and coordinated response. This Strategy builds on that foundation by establishing a structured strategy that systematically links forecasts to pre-agreed actions, financing, and institutional responsibilities. By embedding anticipatory action within existing systems, it ensures that early warnings translate into timely, effective measures on the ground.

The Strategy provides clear direction for operationalizing anticipatory action across federal, provincial, and district levels, supported by strengthened coordination,

improved risk information, and sustainable financing mechanisms. It also reflects a shared commitment across government and partners to work collectively towards reducing disaster impacts and enhancing resilience.

It is expected that this Strategy will serve as a cornerstone for institutionalizing anticipatory action in Pakistan, enabling a more efficient, predictable, and people-centred approach to disaster risk management in the years ahead.



Lt. Gen. Inam Haider Malik, HI (M)

**Chairman,
National Disaster Management
Authority**

Acknowledgement

The National Disaster Management Authority (NDMA) spearheaded the formulation of the National Anticipatory Action Strategy (2026–2030), providing strategic direction, institutional leadership, and overall coordination of the process. Through its convening role, NDMA mobilized governmental, provincial, academic, and development partners to establish a nationally owned strategy for anticipatory action in Pakistan.

Technical and financial support for the Strategy was provided by the World Food Programme (WFP) and the Food and Agriculture Organization (FAO). Their support strengthened the evidence base, analytical rigor, and operational relevance of the Strategy.

Extensive national and provincial consultations conducted across Pakistan were facilitated by the Sustainable Development Policy Institute (SDPI), ensuring inclusive stakeholder engagement and the integration of regional perspectives and priorities into the strategic framework.

Strategic oversight and guidance were provided through the National Coordination Forum on Anticipatory Action (NCF-AA), alongside national and provincial stakeholders under the leadership of the National Disaster Management Authority (NDMA). This collaborative governance approach ensured alignment with national development and disaster risk management priorities, fostered institutional coherence, and promoted a shared vision for advancing anticipatory action across Pakistan.

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Executive Summary

Pakistan faces increasing frequency and intensity of climate-induced hazards, resulting in recurring human, economic, and fiscal losses. While forecasting capabilities and disaster management systems have improved, early warnings are not systematically linked to pre-agreed decisions, financing, or operational actions. As a result, responses remain largely reactive, leading to avoidable losses and higher recovery costs.

The National Anticipatory Action Strategy (2026–2030) establishes an operational framework to enable forecast-based, early action by government institutions before hazard impacts escalate into disasters. The Strategy does not introduce new structures; rather, it strengthens existing disaster risk management systems by embedding trigger-based decision-making, pre-arranged financing, and coordinated implementation mechanisms across federal, provincial, and district levels.

The strategy is structured around five interdependent pillars:

- (i) Risk Information, Early Warning and Trigger Systems;
- (ii) AA planning & Operational Delivery;
- (iii) Pre-Arranged Financing;
- (iv) Governance, Coordination and Implementation; and
- (v) Evidence Generation and Capacity Building.

Together, these pillars establish a rules-based system where credible forecasts trigger predefined actions and financing within defined institutional mandates.

At the institutional level, the National Disaster Management Authority (NDMA) provides strategic leadership, supported by the National Emergency Operations Centre (NEOC) for risk analysis and trigger validation. Coordination is operationalized through the National Coordination Forum on Anticipatory Action (NCF-AA), which aligns federal, provincial, and partner efforts through thematic sub-committees. Provincial governments, in line with post-devolution mandates, lead operational implementation through PDMAs, supported by district administrations and community-level structures.

The Strategy adopts a phased implementation approach. Initially efforts will focus on establishing core building blocks, including trigger systems, data integration, financing mechanisms, and governance arrangements. This will be followed by operationalization through sector-specific protocols and targeted pilots, with progressive scale-up and integration into government planning, budgeting, and service delivery systems.

A key feature of the Strategy is the establishment of pre-arranged financing mechanisms, including dedicated contingency funds, social protection-linked delivery systems through BISP, and engagement with international financing instruments. These mechanisms ensure that resources are available and can be disbursed rapidly upon trigger activation.

The Strategy also emphasizes last-mile delivery and inclusion, leveraging community-based structures and existing service delivery systems to ensure that anticipatory actions reach vulnerable populations effectively and equitably. Sectoral applications, particularly in agriculture, livestock, health, and education are supported through the development of impact-based forecasting and sector-specific advisory systems.

A structured Monitoring, Evaluation and Learning (MEL) framework underpins Strategy, ensuring accountability, continuous system improvement, and evidence-based scaling. National and provincial capacities will be strengthened through targeted training, standardized protocols, and integration of AA into existing institutional systems.

The successful implementation of this Strategy will enable Pakistan to transition towards a proactive, predictable, and efficient disaster risk management system, where early warnings consistently lead to timely protective actions. This shift is expected to reduce disaster impacts, safeguard livelihoods, enhance fiscal resilience, and support sustainable development outcomes in the context of increasing climate risk.





01

CHAPTER

Introduction

Pakistan is among the most disaster-prone countries in the region, facing recurrent floods, droughts, heatwaves, cyclones, and glacial lake outburst floods that cause substantial human, economic, and fiscal losses each year. Floods alone are associated with an average annual loss of approximately USD 1.5 billion, while earthquakes contribute an additional USD 614 million in annual losses. Since 1990, disasters have caused over USD 30 billion in damage and an estimated 86,000–96,000 fatalities, with annual losses exceeding USD 2 billion due to climate- and disaster-related events (ADB/CAREC, 2024). Climate change is expected to further intensify hydro-meteorological hazards, increasing pressure on public finances and response systems.

Fiscal analyses used by ADB and World Bank show that Pakistan's existing contingency and disaster funds cover only a small fraction ($\approx 3\text{--}5\%$) of average annual losses, forcing reliance on delayed reallocations and external assistance.

Despite improvements in early warning systems and disaster preparedness, public action in Pakistan is still largely triggered after disaster impacts have occurred. Forecasts and warnings are available for many high-risk hazards, yet they are not systematically linked to early decisions, pre-agreed actions, or financing mechanisms. This gap results in avoidable loss of life, livelihoods, and public assets, and higher costs for emergency response and recovery.

PURPOSE AND SCOPE OF THE STRATEGY

The National Anticipatory Action Strategy provides an operational framework to enable timely, forecast-based early action by government institutions and partner organisation before hazard impacts escalate into disasters. It provides a strategic framework for creating the institutional, policy, and coordination conditions needed to operationalize anticipatory action within existing disaster risk management systems. It applies initially to priority climate and weather hazards for which functional forecasting and early warning systems exist, with phased expansion based on readiness and evidence.

The implementation of this Anticipatory Action (AA) Strategy will establish a nationally endorsed framework that institutionalizes anticipatory approaches within Pakistan's disaster risk management system, with clearly defined roles, coordination mechanisms, and trigger-based protocols.

The National Disaster Management Authority (NDMA) will provide strategic leadership, policy oversight, and coordination, ensuring alignment with national priorities and integration of AA into existing systems. National Coordination Forum on AA (NCF-AA)¹ members and co-leads of sub thematic committee including United Nations agencies, international and national non-governmental organizations, and technical institutions, will support implementation through the provision of technical expertise, risk modelling, early warning systems, pre-arranged financing instruments, and operational delivery of anticipatory interventions. These partners will further contribute to capacity strengthening, evidence generation, and performance monitoring to ensure effectiveness and accountability.

Provincial implementation will be done through Provincial DMAs with the support of existing TWGs on AA in respective provinces/states.

The roadmap for Anticipatory Action in Pakistan will be pursued through a phased and systematic approach, encompassing:

- (i) institutionalization of AA within national and sub-national policies and frameworks;
- (ii) development of systems, including data, triggers, and financing mechanisms;
- (iii) operationalization through targeted pilots in high-risk geographies and sectors; and
- (iv) progressive scale-up and integration into government-led systems to ensure sustainability and long-term impact.

This Strategy is aligned with the National Disaster Risk Reduction Policy (2013) National Disaster Risk Strategy (2025-2030) and the National Disaster Management Plan (2026 -2030) and operationalizes their commitments on preparedness and early warning. It does not create new mandates or parallel structures; rather, it strengthens implementation within Pakistan's multi-tier disaster management system established under the National Disaster Management Act. The Strategy is also informed by international good practice, particularly the ASEAN Framework on Anticipatory Action, adapted to NDMA Act (2010) and Pakistan's constitutional, institutional, and fiscal context.

The Strategy serves as an implementation tool, not a conceptual framework. It clarifies roles and responsibilities, establishes trigger-based decision processes, and enables sustainable, rapid and financing mechanism for early action. Its intended outcome is the establishment of functional anticipatory action systems across priority hazards, ensuring that credible

¹ National Coordination Forum on AA (NCF-AA) is the technical working group on AA led by NDMA with members from PDMA, PMD and other. There are 5 sub thematic committees 1) Policy, Financing and institutionalisation (co-led by WFP), 2) Anticipatory Actions (Co-led by FAO), 3) Trigger (co-led by WHH), Coordination (co-led by UN OCHA), Learning and evidence (co-led by GRC/IFRC/PRCS)

forecasts consistently lead to protective action for vulnerable populations, livelihoods, and critical infrastructure.

The Strategy is structured around **five pillars**

- 1) Risk Information and Early Warning;
- 2) AA planning & Operational Delivery;
- 3) Pre-Arranged Finance;
- 4) Governance, Coordination and Implementation
- 5) Evidence Generation and Capacity Building,

and covers the period 2026–2030, aligned with national planning and budget cycles.





02

CHAPTER

ANTICIPATORY ACTION IN PAKISTAN: CONCEPTUAL BASIS AND CURRENT PRACTICE

Anticipatory Action in Pakistan is defined by Anticipatory Action in Disaster Risk Management: A comprehensive Guideline 2024 (NDMA) as a set of pre-emptive interventions undertaken when a hazard poses imminent risk, based on credible forecasts, early warnings, or pre-disaster risk analysis. These actions are implemented prior to the onset of disaster impacts, with the objective of reducing anticipated losses to lives, livelihoods, essential services, and public and private infrastructure.

AA is defined as

“Anticipatory action is a set of interventions that are carried out when a hazard poses imminent danger based on a forecast, early warning or pre-disaster risk analysis. Anticipatory action is taken by an individual or organization before an anticipated disaster to mitigate its impact on people, assets and infrastructure that are likely to be affected.”

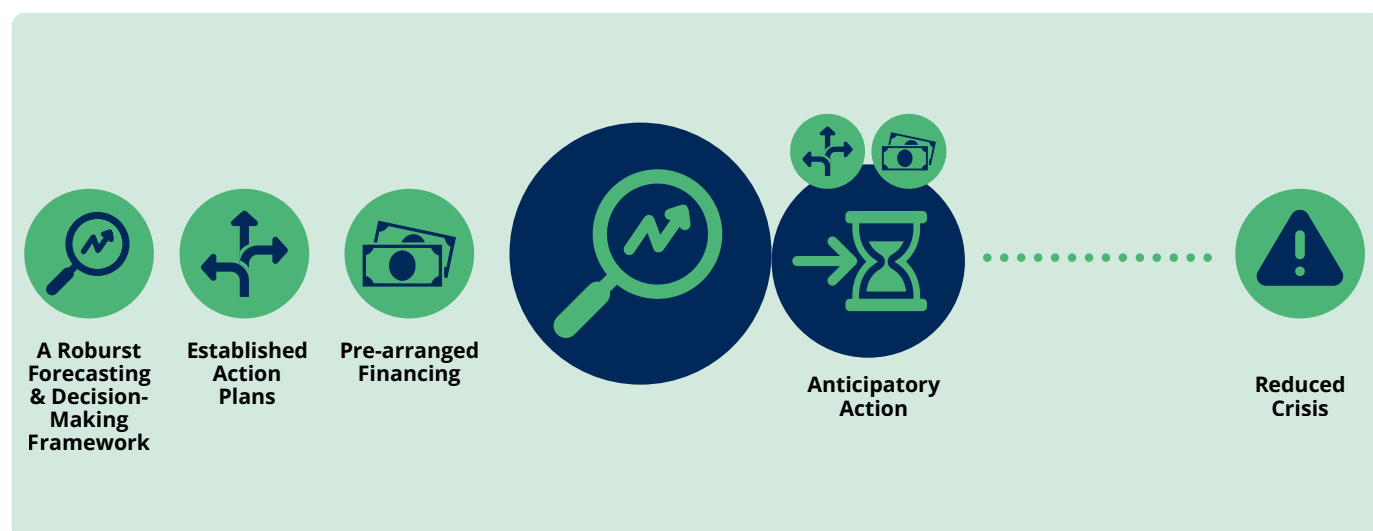


Figure: Understanding AA (from Disaster Risk Management: A comprehensive Guideline 2024 (NDMA))

In Pakistan’s context, Anticipatory Action is applicable to hydrometeorological and climatic hazards for which reliable forecasting and warning lead times are available, including floods, droughts, landslides, heat and cold waves, cyclones, glacial lake outburst floods, and storm surges. Other high-impact hazards continue to be addressed through preparedness, risk reduction, and response mechanisms under the broader disaster risk management framework, where forecast-based early interventions remain constrained.

Long-term climate stressors, such as sea-level rise and gradual changes in water availability, are addressed through adaptation and development planning, as they require sustained measures rather than time-bound actions linked to early warnings. Within the national disaster risk management system, Anticipatory Action is positioned as an operational function between preparedness and emergency response, enabling institutions to translate forecasts into timely, pre-agreed actions and financing before disaster impacts occur.

2.1 Institutional Architecture and Functional Responsibilities

Pakistan operates a three-tier disaster management system, where policy authority is centralized, but operational responsibility is decentralized. This structure is well-suited for Anticipatory Action, provided that clear triggers, delegated authority, and pre-arranged financing are established across all tiers. However, these measures are not yet consistently guided by standardized forecast-based protocols, clearly defined decision-making authorities, or dedicated financing arrangements. Strengthening the linkages between early warning information and pre-agreed operational responses will require greater institutional clarity, enhanced coordination mechanisms, and supportive governance frameworks. Accordingly, the advancement of Anticipatory Action in Pakistan is best pursued through the systematic integration of anticipatory approaches within the existing DRM architecture established under the NDMA Act, rather than through the creation of parallel structures.

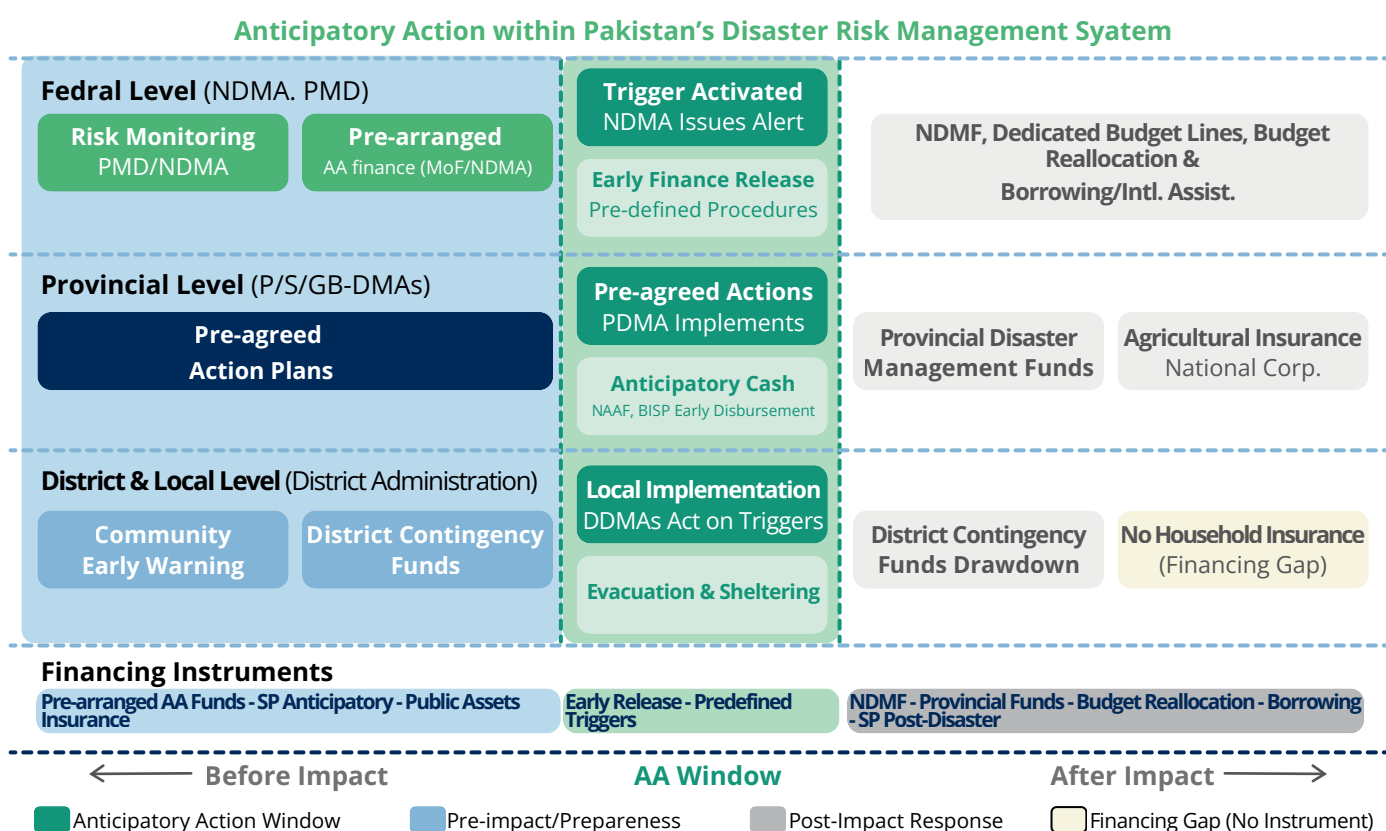
The National Coordination Forum on Anticipatory Action (NCF-AA), established by the National Disaster Management Authority, provides the national coordination and governance mechanism for anticipatory action in Pakistan. Chaired by NDMA, the Forum brings together relevant federal and provincial authorities, technical agencies, and partners to guide policy development, harmonize approaches, and support institutionalization of anticipatory action. Within this Strategy, the NCF-AA serves as the primary platform for aligning triggers, actions, financing, and evidence across institutions. It supports a coordinated, government-led approach to scaling anticipatory action within existing disaster risk management systems.

Below figure illustrates how AA operates within Pakistan's disaster risk management system by linking forecast lead time, institutional decision-making, and pre-arranged financing to enable action before disaster impacts occur. It highlights the shift from a predominantly reactive response model to a proactive, forecast-triggered approach that reduces losses, protects livelihoods, and limits post-disaster fiscal and humanitarian costs.

The figure is structured along two dimensions: time relative to disaster impact and the escalation of disaster severity. Within this strategy, AA is positioned in a defined operational window between preparedness and emergency response, where reliable forecasts and early warnings provide sufficient lead time for institutions to act before impacts materialize. During this window, forecasts issued by the Pakistan Meteorological Department activate pre-agreed thresholds endorsed by the National Disaster Management Authority and Provincial Disaster Management Authorities, triggering predefined actions supported by pre-arranged financing. These actions include anticipatory cash assistance

through social protection systems, early evacuation and protection of vulnerable populations, safeguarding of livelihood assets, and measures to ensure continuity of critical services.

As risk escalates beyond this window, the system transitions to traditional emergency response following disaster impact, relying on declarations of emergencies, post-disaster assessments, and budget reallocations, typically at higher human and fiscal cost. By contrasting pre-impact and post-impact financing pathways, the figure demonstrates how shifting a portion of public expenditure into the anticipatory action window strengthens the link between early warning and early action, enhances system efficiency, and improves outcomes for affected communities, while remaining fully embedded within Pakistan's existing disaster risk management architecture.



Source: Adapted from Pakistan's risk-layered approach to DRF. NDMA Anticipatory Action Strategy.
 Pillar 3: Pre-Arranged Finance - financing aligned to forecast-based triggers enables early protective action and reduces post-disaster emergency budget reliance.

2.2 Coordination Gaps and Overlaps Affecting Anticipatory Action in Pakistan

Despite the presence of well-established institutions, forecasting capabilities, and operational experience, anticipatory action in Pakistan has yet to be implemented in a consistent and systematic manner. The primary constraint lies not in technical capacity, but in coordination gaps and functional overlaps within the existing disaster risk management

system. Forecasts and early warnings are routinely generated, yet they are not systematically linked to pre-agreed decision authority or financing for early action. Responsibilities for preparedness and response are distributed across federal, provincial, and district levels, but the lack of shared trigger protocols results in delays, particularly during the pre-impact phase. Financing mechanisms remain largely event-based, with limited provisions for releasing funds before disaster impacts occur. At the same time, humanitarian and development partners have piloted anticipatory approaches that overlap with government functions but are not embedded in statutory systems, limiting scale and sustainability. Addressing these coordination challenges is essential to ensuring that early warnings consistently translate into timely, accountable, and coordinated early action.

Coordination Area	Institutions Involved	Nature Of Gap Or Overlap	Implications For AA
Forecast To Decision Linkage	PMD, NDMA, PDMAAs	Clear forecasts exist, but decision authority to act on forecasts is not formally triggered	Delays in translating early warnings into early action
Federal-Provincial Activation	NDMA, PDMAAs/SDMA/GBDMA	Overlapping preparedness mandates, but no shared trigger protocol	Provinces wait for federal signals, losing lead time
Provincial-District Execution	PDMAAs, DDMAAs, District Administration	Districts operationally responsible, but lack explicit mandate to act pre-impact	Hesitation to implement anticipatory actions without disaster declarations
Financing Authority	Ministry of Finance, NDMA, Provinces	Multiple disaster funds exist without forecast-based release rules	Funding mobilized after impact rather than before
Social Protection Coordination	BISP, Provincial SPAs, NDMA	Parallel systems with limited pre-agreed activation mechanisms	Anticipatory cash not systematically triggered
Humanitarian-Government Interface	NDMA, HCT, PHF, NHN	Overlap in early analysis and pilots, but limited institutional alignment	AA pilots remain fragmented and non-scalable
Sectoral Action Planning	NDMA, Line Ministries	Sectoral plans exist, but not synchronized around common triggers	Early sectoral actions are inconsistent across hazards



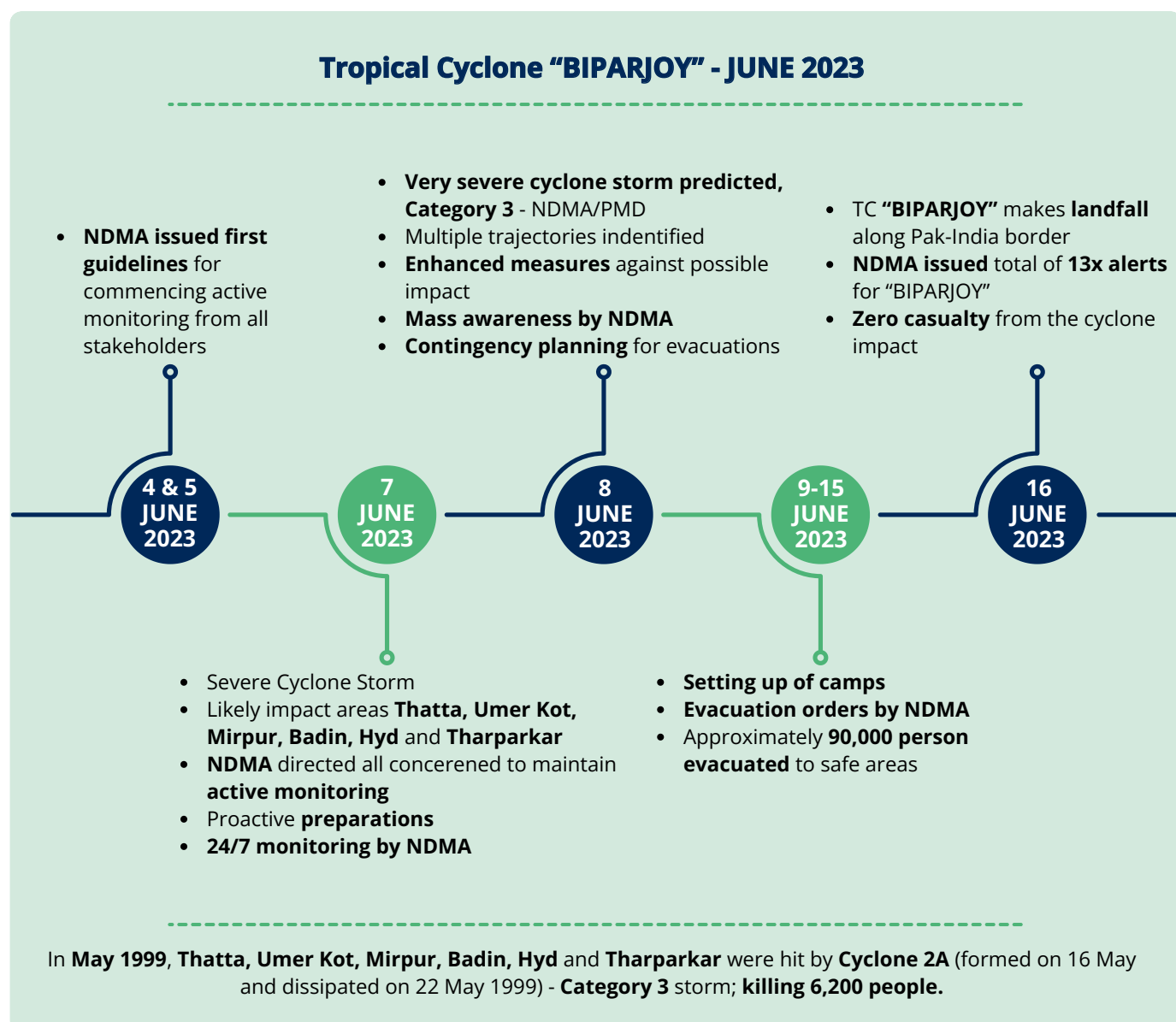
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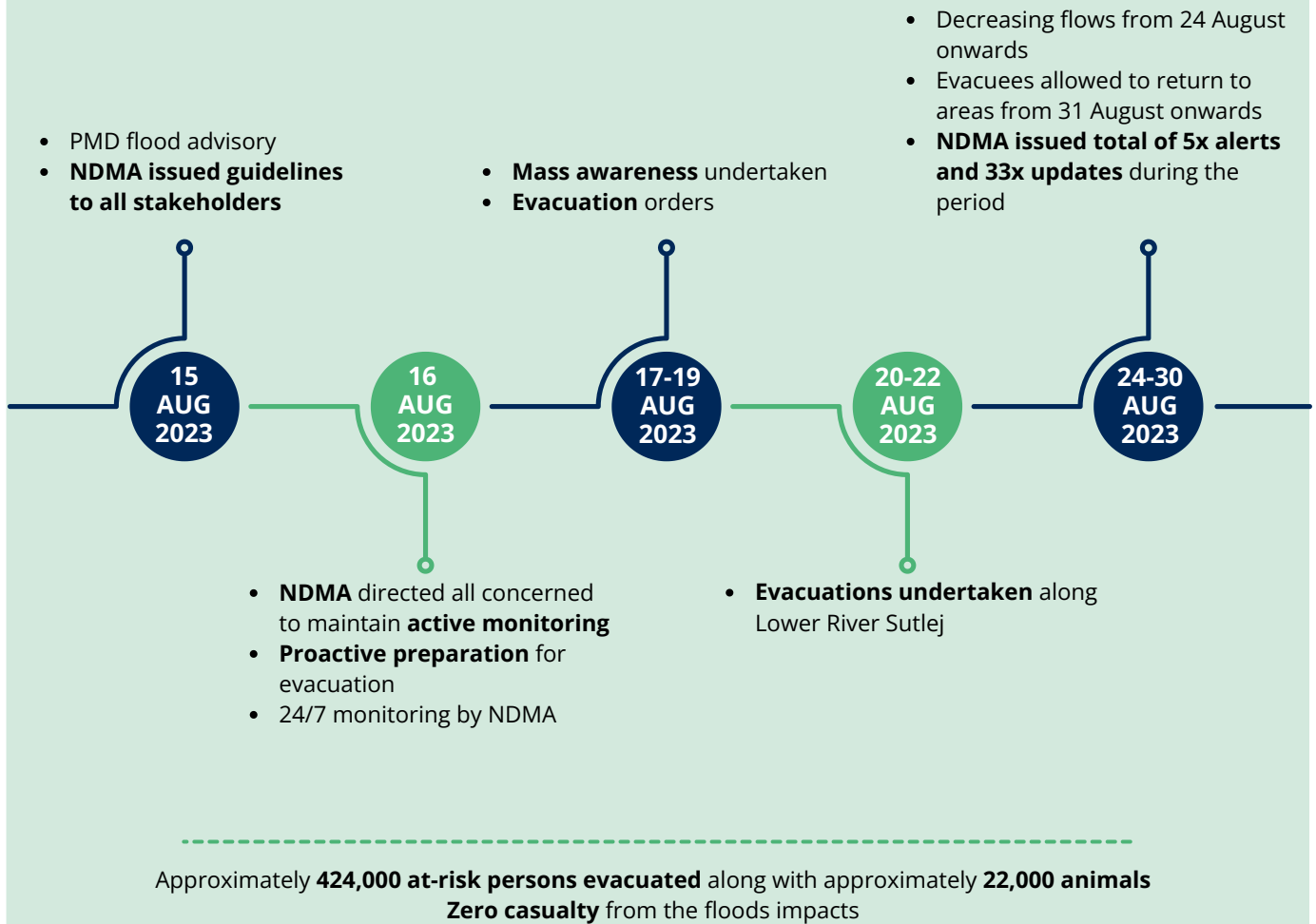
Implementing AA in Pakistan: Contextual Factors

The foundation of Anticipatory Action in Pakistan rests upon a well-defined three-tier disaster risk management system, comprising federal, provincial, and district levels, with clearly articulated mandates and escalation pathways. This governance structure enables early warnings and risk intelligence generated at the national level to be translated into actionable measures at sub-national and local levels within short decision-making timeframes.

Pakistan presents a uniquely enabling context for the institutionalisation and scale-up of Anticipatory Action (AA), owing to its established disaster risk management architecture, operational experience with forecast-based decision-making, and demonstrated capacity to undertake large-scale early actions ahead of hazard impacts. Evidence from recent national-scale hazard events specifically Tropical Cyclone Biparjoy (June 2023) and Monsoon Flooding along the River Sutlej (August 2023)—clearly demonstrates that AA principles have already been operationalised through government systems, albeit without formal classification or dedicated anticipatory financing.



Monsoon 2023 Flooding - River Sutlej



3.1 Federal Level – Strategic Triggering, Early Warning and National Direction

At the federal level, the National Disaster Management Authority (NDMA), in coordination with the Pakistan Meteorological Department (PMD) and other federal stakeholders, played a decisive role in early hazard recognition, risk analysis, and anticipatory direction.

In the case of **Cyclone Biparjoy**, federal-level actions commenced more than **10 days prior to landfall**, including:

Initiation of 24/7 monitoring and active coordination mechanisms	These actions demonstrate that Pakistan's federal disaster management apparatus already functions as a de facto trigger authority for Anticipatory Action, aligning closely with international best practice on forecast-based financing and early action protocols.
Issuance of early advisories and national preparedness guidelines	
Dissemination of multiple impact-based alerts specific to cyclonic intensity, coastal exposure, and storm surge risks	
Direction for proactive preparedness measures, including evacuation planning, camp readiness, and inter-agency contingency planning	

Similarly, during the **River Sutlej flooding**, NDMA issued early advisories based on upstream discharge data and forecasted inflows, directing concerned authorities to initiate preparatory actions along vulnerable riverine belts well in advance of peak flow periods.

3.2 Provincial Level – Operational Translation and Resource Readiness

At the provincial level, Provincial Disaster Management Authorities (PDMAs) served as the critical intermediary between strategic federal guidance and district-level implementation. The evidence shows that provinces did not merely relay warnings but actively translated them into operational preparedness and anticipatory deployment of resources.

During Cyclone Biparjoy, provincial authorities particularly in Sindh mobilised: - Pre identified evacuation shelters and relief camps - Provincial health, rescue, and local government assets - Standby support from law enforcement and Armed Forces - Coordination mechanisms across line departments to ensure continuity of essential services	Similarly, during the Sutlej floods, provincial authorities in Punjab coordinated: - River monitoring and discharge management - Evacuation readiness along vulnerable river stretches - Pre-positioning of boats, medical services, and livestock protection measures
This demonstrates that provincial governments already possess the administrative authority and operational capacity required to activate anticipatory actions once triggers are issued, reinforcing the feasibility of embedding AA within existing provincial DRM frameworks.	

3.3 District Level – Execution of Anticipatory Actions Ahead of Impact

District administrations emerge as the **primary executors of Anticipatory Action**, translating early directives into tangible life-and livelihood-saving measures on the ground. Large-scale anticipatory actions ahead of Cyclone Biparjoy and River Sutlej flooding facilitated the evacuation of more than 324,000 at-risk individuals and protection of livelihoods through coordinated relief, health, and shelter interventions.

These actions provide strong national evidence that district administrations in Pakistan are already capable of executing AA measures at scale, provided that timely direction and resources are made available.

Demonstrated Good Practices Supporting Anticipatory Action Across the DRM Cycle

The responses to above mentioned hazard illustrate that Anticipatory Action in Pakistan is not a standalone or parallel mechanism, but rather an extension and strengthening of existing preparedness and response systems.

Key good practices include:

<i>Forecast-informed decision-making, using meteorological and hydrological trends to guide early action.</i> Meteorological and hydrological forecasts generated by the Pakistan Meteorological Department (PMD) and relevant technical agencies were interpreted by NDMA as actionable decision triggers, enabling early advisories and national direction well before hazard impact. These signals were then operationalized by PDMAs, translating forecast confidence into timely preparedness measures across provinces.	<i>Pre-deployment of response assets, including health services, rescue teams, and security forces</i> Based on federal-level advisories issued by NDMA, provincial authorities pre-deployed health services, rescue assets, security forces, and critical equipment in high-risk areas. This anticipatory positioning reduced response delays and ensured that districts had immediate operational capacity once hazards materialized.
<i>Early evacuation planning, implemented before hazard impact rather than as a reaction to unfolding events</i> Evacuation decisions were taken by provincial and district administrations based on forecasted risk rather than observed damage, with NDMA and PDMAs providing early guidance and coordination. This enabled orderly, large-scale movement of populations and protection of assets under controlled conditions before impact.	<i>Integrated coordination, ensuring that anticipatory actions seamlessly transitioned into response operations</i> Federal strategic direction by NDMA, operational translation by PDMAs, and execution by district administrations ensured that anticipatory measures transitioned seamlessly into response operations. This continuity across institutional levels strengthened coherence, avoided duplication, and reinforced the effectiveness of Pakistan's disaster risk management system.

Most notably, these anticipatory measures resulted in **negligible to zero fatalities**, even in hazard contexts with historically high mortality rates, demonstrating clear value for public investment.

Limitations in Current Practice and Priority Challenges

Despite these strengths, the current approach to anticipatory action in Pakistan remains largely ad-hoc and informal, resulting in several structural limitations:

- Anticipatory actions currently rely on discretionary decisions and emergency reallocations rather than pre-agreed triggers linked to automatic funding release.
- While alerts are issued, there is limited formalisation of thresholds that mandate specific early actions, which can introduce delays under certain administrative conditions.
- While some districts demonstrate strong readiness, others require significant external support, highlighting the need for standardised minimum preparedness benchmarks.
- There is a need to systematically capture, analyse, and integrate existing AA(-like) actions into formal DRM policies, contingency plans, or financing frameworks.
- Current practices could be strengthened by expanding AA beyond evacuation to include household-level protection, livelihood safeguarding, and early financial support.

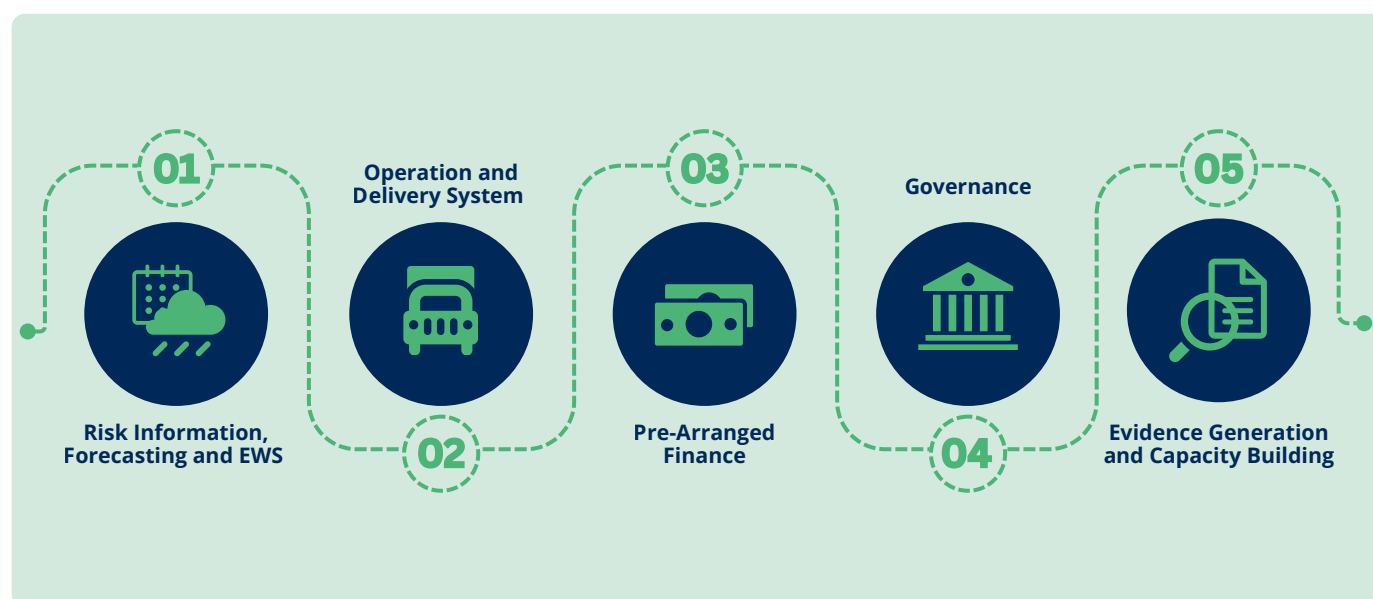


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Pillars of Anticipatory Action Strategy

The strategy has been developed based on the following five key pillars, incorporating localized models and integrating AA into existing systems, where possible, to establish a context-specific AA framework for Pakistan.



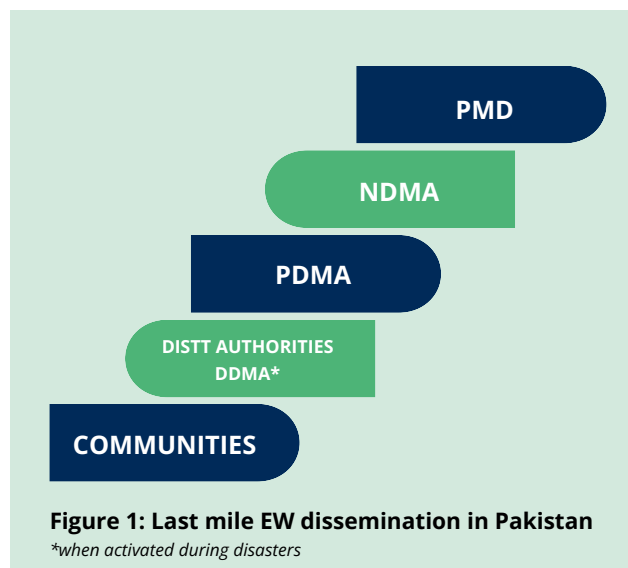
Pillar 01: **Risk Information, Early Warning & Trigger Systems**

Effective anticipatory action is only as good as the risk intelligence that underpins it. Pakistan possesses significant institutional assets in hydro-meteorological forecasting, disaster risk analysis, and early warning dissemination yet these remain fragmented across agencies, inconsistently linked to operational decision-making, and insufficiently granular for local action. This Pillar establishes the strategic architecture for transforming Pakistan's early warning ecosystem into a coherent, decision-Support system capable of triggering pre-agreed anticipatory responses at scale.

Institutional Roles and Governance for Early Warning

When combined with robust preparedness and response mechanisms, early warning systems can significantly reduce disaster risks and their impacts in Pakistan. The responsibility for early warning generation and information lies with the Pakistan Meteorological Department (PMD), particularly through its specialized hazard specific division such as Drought Monitoring centre, Flood Forecasting Division (FFD) etc. The PMD issues relevant information about river conditions to decision-makers at local, provincial, and federal levels, as well as the public.

At the federal and provincial levels, warnings are disseminated by the National Disaster Management Authority (NDMA) and Provincial Disaster Management Authorities (PDMA) through television channels, broadcast SMS services and radio stations. At the local level, public messages are disseminated through tehsil, town, and union council members/staff, often using local mosques as platforms. Agriculture and social welfare departments can play a key role in implementing early warning systems at the district level through their local staff.



National Disaster Management Authority's National Emergencies Operation Center (NEOC) has, over the years, evolved into the country's premier multi-hazard monitoring, risk analysis, and disaster information management platform. NEOC maintains an extensive repository of hazard profiles, disaster risk management datasets, socio-economic indicators, weather forecasting models, and impact-based risk assessment tools to support timely decision-making and anticipatory action at national and sub-national levels.

Simply providing access to information is not enough; it is essential to ensure that the information is usable and actionable. Currently, most risk alerts and early warning content are produced in Urdu and English and disseminated among a limited number of organizations at the federal and provincial levels. The absence of functional district-level disaster management bodies poses a challenge for effective EWS implementation at the local level.

In addition to technological deployments, practical actions at the local level should include engaging community leaders, religious figures, and traditional networks to disseminate risk information through trusted, culturally appropriate channels such as mosque announcements, community gatherings, folk media, and local radio. Training local volunteers and community-based organizations to interpret early warning messages and translate them into simple, actionable guidance using local languages and culturally familiar practices can ensure that households, especially those without access to digital platforms, receive timely and credible alerts. Establishing community alert mechanisms such as flag systems, sirens, or door-to-door notification can further operationalize these indigenous approaches and ensure last-mile reach.

The current early warning landscape in Pakistan involves multiple federal and provincial actors, including the Pakistan Meteorological Department (PMD), NDMA, PDMA, irrigation departments, and district administrations. While these institutions play complementary roles across the warning chain, responsibilities for warning generation, validation, and dissemination are not always formally articulated across all levels. As a result, coordination can sometimes be challenging, with the potential for overlapping efforts, variations in messaging, and constraints in ensuring that timely and consistent warnings reach at-risk communities at the local level.

The strategy proposes to develop national Early Warning Institutional Responsibility Matrix, that formally assigns:

- **Warning generation:** For short term forecasting PMD as the primary authority for meteorological and hydrological forecast products (flood, drought, GLOF, heatwaves)
- **Warning validation:** For seasonal forecasting NDMA's NEOC and PDMA (PEOC) as the body responsible for reconciling forecast inputs and issuing consolidated anticipatory action trigger determinations.
- **Warning dissemination:** PDMA as the primary dissemination channel at provincial level, with mandatory cascading protocols to DDMA and community-level focal points.
- **Warning communication:** Pakistan Telecommunication Authority (PTA) to ensure integration of Common Alerting Protocol (CAP)-compliant messages through cell-broadcast and other multi-channel platforms.

Key Institutional Gap

There is currently no institutionalized mechanism for NDMA to formally issue a binding "AA Trigger Determination" that obligates line ministries and financial authorities to release pre-arranged funds. Establishing this function with clear legal basis and defined timelines is a precondition for operationalizing the entire anticipatory action system. This strategy recommends that this be formalized through an amendment to the NDMA Act 2010.

Harmonizing Trigger Methodologies

A trigger is the pre-agreed threshold expressed in probabilistic forecast terms above which a designated set of anticipatory actions is automatically activated. The scientific and

operational credibility of triggers is foundational to the entire anticipatory action system: triggers that are set too conservatively will result in missed events and erosion of community trust; triggers that are set too liberally will lead to unnecessary expenditure and alert fatigue. Pakistan currently lacks a standardized, peer-reviewed trigger methodology applicable across hazard types and geographic contexts.

Trigger Development and Validation

This Strategy proposes to establish a Technical Committee for Trigger Development under NDMA's NEOC, providing technical support to NCF-AA and its Thematic Sub-Committee on Triggers, in developing hazard-wise triggers for AA activations to ensure a structured and credible process for trigger validation.

Central Exposure and Vulnerability Database

A prerequisite for impact-based triggers is granular, georeferenced data on population exposure and socioeconomic vulnerability. The Strategy propose the integration of Census 2023 data, BISP National Socioeconomic Registry (NSER) records, agricultural landholding records, and livestock census data into a unified, spatially indexed National Exposure and Vulnerability Database (NEVD), maintained by NDMA and updated on a biennial basis. This database will serve as the denominational reference for all AA targeting and trigger calibration.

Multi-Hazard Vulnerability and Risk Assessment (MHVRA) and Geographical Targeting for Anticipatory Action

A foundational requirement for effective anticipatory action is the systematic identification of hazard-prone areas and populations at heightened risk through a harmonized Multi-Hazard Vulnerability and Risk Assessment (MHVRA). The process of conducting Multi-Hazard Vulnerability and Risk Assessments (MHVRAs) across districts in Pakistan is currently underway; where such assessments have been completed, their outputs should be systematically integrated into anticipatory action frameworks to inform risk-informed planning, trigger development, and geographical targeting.

The Strategy proposes the consolidation of hazard profiles including floods, droughts, heatwaves, and other climate-related risks with exposure and vulnerability data to produce dynamic, geospatial risk layers at district and sub-district levels.

Leveraging these risk insights, geographically targeting protocols will be established to prioritize high-risk localities for anticipatory interventions. This process will be institutionalized through NDMA, in coordination with relevant technical agencies at provincial and district level, to ensure that anticipatory action planning, trigger thresholds, and pre-arranged financing (more details in Pillar3) are explicitly aligned with identified risk hotspots.

Data Sharing and Interoperability

The fragmentation of hazard and vulnerability data across multiple custodian agencies represents one of the most significant structural barriers to operationalizing AA in Pakistan. Data sharing protocols or the absence thereof determines whether risk information translates into coordinated operational decisions or remains siloed within institutional boundaries.

The Strategy proposes to initiate discussion for formal Data Sharing Agreements (DSAs) between PMD, FFC, GMRC, NDMA, PBS (Pakistan Bureau of Statistics), BISP, Social protection authorities and relevant provincial departments within twelve months of strategy adoption.

These agreements shall specify:

- Real-time data² feed access to NDMA's integrated National Common Operating Picture (NCOP), with standardized API protocols³ and Common Alerting Protocol (CAP)⁴ v1.2 compliance.
- Minimum data quality standards, refresh frequencies, and version control requirements for all shared datasets.
- The strategy will promote the use of secure, protocol-based access mechanisms, aggregated datasets, or proxy indicators for anticipatory action targeting, ensuring that data protection requirements are upheld while enabling risk-informed decision-making.
- A joint data audit mechanism to identify and remediate critical data gaps on a rolling basis.

²Systems can automatically share and receive information (e.g., weather alerts, flood levels) instantly—without manual delays.

³APIs (Application Programming Interfaces) are the “connectors” that allow different systems (e.g., PMD, PDMA, NGOs) to communicate with the EWP in a consistent and automated way

⁴CAP is an international standard format for sending alerts.

3.1.4 Translating Forecasts into Sector-Specific Advisories

Even technically sophisticated forecast products have limited operational utility unless they are translated into sector-specific advisories that enable agriculture departments, livestock authorities, water utilities, health systems, shelter, livelihood restoration and social protection programmes to take targeted preparedness action. The gap between meteorological forecast and actionable sectoral guidance represents one of the most critical and most frequently overlooked bottlenecks in Pakistan's DRM system.

This strategy establishes a mandate with NDMA, PDMAs, to develop a structured programme of Sector-Specific Forecast Translation Protocols (SFTPs) covering the priority sectors within 24 months:

Priority Sectors and Forecast Translation Products

Priority Sector	Forecast Translation Product
Agriculture & Food Security	Crop damage forecasts and advisory packages by agro-ecological zone
Education	School disruption risk forecasts and advisory packages, including early warning alerts for extreme weather (floods, heatwaves) linked to school safety planning, closure protocols, and continuity of learning measures
Livestock & Veterinary Services	Fodder and feed scarcity alerts linked to drought indices
Public Health & Disease Surveillance	Alert for vector-borne disease risk linked to climate sensitive health hazard
Infrastructure & Connectivity	Road accessibility risk maps for emergency logistics planning
Shelter and Settlement	Settlement exposure and displacement risk forecasts linked to evacuation planning and emergency shelter readiness
Social Protection and Livelihood Restoration	Shock-responsive social protection targeting forecasts using hazard exposure, vulnerability indicators, and beneficiary risk profiling to support anticipatory assistance

Sector-specific advisories shall be co-developed with line ministries particularly the Ministry of National Food Security & Research, Ministry of Livestock & Dairy Development, and relevant provincial departments to ensure advisories reflect operational realities and are formatted for decision-maker consumption at district and sub-district level.

Priority Actions and Implementation Timeline

Priority Action	Lead Institution	Supporting role	Timeframe	Status
Develop Early Warning Institutional Responsibility Matrix	NDMA / PMD	NCF-AA	6 months	High Priority
Operationalise Trigger Development/validation committee with NDMA/NCF-AA	NDMA	NCF-AA (trigger STC)	6 months	High Priority
Initiate National Exposure & Vulnerability Database	NDMA	P&D, MoPASS, SP, PDMA (IDSSs), PBS, MoPDSI, SUPARCO, PMD	18 months	High Priority
Develop Sector-Specific Forecast Translation Protocols	NEOC/ PMD / Line Ministries	Sectoral Lead, NCF-AA(STC)	24 months	Medium Priority

Pillar 02: **AA Planning & Operational Delivery**

Anticipatory action is only transformative if it reaches vulnerable households before a hazard strikes, in sufficient quantity, through reliable channels, and with sufficient targeting precision to prioritize those most at risk. Pakistan possesses a substantial and significantly underutilized foundation of programme infrastructure, social protection systems, and community-based structures that, with strategic adaptation, can serve as the operational backbone of a national AA system. This Pillar sets out the architecture for translating early warning signals into coordinated, dignified, and effective pre-disaster interventions.

3.2.1

Defining Standard Anticipatory Action Packages

A central gap in Pakistan's anticipatory action (AA) landscape is the absence of pre-defined, pre-costed response packages embedded within contingency planning, which can be rapidly triggered once thresholds are met. As a result, activation often relies on ad hoc programming decisions, reducing the effectiveness of early warning lead time.

The strategy recommends NDMA, in consultation with partners, to develop a Standard AA Package Catalogue aligned local with hazard types, trigger levels, and sectoral priorities. The strategy also supports the urgent need of developing a unified trigger framework of AA on a specified hazard.

3.2.2

Leveraging Existing Delivery Infrastructure: The Social Safety Net Platform

Pakistan's Social Safety Net Programs including Benazir Income Support Programme (BISP) represents one of the most sophisticated social protection delivery mechanisms in South Asia, encompassing a biometric beneficiary registry of over 9 million households, a nationwide payment infrastructure, and a National Socioeconomic Registry (NSER) that provides granular household-level data. However, the NSER is primarily structured around poverty indices, which, while critical, do not fully capture hazard-specific vulnerability and exposure dimensions required for anticipatory action (AA). International practice demonstrates that effective risk targeting requires the integration of socioeconomic data with hazard exposure and vulnerability indicators often through geospatial overlay and composite risk indexing to identify high-risk populations more accurately. Accordingly, the strategy promotes the use of BISP data as a foundational layer, to be complemented with hazard maps, demographic sensitivities, and sector-specific vulnerability proxies (e.g., location in flood plains, reliance on rain-fed agriculture, housing conditions), enabling a more robust, risk-informed targeting approach for anticipatory action.

The strategic case for leveraging SP as the primary vehicle for anticipatory cash transfer delivery is compelling and should be treated as a priority.

The strategy endorses the formalization of a SP-AA Delivery Protocol to be jointly developed by MoPASS, Social Protection, BISP, NDMA, and the Ministry of Finance. This Protocol shall establish:

1. Contingency Delivery Mandate:

A standing authorization for BISP to execute emergency cash transfer cycles to NSER-registered households in geographically designated AA trigger zones, activated by NDMA's formal AA Trigger Determination, without requiring a separate legislative or executive order.

2. Payment Channel Redundancy:

Protocols for ensuring payment delivery through multiple channels mobile money (Easypaisa, JazzCash), bank transfers, and agent-based over-the-counter payments in anticipation of infrastructure disruption in flood-affected areas.

3. Transfer Value harmonisation:

A dynamic transfer value formula linked to household composition and prevailing market prices, ensuring AA cash packages represent meaningful purchasing power rather than a fixed nominal amount. For this, Cash transfer and Coordination Group (CTCG) can be used for further discussion on cash value harmonisation.

4. Reconciliation and Accountability:

Real-time payment tracking, grievance redress mechanisms, and post-activation expenditure reporting to the relevant department within 30 days of transfer cycle completion.

Strategic Opportunity

The anticipated expansion of BISP's NSER to achieve universal household coverage by 2026–27 presents a time-bound opportunity to embed AA-specific data fields hazard exposure zone, displacement history, disability status directly into the NSER data collection tools. A registry that captures vulnerability comprehensively from the outset is significantly less costly to build than retrofitting AA fields into an established system.

3.2.3

Complementary Delivery Systems: Farmer Registries and Community-Based Mechanisms

While Social Protection provides the backbone for cash transfer delivery, Pakistan's AA system requires complementary delivery channels for non-cash sectoral packages particularly for agriculture, livestock, and water interventions and for reaching populations not captured within BISP's registry universe. Two complementary systems merit priority development.

National Farmer and Livestock Registry

Pakistan's anticipatory agricultural support systems would benefit from a consolidated, digitized national farmer registry to enable rapid identification and targeting of smallholder households. Existing provincial land records, Khasra Girdawari records, and Kissan Cards provide partial coverage but are not yet integrated at the federal level or linked to hazard exposure data.

This Strategy Proposes the Ministry of National Food Security & Research to lead development of a National Farmer Registry (NFR), building on existing provincial records and leveraging the Land Record Management Information Systems (LRMIS) operational in Punjab and Khyber Pakhtunkhwa. The NFR shall be interoperable with the NEVD and with Social Safety Net Programs, enabling cross-referenced targeting of households simultaneously eligible for both cash and in-kind AA packages. A parallel Livestock Registry, coordinated through the Ministry of Livestock & Dairy Development, shall capture smallholder livestock holders for anticipatory destocking, fodder, and veterinary support programming.

Community-Based Delivery and Last-Mile Engagement

Formal delivery systems however well-designed consistently struggle to reach the most vulnerable households those in remote and geographically isolated communities, women-headed households, persons with disabilities, seasonal migrants, and communities where cultural or security considerations constrain access by government and humanitarian actors. Robust AA delivery therefore requires a parallel community-based architecture that can operate within these constraints.

The strategy endorses strengthening Community Resilience Structures (CRS) including Village Disaster Management Committees, Local Support Organisations (LSOs) as the last-mile delivery and accountability layer for AA packages. Specifically:

- CRS shall be formally constituted and trained in DDMA-led AA preparedness programmes, with clear roles defined in community-level Anticipatory Action Plans (CAAPs).
- CRS shall participate in pre-season beneficiary verification exercises to maintain updated community vulnerability registers and identify newly vulnerable households not yet captured in national registries.
- CRS shall serve as community-level monitors during AA activation cycles, providing real-time feedback on delivery bottlenecks and targeting gaps to DDMA and implementing partners.
- CRS focal points shall receive formal compensation and recognition as part of the national AA system, avoiding the unsustainable volunteerism model that has undermined community DRM structures in previous initiatives.

3.2.4 Gender, Disability, and Inclusion as Core Targeting Principles

Pakistan's disaster vulnerability data consistently demonstrate that most vulnerable groups including women, girls, persons with disabilities, children, and elderly experience disproportionate impacts from climate hazards due to structural inequalities in asset ownership, mobility, access to information, and decision-making power. An AA system that does not systematically address these disparities risks replicating and potentially entrenching pre-existing exclusion patterns under the guise of neutral humanitarian programming.

The strategy mandates that gender and disability inclusion are treated as technical requirements of AA system design rather than add-on considerations. Concretely, this requires:

Disaggregated Registry Data:

All beneficiary registries NSER, community vulnerability registers shall capture sex, age, disability status, and female-headed household classification as mandatory fields, with data quality standards enforced.

Targeted Transfer Design:

AA cash transfer protocols shall prioritize female financial autonomy, with transfers directed to women's accounts or biometric identifiers wherever technically and culturally feasible, consistent with BISP's existing practices.

Accessible Communication and Safe Distribution Protocol

Early warning and AA activation messages shall be disseminated in local languages (Sindhi, Pashto, Balochi, Seraiki, Hindko) and in accessible formats for persons with hearing or visual impairments, including through community radio, SMS, and IVR systems. AA distribution points and modalities shall be designed with women's safety and mobility constraints in mind, including female-only distribution windows, mobile delivery to homebound persons with disabilities, and female staff deployment at distribution points.

Priority Actions – Pillar 2

Priority Action	Lead Institution	Support	Timeframe	Status
Develop Standard AA Package Catalogue	NDMA	Line Ministries/ NCF-AA	12 months	High Priority
Initiate Social Safety Net Programs–AA data sharing/ Delivery Protocol and data interoperability	MoPASS/ NDMA/ Social Protection Programs	WFP, FAO, GIZ	18 months	High Priority
Strengthen CRS and develop CAAPs in 20 priority districts	NDMA / PDMAs / DDMAs	Pakistan Red Crescent (In country partners)	24 months	High Priority
Embed AA fields in NSER universal coverage expansion	MoPASS/ NDMA/ Social Protection Programs	WFP, FAO, GIZ	12 months	High Priority
Commission Inclusive Gender & Disability AA System Audit	NDMA	UN Women, UNFPA, UNICEF	Post first activation	Medium Priority



Pillar 03: **Pre-Arranged Financing**

No anticipatory action system can function without pre-committed, rapidly releasable financing. The defining characteristic of AA finance as distinct from conventional humanitarian or development funding is that it is authorized and committed before a disaster occurs, disbursed on the basis of forecast-based triggers rather than confirmed impact assessments, and subject to conditional accountability strategies that recognize the inherent uncertainty of probabilistic decision-making.

Pakistan's current financing architecture for disaster response is predominantly reactive: supplementary budget appropriations, international appeals, and post-disaster reconstruction loans all of which introduce delays of weeks to months that erode the life-saving value of anticipatory action. Building a credible AA financing architecture requires Pakistan to make deliberate, politically visible commitments to pre-arranged finance at both federal and provincial levels.

Financing Architecture Principle

This strategy adopts a deliberately prioritized approach to financing options. Rather than cataloguing the full universe of risk financing instruments, the following subsections focus on a small number of high-impact, actionable mechanisms that are realistic within Pakistan's fiscal, institutional, and legislative context in the near-to-medium term.

3.3.1 National and Provincial Contingency Funds

The establishment of dedicated, ring-fenced contingency funds for anticipatory action at both federal and provincial level represents the most direct, controllable, and institutionally sustainable financing mechanism available to Pakistan. Unlike insurance instruments or international mechanisms, domestic contingency funds are subject to national ownership, accessible without conditionality, and deployable within the tight timelines that AA requires.

Federal Anticipatory Action Fund

The Strategy recommends establishment of a Federal Anticipatory Action Fund (FAAF) under National Disaster Management Fund (NDMF) within NDMA's budget architecture. Critically, the FAAF shall operate under a pre-agreed Rapid Release Protocol (RRP) that authorizes disbursement within 24–72 hours of a formal AA Trigger Determination.



Critical Governance Requirement: Rapid Release Protocols

Pakistan's current public financial management system while improving is not designed for 48-hour emergency disbursement. This strategy strongly recommends that the NDMA in consultation with Ministry of Finance, develop and gazette AA-specific financial management regulations to be incorporated in existing accounting rules of NDMF that:

1. authorize pre-commitment of expenditure on the basis of probabilistic triggers.
2. provide conditional accountability strategy that recognize false-alarm expenditure as a legitimate operational cost; and
3. establish streamlined procurement authorities for pre-positioned goods and services.

Without these regulatory provisions, even well-capitalized contingency funds will fail to deliver within AA lead times.

3.3.2 Social Protection-Linked Financing

Pakistan's BISP programme currently operates with an annual budget of approximately PKR 716 billion for FY 2025–26, making it the largest social protection intervention in Pakistan's history. The structural alignment between BISP's beneficiary universe primarily the poorest, most disaster-vulnerable households and AA's target population creates a compelling case for embedding AA financing within Pakistan's social protection budget envelope, rather than

treating it as a separate humanitarian financing stream.

The strategy also proposes development of a BISP Disaster-Responsive Reserve a pre-authorized, standing budget allocation within BISP's annual appropriation that can be activated for anticipatory cash transfers/early response cycles without requiring supplementary budget approval. This reserve shall be sized at 5–10% of the annual Kafaalat transfer budget, subject to actuarial review of historical AA trigger frequency.

The precedent for this model exists in social protection systems in Bangladesh (EGPP) and Ethiopia (PSNP), both of which have successfully integrated disaster-responsive financing into their core programme architecture.

Social protection-linked AA financing offers additional advantages: it leverages existing accountability and audit mechanisms, reduces coordination costs, and enables simultaneous delivery of AA transfers alongside regular Kafaalat payments where trigger timing and payment cycles align.

3.3.3 International Mechanisms: CERF, DREF, Global Shield, and Damage & Loss Facilities

Pakistan's established relationships with the multilateral financing mechanisms provide access to a suite of international AA financing instruments that, while not substitutes for local and public financing commitment, offer complementary surge capacity for large-scale activations and technical assistance for system development.

Mapping of financing actors for Anticipatory Action (AA) in Pakistan shows that build financing for strengthening AA systems, capacities, risk analytics, preparedness mechanisms, and institutional arrangements is primarily provided by the World Bank, Asian Development Bank (ADB), Islamic Development Bank, IMF-supported reform programmes, FCDO, GIZ, JICA, USAID, the European Union (EU), the Green Climate Fund (GCF), the Adaptation Fund, and other climate resilience financing facilities.

In parallel, fuel financing for the activation and implementation of anticipatory actions is available through OCHA, WFP, UNICEF, UNHCR, IOM, IFRC, the Asia-Pacific Humanitarian Fund (APHF), bilateral donors such as the USA, UK, Germany, Canada, Japan, Netherlands and Switzerland, as well as international NGOs and foundations. This mapping highlights the range of development, humanitarian, and climate finance stakeholders that can support the operationalization of AA in Pakistan.

Current AA partners in Pakistan have access to a limited number of operational and readily deployable financing mechanisms for activating pre-agreed anticipatory actions. The potential funding mechanism may include the UN CERF Anticipatory Action Window and the IFRC-DREF Anticipatory Pillar, which can release funding against approved triggers to support government's effort on early action. Other potential sources, including the partner's funds including WFP Anticipatory Action Trust Fund, FAO anticipatory action financing, Global Shield Against Climate Risks, and emerging Loss and Damage financing mechanisms, remain important opportunities for Pakistan but are not yet fully operationalized or institutionalized as predictable activation funding streams within the national AA ecosystem.

3.3.4 Risk Financing and Insurance Instruments

Insurance and risk transfer instruments where they function effectively can provide parametric, rapid-payout financing that complements governmental contingency funds and extends coverage to a broader range of hazard scenarios. Pakistan's risk insurance landscape remains nascent but is evolving, with several pilots and programmes offering a foundation for scale.

- **National Disaster Risk Insurance Programme:**

The strategy recommends that NDMA, in partnership with the Securities and Exchange Commission of Pakistan (SECP) and the Insurance Association of Pakistan (IAP), commission a National Disaster Risk Insurance Feasibility Study to assess options for parametric sovereign insurance coverage against large-scale flood and drought events. Parametric products which pay out on the basis of pre-agreed hazard indices rather than loss assessment are particularly well-suited to AA financing as they provide rapid, trigger-based disbursements without requiring lengthy claims processing.

- **Islamic Development Bank (IsDB) Risk Financing Instruments:**

As a founding member and significant shareholder of the IsDB, Pakistan is well-positioned to engage the Bank's disaster risk financing facilities, including the IsDB Disaster Risk Insurance Programme and the Climate Action Finance Mechanism (CAFM). The Shariah-compliant structure of IsDB instruments — particularly takaful-based risk pooling — addresses barriers to insurance uptake and offers a culturally aligned model for risk transfer.

- **Agricultural and Livestock Insurance**

The Prime Minister's Agriculture Insurance Scheme and the existing livestock insurance pilots in Sindh and Balochistan provide a platform for developing index-based agricultural insurance products that can trigger anticipatory payouts to smallholder farmers ahead of predicted crop failure events. The Framework directs the Ministry of National Food Security & Research to develop a roadmap for scaling index-based agri-insurance, with explicit linkage to AA trigger thresholds.

3.3.5 The Role of the Ministry of Finance

Anticipatory action financing ultimately depends on the Ministry of Finance's willingness and capacity to play an active, enabling role not merely as a fund custodian, but as a strategic co-architect of Pakistan's risk financing architecture. This requires a shift in the Ministry's traditional orientation toward disaster financing, moving from a predominantly reactive posture (supplementary appropriations, emergency borrowing) to a proactive risk management approach.

The strategy recommends the following actions for consideration by the Ministry of Finance:

- **National Risk Financing Strategy:**

Facilitate development and periodic updating of a Pakistan National Disaster Risk Financing Strategy, situating AA financing within the broader landscape of fiscal risk management and providing a coherent mechanism for domestic and international risk financing instrument selection.

- **Rapid Release Regulatory Framework:**

Develop, gazette, and operationalize AA-specific public financial management regulations that enable disbursement within 48–72 hours of trigger activation, including pre-commitment authority, conditional accountability provisions, and emergency procurement rules.

- **Coordination with International Partners:**

Support the Economic Affairs Division (EAD), as the Government's lead focal point for external assistance and engagement with development partners, by providing technical inputs on disaster risk financing (DRF), supporting the design and assessment of DRF instruments, and contributing to the integration of Anticipatory Action (AA) financing considerations into relevant DRF technical assistance and financing initiatives.

Priority Actions – Pre- Agreed Financing

Priority Action	Lead Institution	Supporting Role	Timeframe	Status
Establish Federal AA Fund and Disbursement mechanism for provinces	MoF / NDMA	NCF-AA	24 months	High Priority
Develop & Pilot AA Rapid Release Protocol (RRP)	MoF / NDMA	NCF-AA	24 months	High Priority
Develop SP Disaster-Responsive Reserve mechanism	NDMA/Social Protection / MoF	BISP, provincial Social Protection Authorities (SPAs)	24 months	High Priority



Pillar 04: **Governance, Coordination and Implementation**

The three pillars of this strategy are interdependent: risk information that is not linked to operational delivery plans is academic; delivery plans without pre-arranged financing are aspirational; financing without robust trigger systems is technically untenable. Effective implementation therefore demands an integrated governance architecture that coordinates across all three pillars simultaneously.

Governance for Anticipatory Action

This strategy does not create parallel institutional structures; rather, it strengthens and operationalizes governance within the existing DRM architecture established under the National Disaster Management Act (NDMA-Act 2010).

The National Disaster Management Authority (NDMA) continue its role as the central coordinating authority for AA, providing strategic oversight, trigger validation, and national-level coordination. The National Emergency Operations Centre (NEOC) under NDMA, functions as the operational hub, consolidating risk information and issuing trigger determinations, coordinating activation across sectors and levels of government.

The **National Coordination Forum on Anticipatory Action (NCF-AA)**, established under NDMA, serves as the central platform for multi-stakeholder coordination, policy guidance, and oversight of anticipatory action in Pakistan. To operationalize its mandate, the Forum is supported by thematic sub-committees aligned with core AA functions, including Policy, Financing, and Institutionalization, Anticipatory Action, Triggers, Learning and Evidence, and Coordination, each chaired by NDMA and co-chaired by UN/ humanitarian agency with respective thematic technical experience. This structure enables technical standardization, coordinated implementation, and alignment across government and partners.

The **National Coordination Forum on Anticipatory Action (NCF-AA)**, established under NDMA, serves as the principal multi-stakeholder coordination platform. The Forum will:

- Harmonize trigger methodologies, sectoral protocols, and operational standards
- Align federal, provincial, and partner-led AA interventions
- Provide technical guidance through thematic sub-committees
- Support institutionalization of AA across policy, planning, and financing systems

Multi-Tier Coordination and Decision-Making

Anticipatory Action will be implemented through Pakistan's three-tier DRM system, with clearly defined and sequential responsibilities. At present, provincial Anticipatory Action coordination mechanisms remain at an early stage, with Sindh and Balochistan having established notified Technical Working Groups (TWGs). Under a phased approach, similar structures will be institutionalized across all provinces under respective PDMA serving as the primary platforms for coordination, alignment of triggers and sectoral plans, and implementation oversight in line with national frameworks.

- **Federal Level (NDMA/NEOC):** Validation of forecasts, issuance of formal AA Trigger Determinations, national coordination, and activation of pre-arranged financing mechanisms.

- **Provincial Level (PDMAs):** Translation of triggers into operational directives, coordination of line departments, and activation of provincial contingency plans and sectoral responses including utilizing of ad hoc arrangement of financial arrangement if needed.
- **District Level (DDMAs/District Administration):** Execution of predefined anticipatory actions at community level, including evacuation, asset and livelihood protection, and continuity of essential services.

To ensure timely and accountable action, the strategy mandates the development of Trigger-Based Standard Operating Procedures (SOPs) that define institutional roles, decision timelines, and escalation protocols across all levels.

Implementation Arrangements

Implementation of AA will follow a government-led, system-based approach, with NDMA and PDMAs retaining overall accountability, and line ministries responsible for sectoral execution.

Relevant federal and provincial line ministries, including agriculture, livestock, health, education, infrastructure, and social protection will operationalize sector-specific anticipatory actions aligned with approved trigger protocols.

Development and humanitarian partners will support implementation through:

- Technical assistance (risk analysis, Impact Based Forecast (IBF), systems development)
- Operational support in high-risk and capacity-constrained areas
- Co-financing and access to international AA financing mechanisms
- Monitoring, evaluation, and learning support

All partner-supported interventions will be required to align with nationally endorsed triggers, protocols, and coordination mechanisms while duly reported to NDMA, being the secretariat of NCF-AA, ensuring coherence and scalability and therefore will be implemented in coordination of NDMA, PDMA and DDMA.

4.4 Provincial Implementation Planning

To operationalize AA at scale, Provincial Disaster Management Authorities (PDMAs) shall develop Provincial Anticipatory Action Implementation Plans within 24 months of strategy adoption.

These plans will:

- Contextualize national protocols to provincial hazard profiles and capacities
- Identify priority districts, sectors, and vulnerable populations
- Establish provincial trigger-action matrices aligned with national systems
- Define resource requirements, including provincial contingency financing windows
- Integrate AA into existing provincial DRM plans and sectoral strategies

Provincial plans will function as the primary operational instruments for implementation and will be consolidated at national level to ensure coherence and standardization.

Priority Actions – Pillar 4

Priority Action	Lead Institution	Supporting Entities	Timeframe	Priority
Conduct regular NCF-AA meetings, adopt TORs and plan of action	NDMA	NCF-AA members, Partners	6 months	High
Develop Provincial AA Implementation Plans	PDMAs	NDMA, Line Ministries	24 months	High
Align partner-led AA interventions with national framework	NDMA / NCF-AA	UN, (I) NGOs, Red Crescent	Ongoing	High



Pillar 05: **Evidence Generation and Capacity Building**

In Pakistan, while significant operational experience exists, systematic documentation, performance tracking, and capacity development remain uneven across institutions and levels of government. This Pillar establishes a structured approach to monitoring, evaluation, learning, and capacity building, ensuring that AA evolves as a rules-based, evidence-driven system embedded within the national disaster risk management architecture.

5.1 Accountability, Monitoring and Learning

A structured Monitoring, Evaluation and Learning (MEL) framework will be established to ensure accountability, performance tracking, and system strengthening. The Strategy shall be subject to periodic performance review against a Results Framework to be developed within six months of Framework adoption. The Framework's learning architecture shall include post activation After Action Reviews (AARs) following every AA trigger activation, a biennial independent evaluation of framework implementation, and a five yearly framework revision process.

The Strategy proposed:

- Development of a National Results Framework within six months
- Institutionalization of After-Action Reviews (AARs) for each activation
- Establishment of a multi-partner evaluation mechanism under NCF-AA
- Regular mapping and reporting of AA interventions across sectors, provinces, and partners

5.2 Knowledge Management and Evidence Systems

To address fragmentation in data, documentation, and learning, the Strategy mandates the establishment of a National Anticipatory Action Knowledge and Learning System, anchored within NDMA and supported by the NCF-AA Learning Sub-Thematic Committee (STC).

This system will:

- Maintain a central repository of AA activations, triggers, actions, and outcomes
- Support regular mapping of AA initiatives implemented by government and partners in support from sub thematic committee of NCF-AA
- Generate evidence products, including policy briefs, operational lessons, and impact assessments
- Facilitate cross-provincial and sectoral learning

5.3 Capacity Building and Institutional Strengthening

Sustainable implementation of AA requires strengthening institutional capacities across federal, provincial, and district levels. The strategy adopts a phased approach to capacity development, focusing on both system-level capabilities and operational readiness.

Priority capacity areas include:

- Trigger design and interpretation, including impact-based forecasting
- Data management, GIS, and risk analysis
- Community-level preparedness and last-mile delivery systems
- Development of Provincial and District AA Implementation Plans

NDMA and NIDM, in coordination with PDMAs and NCF-AA partners, will develop and implement a National AA Capacity Building Plan, including standardized training modules, simulation exercises, and integration into existing DRM training platforms.

Priority Actions – Pillar 5

Priority Action	Lead	Support	Timeframe	Priority
Standardize AA minimum Training package (National/provincial/district)	NDMA / PDMA	Line Departments	6 months	Medium
Institutionalize After-Action Reviews (AARs)	NDMA / PDMA	DDMA, Line Departments	Immediate / Post activation	High
Establish multi-partner evaluation mechanism	NDMA	UN, NGOs, Academia	12 months	High
Develop National AA Knowledge & Learning System	NDMA	Partners, NCF-AA Academia	12–18 months	High
Develop and implement National AA Capacity Building Plan	NDMA / PDMA	Training Institutes, Partners	12 months	High
Establish AA mapping and tracking mechanism under NDMA and NCF-AA	NDMA / NCF-AA	Partners	Ongoing	High
Engage in regional and global AA learning platforms	NDMA	Partners	Ongoing	Medium

Conclusion and Way Forward

This Strategy establishes a clear transition pathway for Pakistan to move from reactive towards a predictive Anticipatory Action system embedded within its national disaster risk management architecture. The emphasis is on institutionalization assuring that forecasts systematically trigger decisions, resources, and actions through predefined protocols, rather than ad-hoc administrative responses.

The way forward focuses on operationalizing this strategy through a sequenced implementation plan. Initial efforts will establish core systems for triggers, decision-making, financing, and coordination, followed by phased expansion across sectors and regions. Over time, Anticipatory Action will be integrated into government planning, budgeting, and service delivery processes to ensure sustainability and predictability.

This transition requires sustained commitment, strengthened inter-governmental coordination, and alignment of partner support behind nationally defined systems. With these elements in place, Pakistan is well-positioned to establish a scalable, government-led anticipatory system that reduces disaster impacts, protects livelihoods, and improves fiscal efficiency.

Immediate Next Steps: The following actions are recommended for initiation within 12 months of the strategy's formal endorsement by the National Disaster Management Authority:

- **Operationalize National Coordination Mechanism:** Convene NCF-AA to adopt a time-bound implementation roadmap and activate sub-thematic committees.
- **Initiate Provincial Alignment:** Engage PDMAs to commence development of Provincial AA Implementation Plans and formalize provincial coordination structures.
- **Trigger and SOP Development:** Begin formulation of trigger-based SOPs and define institutional processes for formal AA Trigger Determination.
- **Financing Architecture Activation:** Initiate engagement with Ministry of Finance and SP on operational modalities for contingency financing and delivery protocols.
- **Resource Mobilization:** Prepare and submit a consolidated AA financing and budget proposal for integration into national and provincial planning cycles.
- **Mid-Term Review:** Conduct a comprehensive review of the strategy every two years to assess progress, identify gaps, and update as needed.

Cummulative Actions table - All pillars

Pillar 01 Risk Information, Early Warning & Trigger Systems				
Develop Early Warning Institutional Responsibility Matrix	NDMA / PMD	NCF-AA	6 months	High Priority
Operationalise Trigger Development/validation committee with NDMA/NCF-AA	NDMA	NCF-AA (trigger STC)	6 months	High Priority
Initiate National Exposure & Vulnerability Database	NDMA	P&D, MoPASS, SP, PDMA (IDSSs), PBS, MoPDSI, SUPARCO, PMD	18 months	High Priority
Develop Sector-Specific Forecast Translation Protocols	NEOC/ PMD / Line Ministries	Sectoral Lead, NCF-AA(STC)	24 months	Medium Priority
Pillar 02 AA Planning & Operational Delivery				
Develop Standard AA Package Catalogue	NDMA	Line Ministries/ NCF-AA	12 months	High Priority
Initiate Social Safety Net Programs-AA data sharing/ Delivery Protocol and data interoperability	MoPASS/ NDMA/ Social Protection Programs	WFP, FAO, GIZ	18 months	High Priority
Strengthen CRS and develop CAAPs in 20 priority districts	NDMA / PDMA / DDMA	Pakistan Red Crescent (In country partners)	24 months	High Priority
Embed AA fields in NSER universal coverage expansion	MoPASS/ NDMA/ Social Protection Programs	WFP, FAO, GIZ	12 months	High Priority
Commission Inclusive Gender & Disability AA System Audit	NDMA	UN Women, UNFPA, UNICEF	Post first activation	Medium Priority
Pillar 03 Pre-Arranged Financing				
Establish Federal AA Fund and Disbursement mechanism for provinces	MoF / NDMA	NCF-AA	24 months	High Priority
Develop & Pilot AA Rapid Release Protocol (RRP)	MoF / NDMA	NCF-AA	24 months	High Priority
Develop SP Disaster-Responsive Reserve mechanism	NDMA/Social Protection / MoF	BISP, provincial Social Protection Authorities(SPAs)	24 months	High Priority
Pillar 04 Governance, Coordination and Implementation				
Conduct regular NCF-AA meetings, adopt TORs and plan of action	NDMA	NCF-AA members, Partners	6 months	High
Develop Provincial AA Implementation Plans	PDMA	NDMA, Line Ministries	24 months	High
Align partner-led AA interventions with national framework	NDMA / NCF-AA	UN, (I) NGOs, Red Crescent	Ongoing	High
Pillar 05 Evidence Generation and Capacity Building				
Standardize AA minimum Training package (National/provincial/ district)	NDMA / PDMA	Line Departments	6 months	Medium
Institutionalize After-Action Reviews (AARs)	NDMA / PDMA	DDMA, Line Departments	Immediate / Post activation	High
Establish multi-partner evaluation mechanism	NDMA	UN, NGOs, Academia	12 months	High
Develop National AA Knowledge & Learning System	NDMA	Partners, NCF-AA Academia	12-18 months	High
Develop and implement National AA Capacity Building Plan	NDMA / PDMA	Training Institutes, Partners	12 months	High
Establish AA mapping and tracking mechanism under NDMA and NCF-AA	NDMA / NCF-AA	Partners	Ongoing	High
Engage in regional and global AA learning platforms	NDMA	Partners	Ongoing	Medium



Cover photo: Pakistan. WFP Activates Anticipatory Actions in Khairpur to Mitigate Flood Risks /Sukkar, Khairpur

Pakistan National Anticipatory Action Strategy

2026 - 2030

