



# HUMANITARIAN RESILIENCE JOURNAL

Governance in Preparedness



ISSUE #1

Asian Disaster Preparedness Centre (ADPC) with support from Bill and Melinda Gates Foundation (BMGF) is implementing the program 'Strengthening Capacity of Government, Local Humanitarian Organizations and the Private Sector on Preparedness for Response in Asia' in 6 South and South-East Asian countries namely- Nepal, Pakistan, Sri Lanka, Cambodia, Philippines and Myanmar.

The program utilizes a unique networked approach by creating the Asian Preparedness Partnership (APP) - a multi-stakeholder regional partnership through the program. APP strives to improve inter-organizational coordination and dialogue between Governments, Local Humanitarian Organization networks and Private Sector networks for enhancing capacities through partnerships, knowledge resources, training and networking opportunities. The program's goal is to strengthen the emergency response capacities in these countries to better prepare for, respond to, and recover from disasters.

With the creation of national partnerships in the program countries and commencement of planned activities, it would be imperative to highlight the value addition of this collaborative approach in the overall humanitarian architecture of each project country. As part of this strategy, communications and outreach can play a critical role in the dissemination of work undertaken to improve and strengthen coordination mechanisms and emergency response capacities of our key stakeholders.



National Humanitarian Network Pakistan

# Humanitarian Resilience Journal

## Governance in Preparedness

ISSUE 1

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# Institutional and Legal Readiness to deal with disasters



Muhammad Idrees Mahsud

The United Nations Organization, in collaboration with Japan, has been steering global efforts aimed at making the world safer from natural hazards. Modern Disaster Risk Management and governance structures owe their existence and continuous evolution to such efforts. UN and Japan have so far organized three international conferences i.e. first conference held in Yokohama, in 1994, second at Hyogo, Kobe in 2005 while the recent one held at Sendai in 2015. These conferences remained instrumental in gradually developing disaster management systems across the globe, including Pakistan. The Yokohama Conference adopted the Yokohama Strategy for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation and its Plan of Action. The Hyogo Conference adopted Hyogo Framework for Action 2005-2015, while the Sendai Conference gave the world Sendai Framework on DRR for action from 2015 to 2030 with key priorities. Though voluntary and non-binding agreements these frameworks have been guiding the member states in how to proceed with the agenda for resilience.

Pakistan could not unfortunately seize the moment, until it was struck by the worst ever disaster in its history i.e. Earthquake of October 8, 2005. Though there were some efforts and consideration of redesigning its outdated and primarily relief centric disaster management structure envisaged in 1958 through National Calamities Act, 1958 in the wake of Indian Ocean Tsunami and Hyogo Framework for Action being a signatory state, however, such efforts remained victims to red tape. Only when the government realized that the systems were inadequate to manage mega disasters like earthquake of 2005, the proactive, robust and modern disaster management system based on international best practices was designed through enactment of National Disaster Management Ordinance, 2006. The enactment of new law at federal level was only

possible due to resolution passed by three provincial assemblies under Article 144 of the Constitution of Islamic Republic of Pakistan, while the Provincial Assembly of Sindh also followed suite. Such Resolutions paved the way for enactment of law at federal level on the subject matter of devolved responsibility. Though there is a widely believed misperception that the 18th constitutional Amendment passed in April 2010 devolved disaster management subject to provinces, while the fact of the matter is that it was already a devolved subject before 18th Amendment. There is no doubt that 18th Amendment had an important implication for the DM system as most of the allied ministries and important stakeholders like Ministry of health, education, agriculture etc. were devolved.

A strong and robust organization i.e. National Disaster Management Authority was established at the apex of the system to implement, coordinate and monitor implementation of national policy and plan. National disaster management commission (NDMC) headed by the Prime Minister was established as one of the most representative body at the national level for policy formulation. NDMC is represented by leaders of opposition in both the houses of the parliament, respective chief ministers of all the provinces and regions, key federal ministers and armed forces. Chairman NDMA is secretary of the Commission and NDMA is an executive arm of the Commission. Similar structures have been put in place at provincial and regional levels with Provincial Commissions and PDMA's, while the most important tier of the whole system the district DDMA's have been provided for in the Act. While the system is getting stronger and more effective day by day with NDMA and PDMA's being relatively stronger than the most important pillar i.e. the DDMA's. Unfortunately, soon after the emergence of new national DM system, it had to deal with mega and unprecedented disasters like Yemyin Cyclone of 2007, Ziarat Earthquake, 2008,

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Despite mounting excellent responses to these disasters, NDMA continued its trajectory towards building resilience by focusing on disaster risk reduction and mitigation. It developed National Disaster Risk Management Framework (NDMRF) 2007-2012 that guided national efforts in nine priority areas in line with HFA till approval of National DRR policy and National Disaster Management Plan by the NDMC in February, 2013.

Atta Abad landslide, 2010, Air Blue Crash, Pakistan. Super Floods 2010, Pakistan floods, 2011, floods 2012, 2013 and 2014, Awaran and Mashkhel Earthquakes 2013 etc. It also contributed effectively to disaster responses at global and regional levels. National Needs Assessment Report 2012 developed through consultative process adopting bottom-up approach also played key role in identifying areas for interventions and giving voices to grass roots level stakeholders. National DRR policy being a living document highlights three pillar approach i.e. Risk Knowledge, prevention and mitigation, and preparedness. Based on the policy directions NDMA engaged with Japanese government through JICA and developed a comprehensive ten years' National Disaster Management Plan with a total outlay of US\$ 1 billion. It has four components i.e. National Disaster Management Plan, Human Resources development plan, Early warning systems and Communities Based Disaster Risk Management (CBDRM). NDMA and its partners including PDMA's, Federal Ministries / Division, INGOs / NGOs, UN system and Donors are all geared to implement the NDMP. A number of interventions have been implemented primarily through donor support like JICA, DFID, SDC, WFP, UNDP, FAO etc. Major interventions are in pipeline like the World Bank supported National DRM services project at a total cost of US\$ 92 million, which is in final stages of approval. The project aims to support important priorities and interventions of NDMA like establishment of state of the art National Emergency Operations Center, National Disaster Response Force,

National Institute of Disaster Management, consolidation of legal and institutional structures like amalgamation of different institutions and legal instruments like Civil Defence Act, National Calamities Act, ERRA Act etc. into a consolidated NDM Act, developing Risk Knowledge like MHVRAs in 38 districts, developing Risk Financing Strategies and mechanisms, gender and child centered DRM, implementation of building codes through modeling and retrofitting pilot interventions etc. The World Bank is also supporting a sister project to DRM services project i.e. Early Warning Strengthening Project at a total cost of US\$ 106 million that is expected to further strengthen Pakistan Meteorological Department's (PMD) forecasting capabilities. JICA has also been supporting PMD's capacity enhancements through installation of weather radars primarily through grant-in-aid. DFID has been supporting DRM in Pakistan through different projects and interventions. Another one of the most important major funding window has now been made available in the form of National Disaster Risk Management Fund (NDMRF) with over US\$ 200 million supported by the Asian Development Bank. NDMRF has already been established as section 42 company and its even more hopeful news that one of the most credible name in DRM not only in Pakistan but the world over i.e. General (Rtd) Nadeem Ahmed, former Chairman NDMA has been appointed as its CEO. The Fund is expected to be an important instrument in funding investments in DRM sector. The Fund has already prioritized financing intervention from NDMP and National Flood Protection Plan-IV (NFPP-IV), another important plan primarily aimed at reducing flood risk has already been approved by the Council of Common Interest (CCI). NFPP-IV is being implemented by an important stakeholder and component of DM system in Pakistan i.e. Federal Flood Commission (FCC), again headed by a well known DRM professional and my predecessor in NDMA, Mr. Ahmed Kamal.

While the journey towards resilience building in Pakistan is long, tedious, difficult and challenging,

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however, the institutional and legal structure put in place in the wake of Earthquake, 2005 primarily steered by NDMA has achieved important milestones. There are, undoubtedly, requirements for reforms in the current configuration of the institutional structure particularly its consolidation and capacity building, however, it is fact that the structures have strong foundations and have sufficient flexibility and robustness to align itself to realities and tackle emerging challenges. Today Pakistan has over 7000 professional and government servants trained in DRM from the platform of NIDM.

The most important agenda for NDMA is to strengthen disaster management structures. The system has great networking and strong coordination bonds both horizontally as well as vertically unlike in the past during its formative phases. It has important linkages domestically and abroad. National Humanitarian Network (NHN), a group of National

NGOs, Pakistan Humanitarian Forum (PHF) a grouping of International NGOs, recently established Pakistan Resilience Partnership (PRP) are its important partners in Pakistan, while at international level NDMA has been recognized as a leader in DRM by UN. Such leadership role has been recognized by unanimous election of Chairman NDMA Lt. General Omar Mahmood Hayat as Chair of 5th session of UNESCAP's DRR committee in October, 2017 in Bangkok, Thailand. Similarly, NDMA is Co-Chair of Disaster Management Confidence Building Measure of Heart of Asia, Istanbul Process along with Kazakhstan.

Today the people of Pakistan have a reason to feel confident that the NDM System is leading them towards resilience and that they are more safe against natural hazards than they were, for example, a decade ago.

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*Living up to its leadership responsibilities NDMA organized a very successful international Conference on “Capitalizing on Pakistan's Experience in Handling Disasters, Creating Synergies among Global Frameworks – Lessons Learnt and the Way Forward for the Region” and also 6th Meeting of RTG of DM-CBM of Heart of Asia. Pakistan also launched “Host Nation Support Guidelines” being first country in region. This document also serves as model for the region to adopt.*

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# The role of donors in disaster preparedness in Pakistan: Need for a Strategic vision



Irfan Mufti

Humanitarian sector in Pakistan is faced with multiple challenges of integration, coordination, and effective communications and most importantly a long-term vision. All expert opinion suggests Pakistan is in perpetual humanitarian crises from both natural and human induced reasons. Incidents in last several years indicate such incidents happen with regular intervals but the capacity of humanitarian actors to manage aftereffects and damages to human society, economies and cultures are still far from the desired level.

Pakistan's economy and planning architecture is marred with inherent weaknesses to support any major disaster preparedness capacity financing and managing aftermath on human lives and livelihoods let alone supporting economic damages. Experience over the last few years proves a case of weak response, short-lived planning and lack of cohesive and integrated rehabilitation and preparedness plan.

Pakistan is a relevant case for evaluating disaster preparedness given its history of natural hazards, its unique geographical position, and the strategic interests of its neighbors and allies. Pakistan commands substantial global attention due to its role in fighting terrorism alongside managing massive natural disasters that occur every year causing considerable destruction and losses.

Pakistan ranks thirty-sixth in the world by geographic area of 796,095 km<sup>2</sup> yet it has the sixth-largest population globally, with over 200 million people. The urban-rural divide has predominated for much of the country's history, with 38.8% of the total population living in areas officially recognized as urban.

Much of the rural economy is still reliant on agriculture –accounting for 24% of GDP and half of the employed labor force – and suffers heavily as a result of floods or other natural disasters. These

constraints are thought to contribute to overall low levels of human development and significant poverty, with the Human Development Index ranking Pakistan 147 out of 188 while Oxford's Multidimensional Poverty Index national value for Pakistan - calculated by multiplying the incidence of poverty by the average intensity of poverty across the poor - is 0.23, ranking thirty-sixth in the world. 4.5 million in 2011, which is 12.7% of the population lived on less than \$1.25 a day. The disease burden also continues to increase as the population grows rapidly. Pakistan has endured numerous natural hazards in the last decade, beginning with a massive earthquake in 2005 in the Kashmir region that killed over 75,000 people and is remembered as one of the worst natural disasters in South Asia. 2010 saw some of the worst floods in Pakistan's history, killing 1,985 and affecting 20 million. In 2013, flooding killed 178 people and affected 1.5 million. 367 people died due to widespread flooding in 2014, which was the “fourth consecutive year of high-impact monsoon rains in Pakistan. In 2015, people in Karachi, Pakistan's largest city, experienced a heat wave that killed over 1200 people.” The effect of these natural shocks is exacerbated by vulnerabilities in the way disasters are managed and prevented as well as the inertia of deeper sociocultural issues that are considered beyond the scope of disaster management and hence irrelevant. As a result, simple events continue to cause large-scale shocks. Government response to disasters has gradually improved but still there is much to be done. While Pakistan faces disasters of various forms, respondents seemed to focus on floods and the enhanced ability to respond to swelling rivers. There is more use of data and forecasting to deal with imminent hazards of this type. However, there is still no focus on preparedness or prevention, especially for unpredictable disasters like earthquakes as well as more recent phenomena like

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heat waves. The international community continues to play an important role in building capacity, sharing lessons from other countries, and providing monetary support. Unlike many other countries, the government also relies heavily on the army to support civilian efforts for disaster management and providing relief.

Developed societies have learnt a lesson of investing in preparedness that brings far-reaching results and benefits to human societies. It is much less resource-oriented and more on human development, system up gradation, investments in early warning systems, human capacities, reliable infrastructure and most importantly building resilience and leadership in communities. This mantra of preparedness is now being realized at different levels of policy, legislation, plans and resource allocations.

Pakistan Resilience Partnership (PRP) is a much-needed initiative in the right direction. Platform that brings all important stakeholders to one platform of planning ahead, communication and integration systems and coordination among stakeholders.

Resource allocation is an essential element for any preparedness plan but that only comes while human plan is ready and vision is set in motion through well integrated actions and systems of delivery. Pakistan has taken a lead much before several other Asian and South Asian counterparts facing similar challenges of humanitarian and disaster management.

*Institutional Capacity for DRR, Preparedness and Response* - Pakistan's unique geography and location as well as its socioeconomic conditions make it susceptible to natural disasters. In many ways, Pakistan's capacity to deal with disasters has significantly improved. The West Pakistan National Calamities (Prevention and Relief) Act and the Civil Defense Act were passed in 1958. From 1958 till the Kashmir earthquake in 2005, the disaster management function was not formally housed in one

location; the Emergency Relief Cell in the Federal Cabinet Secretariat led coordination efforts but districts independently sourced disaster relief equipment and responded to disasters. The earthquake in 2005 was the catalyst that resulted in the creation of the Federal Relief Commission (FRC) and Earthquake Reconstruction and Rehabilitation Authority (ERRA) and initiated a conversation on setting up a formal disaster management authority. However, it was only in 2010, when a large part of the country was flooded, that the government took the next major step and passed the National Disaster Management Act. In the same year, the landmark 18th Amendment to the Constitution was also passed that devolved the disaster management function to district governments. A much needed step in the right direction of resilient and prepared societies.

*Civil Society Hypothesis* - levels of disaster preparedness may be higher with a stronger civil society presence in general and, in particular, when there are more disaster oriented NGOs on the ground. It is expected that a strong civil society will be effective at holding the government accountable and, as a result, pressure it into spending on disaster preparedness. In Pakistan, the civil society is perhaps not strong enough to play this role effectively, especially when it comes to disaster-oriented NGOs on the ground. A large number of NGOs are active in the disaster management space, but most of them only work on providing relief. A small number of NGOs engage with local communities on building capacity for resilience, but the efforts are not coordinated and amplified. In fact, most respondents felt that Pakistan's civil society had no real ability to develop local capacity or to advocate for a major shift in policy. This is surprising since the civil society, especially in conjunction with the media, seems to have a strong voice in other issues like human rights and social development. In the absence of strong civil society actors, there have been some attempts by locals to invest in resilience initiatives themselves but they have not had any major impact. Generally, it

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would fair to argue that the hypothesis that the civil society can drive disaster preparedness holds, at least in the negative, in Pakistan's case. Civil society pressure on the government is weak and, hence, disaster preparedness efforts of the government are weak.

*External Actors/Donors Hypothesis* - previous disasters and humanitarian situation saw unprecedented support from both external and internal actors and institutions. Besides major contribution from local philanthropy which was at its peak after 2005 earthquake in Kashmir and northern areas some impressive level of local support in 2010 flash floods also came from local sources.

UN OCHA managed two pooled-funds mechanisms, the Central Emergency Response Fund (CERF) and Emergency Response Fund (ERF) now titled as Pakistan Humanitarian Pooled Funds (PHPF), which provided valuable assistance for food, water, shelter, health care, nutrition and protection support to people affected by natural disasters and complex emergencies. Since 2007, Pakistan has received more than US\$168 million from the CERF to address urgent humanitarian needs, while the ERF has disbursed over US\$42 million since its inception in 2010.

With weak economy and per capita income, the economy of Pakistan relies on foreign aid for its economic development, social development and other activities related to civil life. According to the database of OECD, Pakistan has received foreign aid of \$22.85 Billion from all donors in all sectors in last 5 years.

It is however ironic that humanitarian aid to Pakistan has decreased over the years. Conflict and natural disasters are part of the consequences of global warming globally, with Pakistan especially hard-hit. Figures show that different donors donated a total of \$638 million in humanitarian assistance from 2011 to 2015. During the last five years, the humanitarian development aid has gradually declined to 6% of total

aid received from a high of 32% in 2011. Also these trends have profound implications for humanitarian action. First, while huge numbers of people in Pakistan continue to rise in poverty, those who remain are increasingly in fragile districts, exposed to war and crisis.

According to the UN Office for the Coordination of Humanitarian Affairs (OCHA)'s Financial Tracking Service (FTS), donors have committed/contributed US\$68.3 million of humanitarian assistance to Pakistan since the start of 2016. Of the total reported funding, US\$28.2 million has been channeled through the UN-coordinated HSP, accounting for 41% of all funding. There are two outstanding uncommitted pledges from the United States (US) and the United Kingdom (UK). The vast majority of the US\$20 million (99%) from the US is to support Pakistan's 2016 HSP for food and livelihoods assistance for Internally Displaced Persons (IDPs) and returnees in Pakistan's Khyber Pakhtunkhwa Province. The UK's outstanding uncommitted pledge of US\$0.9 million is also for Pakistan's HSP, supporting the coordination efforts of the UN OCHA. ECHO is currently the largest donor in 2016, having committed US\$21.9 million, accounting for 32% of total reported funding. The next largest donor is Japan, reporting US\$10 million, followed by Sweden (US\$7.8 million), Canada (US\$7.4 million) and the US (US\$6 million). Funding from these five donors combined represents 78% of total reported funding so far in 2016. The ten largest humanitarian donors to Pakistan, 2016 Source: Development Initiatives based on UN OCHA FTS data. Data downloaded on 30 April 2016 Note: ECHO: European Commission's Humanitarian Aid and Civil Protection department; US: United States; ERF: Emergency Response Fund; UK: United Kingdom.

Pooled fundings as part of the response i. Central Emergency Response Fund So far in 2016 no funding has been allocated to emergencies in Pakistan from the UN's Central Emergency Response Fund (CERF). In 2015 Pakistan received US\$11 million through the CERF's rapid response window, accounting for 2.34%

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of all allocations that year. ii. Pakistan Emergency Response Fund According to FTS, the humanitarian country-based pooled fund in Pakistan – the Pakistan Emergency Response Fund (ERF) – has received contributions and commitments from donors totaling US\$7.5 million in 2016, of which US\$5 million is currently reported as allocated. The health sector has received the largest volume of ERF allocations (US\$2.4 million), accounting for 47% of the allocated total

If a government has greater exposure to disaster preparedness from the actions of external actors, then it will invest more in preparedness. The disaster management space in Pakistan is quite crowded with a number of active external actors that include multilateral donors like the World Bank and UN, bilateral donors like USAID and JICA, and international NGOs like Red Crescent (Red Cross). While the bulk of their efforts are focused on providing relief, some donors like the World Bank are actively pushing disaster preparedness through activities such as disaster risk assessments and capacity building workshops for local NGOs. Yet, the presence of all these external actors has not pushed the government to ramp up their own preparedness activities in a significant manner.

The related hypothesis that a state will invest in disaster preparedness if it is proximate to other states that are doing the same does not hold at all. The eastern neighbor, India, has spent considerably on building a number of dams that prevent flooding in the half of Punjab that became part of India after the partition in 1947. On the other hand, Pakistan has not built any major dams in the recent past and, hence, is unable to regulate the flow of its rivers that cause major flooding every year. Pakistan can build a strong case to donors like World Bank, JICA, ADB to support Pakistan in these dams which will help the country manage future disasters especially floods in more effective way.

Policy Recommendations - based on this examination

of disaster risk management and capacity in Pakistan, a number of policy recommendations can be put forth. First, there is an urgent need to revisit disaster management structures, both in principle and in practice, and evaluate whether they serve their intended purposes. In order to provide effective disaster preparedness, *there is need for a drastic improvement of local level capacity as well incorporation of local level knowledge in larger plans.* By building local capacity and empowering local officials and communities, people should be better prepared to withstand flooding and other natural disasters. Donors can invest in building such capacities in local partners and coordination with government authorities. By investing in capacity we can achieve two important objectives of improved human resources and better institutional response in case of any disaster occurs.

Donors shall also localize the decisions, planning and resource utilization functions so that local players including NGOs, humanitarian actors, disaster management authorities, systems of coordination are better able to supporting resilience and preparedness functions.

Similarly, donors can support and invest in implementing objectives of decentralization of expertise and administration of emergency response. Such a support can enable quicker, more efficient aid and decision-making in all spheres of preparedness and response. The centralization of power and budgeting around disaster management creates ineffective and inefficient processes, which can delay aid and exacerbate challenges during disasters.

Investing in reliable and disaster-resistance infrastructure increases capacity of any country to deal with adverse effects of any natural hazard. Unluckily our poor economic health and fiscal weaknesses don't allow the country to invest in such structures. Donors can provide focused and timely financial assistance as budget support in mitigating the effects of floods and other disasters with lower

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perceived risk, including earthquakes and heat waves.

Likewise, the importance of institutions that only focus on provision of disaster relief and rehabilitation needs to be reduced. Revising the architectures of development plans and institutional mechanisms

could help make preparedness as national priority as oppose to response only actions. Donor's contribution to development projects with resilience factors incorporated can better achieve these objectives.

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*The government should partner with the private sector and donors in creative ways to overcome the challenge of poor economic strength.*

*The disaster preparedness function itself and associated institutions, especially in the civil society, need to be given more importance both in letter and spirit.*

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# Risk Assessment and Safer Land use Planning

## A Step Towards Preparedness

Syed Harir Shah



Pakistan is in constant grip of major to everyday-disasters from over a decade. The community at the local level is perpetually suffering human casualties; socio-economic, ecological, environmental, and physical losses; and emotional, psychological and behaviour challenges.

There are many causes of everyday-disasters. One of the basic causes is 'lack of risk-based approach to land use planning' that is crucial to everyday human activity in cities, villages, and other human settlements. Our experience of over 20 years working with development, disaster risk and climate change related sectors in Pakistan and the region reveals that another factor that is hampering the efforts of disaster risk reduction is '*lack of comprehensive risk assessment*'.

Comprehensive risk assessment and safer land use planning are basic and critical components of an integrated risk based development approach to cope with everyday development risks.

It is the first step towards achieving the targets of sustainable development goals and SFDRR 2030. Risk assessment for safer land use planning at the local level for construction, settlement and development of infrastructure ensures resilience and sustainability of everyday development intervention. It supports in understanding and managing multiple risks that maximize net benefits from the natural process, and sustainable natural resource management and minimize the negative impact of the overall risk process.

Risk Assessment has been defined by UNISDR 2015 as "*the ability to assess risk using an all-hazards approach in a timely, technically sound, and easily communicated fashion is the foundation to develop the necessary understanding by key stakeholders tasked to*

*manage and reduce disaster risk as outlined in the Sendai Framework for Disaster Risk education*".

UNISDR (UNISDR 2009) as defined Risk Assessment as the "*methodology to determine the nature and extent of risk by analyzing the potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihood and the environment on which they depend*".

Risk assessment combines a characterization of the hazards with the level and extent of exposure with an assessment of differentials invulnerability (and its converse – capacity) providing a calculated estimate of the risk of disaster in terms of impacts and their probability.

Acknowledging the importance of land use planning in disaster risk, UNISDR 2009 defined it as "*the process undertaken by public authorities to identify, evaluate and decide on different options for the use of land, including consideration of long-term economic, social and environmental objectives and the implications for different communities and interest groups, and the subsequent formulation and promulgation of plans that describe the permitted or acceptable uses*". The importance of land use planning and policy to address underlying disaster risk drivers has also been underscored by Sendai Framework for Disaster Risk Reduction (SFDRR) 2015–2030.

Land use planning allows communities to guide the location, type, density, and timing of development through regulations, public infrastructure investments, market incentives, and conservation of natural resources such that development is safe from multi-hazard risks and in harmony with a sustainable rural and urban water cycle. Within an acceptable

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level of multi-disaster risk, land use measures seek to minimize loss of life, property, biodiversity, land destruction, pastures, forest, watershed, flooding causes and damages, causes of erosion, landslides, and critical infrastructure. Land use measures maximize net benefits from waterfront economic and recreational activities and ecosystem services. This balance of minimization and maximization ensures that communities not only survive but also adapt and grow safely despite disruptions from flood or other disasters.

This balance of minimization and maximization approach ensures:

**1. SAFE LOCATION:** Risk assessment and safe land use planning reduces existing hazard risk and prevents the creation of new risks linked to hazardous location infrastructure development. Land use plans can guide safe development location in many ways:

- by protecting key economic areas with hard-engineered structures;
- by “retreating” from the chronic flood, seismic zone, landslide/erosion, rock fall, avalanche, GLOF areas, low-lying coastal areas or floodplains, and tsunami from sea-level rise
- by providing preventive resettlement and redevelopment plan for safe growth in safe areas; and
- by preparing critical infrastructures such as evacuation routes within and out of flood zones, open spaces for relief operations, community shelters, and emergency facilities.

**2. SAFE CONSTRUCTION:** Risk assessment and safe land use planning ensures both 'reduction of current risks' and 'prevention of emerging new risks' that stem from bad design or poor construction of buildings and other infrastructure, specifically by promoting safe habitation – with water and environment – approach to sustainable development.

Risk assessment and land use development guidelines and building codes play an important role in fostering safe and resilient habitation/settlement approach.

They:

- control flood sources by supporting the integration of green and grey infrastructures to increase the flood-holding capacity of streets, open spaces, and waterways for better flood conveyance and drainage as well as water security
- ensure adoption of flood and seismic resilient infrastructure and buildings to mitigate damage from an unavoidable risk of flood, earthquake, landslide, avalanche, rock fall, tsunami and coastal flooding
- protect the ecosystem from pollution and prevent over-extraction of natural resources during reconstruction.

**3. SAFE ACTIVITIES:** Risk Assessment and safer land use plans reduce and prevent risks created by specific land uses and economic activities, including the flow of goods and services in particular territories. Land use planning guidelines:

- maximize net benefits and ecosystem services of waterfront economic activities and flood-prone zones through multifunctional land use
- support activities that protect the natural ecosystem from pollution
- ensure functionality of business continuity plan

Performing risk assessment in the context of safe land use at any scale (local, individual, neighborhood, and community, regional and national) requires considerable expertise, time, and resources.

Furthermore, disaster risk is increasingly complex and multi-faceted (hazard, exposure, vulnerability and capacity), with interdependencies that may be overlooked and cause cascading effects over time and space. Additionally, once risk assessments are available, their uptake and use requires effective communication and dissemination to leverage science and ensure that risk information is useful, usable, and used. This goal demands both cutting-edge scientific

# Risk Assessment and Safer Land use Planning

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methods and technological tools, integration and translation of scientific findings that are already available, and the fostering of a network of relationships across the science-policy-practice landscape.

Risk assessment and management addresses the use and advancement of science and technology to yield the necessary methods that inform sound risk management plans. These capabilities provide the basis for SFDRR's 'priority of action 1' on Understanding Risk and 'Priority of action 2' on Strengthening Disaster Risk Governance. The

complexity of risk assessment and safe land use planning is challenging but a very basic and fundamental step towards preparedness and resiliency building.

Multi-hazard based risk assessment and land use plans give communities an overview of which areas need to be protected, evacuated, developed, or redeveloped. These plans need to be accompanied with implementation tools that are acceptable to the community and that can be enforced with local capacities and resources. Such tools can be the regulatory, economic, financial, or behavioural.

REGULATORY	FINANCIAL	BEHAVIORAL	ECONOMIC
<ul style="list-style-type: none"> <li>▪ Zoning plans and ordinances</li> <li>▪ Emergency plans</li> <li>▪ Development controls (land use and density)</li> <li>▪ Building codes (elevated structures and infrastructures, seismic and flood proofing, green building)</li> <li>▪ Strong and committed institutions with competent human resource</li> <li>▪ Localized adaptive risk governance and competent and technical manpower</li> </ul>	<ul style="list-style-type: none"> <li>▪ Public funds</li> <li>▪ Public-private partnerships</li> <li>▪ Multi risks insurance policies and plan</li> </ul>	<ul style="list-style-type: none"> <li>▪ Awareness campaigns at multiple levels</li> <li>▪ Mobilization and willingness of community and the organizations</li> <li>▪ Mandatory risk disclosure in real estate transactions and all infrastructure</li> <li>▪ End to end multi-hazard early warning systems</li> <li>▪ Capacity building</li> </ul>	<ul style="list-style-type: none"> <li>▪ Land-based financing (density transfer/ density bonuses)</li> <li>▪ Incentives for risk-sensitive constructions and habitation</li> <li>▪ Preferential taxation</li> <li>▪ Tax credits or tax exemptions</li> <li>▪ Conditional insurance</li> <li>▪ Conditional permitting</li> </ul>

### CHALLENGES

- The importance and challenges of risk assessment and land use planning to reduce multiple risks are generally acknowledged by policy and decision makers and disaster risk management practitioners at national and global level.
- Undertaking risk assessment and land use planning are time-consuming, technical, and complex processes.
- `Risk assessment & land use planning` and `multi-sectorial & multi-agency competencies` are interlinked, interconnected and interdependent.
- Risk assessment and land use implementation is further confronted by the influence of landowners, feudal lords, politicians as well as complexities of informal settlement.
- Encroachment of river bed, state land, and long-time litigated and disputed properties.
- Common and collective property ownership of community and resistance on preventive resettlement.
- Lack of technical and professional competencies of concerned organizations in understanding and undertaking its implementation and monitoring
- The spatial planning and its costs versus benefits are not well understood, especially when a green infrastructure approach is compared to structural measures.
- Lack of capacity to translate technical information into land use regulations, building codes, and how

# Risk Assessment and Safer Land use Planning

## A Step Towards Preparedness

- to integrate it into land use planning
- Lack of participation of community in risk assessment and land use planning because planning departments tend to operate in isolation from other agencies involved in transportation, housing, drainage, and water supply, and most municipalities
- Lack of skilled staff to manage, review, and monitor land use and building regulations
- Disaster modelling data is highly technical, and its application for land use may be not clear to planning professionals and decision makers
- Translating probabilistic hazard modelling into local action plans with developments regulations and hazard zones need to be referenced to corresponding building design and construction requirements
- Even where land use plans exist, they are not supported by appropriate multi-hazard risk assessment. Their implementation is challenged by contentious land ownership and tenure status, as well as issues with stakeholder coordination, finance, permitting processes, and poor enforcement capacity of weak public institutions.
- Reclaiming and resettlement in disaster-hit properties
- Corruption and lack of coordination & collaboration of concerned organizations
- Land procurement for public use is expensive, time-consuming, and fraught with disputes because of the diversity of formal and informal stakeholders in land
- Continuous destruction and erosion of land, infrastructure, pasture, watershed, sea rising, coastal destructions
- Accessibility to multiple hazards zones, remote, marginalized and other physical, social and ecological conditions are hampering in undertaking risk assessment and land use planning.
- Changing dynamics of hazards, climate change and disasters continuing challenge for affective risk assessment and land use planning.

### POTENTIALS AND RECOMMENDATIONS:

Risk Based Planning Approach (RBPA) is an innovation in contemporary land use planning. The development with input from multi-stakeholder ensures its applicability and consistency with statutory planning requirements. This approach demonstrates how local or regional planning agencies

further innovate based on the RBPA, to provide robust and defensible decisions around acceptable, tolerable and intolerable levels of risk for their municipality or the region. RBPA also provides deeper understanding of weather phenomenon and the geophysical, geological and ecological natural process in context of the changing socio-behavior and human actions.

Competency based managerial and leadership skills, knowledge in risks assessment and land use planning is the first step towards resilience and safer community building that converts risk into an opportunity for comprehensive safer risk planning and preparedness. Furthermore, policies and practices that support and supplement risk assessment and land use planning for disaster risk reduction and management should be based on true understanding of inclusive risk in all its dimensions of emerging threats, vulnerability, capacity, and exposure of persons and assets, hazard characteristics and the environment.

Changing dynamics of disasters in Pakistan provide opportunities to the authorities to review and reflect risk assessment and land use plans and strategies on regular basis with a multi-hazard approach and inclusive risk-informed decision-making on the open exchange and dissemination of disaggregated data.

# Risk Assessment and Safer Land use Planning

## A Step Towards Preparedness

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National Disaster Management Authority (NDMA) in Pakistan during a short span of 12 years, since its inception, has done tremendous progress in policy formulation and decision making, regularity and legislative improvement, organizational strengthening, capacity building of staff at all level. Paradigm-shift from bureaucratic approach to public service delivery approach in NDMA is an exceptional innovation in the culture of government organization. NDMA is building stronger coordination mechanism with all the state, civil society organizations, diplomatic and global community, corporate sectors and NDMA's own extended arms at provincial and district level across the country, is widely acknowledged. NDMA's role is recognized as an effective industry leader in Asia Pacific region.

However, urgent action to effectively employ risk assessment techniques for land use planning decisions around multi-clusters clusters, as well as the relevant acceptability or tolerability criteria are yet to be formulated in the country on priority basis.

Land use plans, supported by comprehensive risk knowledge can be leveraged for the purpose of pre-during and post disaster risk assessment for prevention, mitigation, preparedness and implementation of appropriate, and effective response to disasters.

Investing in land-use planning requires a mid to long-term commitment in high risk prone areas as well as lower risk prone regions. Land use planning, when backed by strong institutions, could be considered an instrument for negotiating and “equalizing” risks before they are transferred to marginalized populations or taxpayers.

It is expected that NDMA and other concerned authorities at the different level in Pakistan will gear up to prepare multi-sectorial risks assessment and land use planning; perhaps it is in initial stages of lobbying for commitment or may have made significant strides in risk assessment.

# Are We Prepared for Disasters?

## Realities and Way Forward



Ghazala Naeem

Disaster preparedness of a nation can be assessed by reviewing the performance in actual events and responding to perceived catastrophes; going through a continued phenomenon to learn from the real world and knowing where to strengthen the resilience. Before going into details, it is important to note about preparedness and resilience at national level. The term preparedness has been defined as; 'the capacities and knowledge developed by governments, professional response organizations, communities and individuals to anticipate and respond effectively to the impact of likely, imminent or current hazard events or conditions' [UNISDR-2008]. Whereas resilience is the ability to prepare and plan for, absorb, recover from, or more successfully adapt to actual or potential adverse events [UNISDR DFID DRR Interagency Coordination Group 2007].

Global frameworks on disaster risk reduction have been focusing on strengthening preparedness and resilience of member countries and now have developed consensus on measuring nation's achievement through adopting common indicators. For example, Sendai Framework on Disaster Risk Reduction and the Sustainable Development Goals (2015-30) define one of the common indicators to assess national resilience by reducing disaster mortality per 100,000 population of the country till 2030 in comparison to what it was in 2015. Such common measuring gears are facilitating global agreement on declaring status of a nation as prepared if essentially [National Academy of Sciences USA]:

- Sufficient vulnerability and risk information is available to all;
- Government at all levels, communities and the private sector have developed and adopted resilient strategies and operation plans;
- National disaster data base indicates substantial reduction in loss of life, cost, socioeconomic and environmental impacts of disasters, and
- Reduced per capita cost of responding disasters and rapid recovery in comparison to past events.

Historically it is evident that 'no perfect end state or end condition of resilience exists'. Rather, it is an ongoing process of 'Building Resilience' which requires continued planning and assessment by all stakeholders. However, nations with well-defined preparedness goal, clearly assigned stakeholders' roles & responsibilities, continued addressing challenges of capacities for ultimate resilience of communities with a bottom up approach and deploying tools for monitoring progress, can be better protected and strengthened against disasters.

**Pakistan's Disaster Resilience** - setting a core value of disaster resilience in case of Pakistan, needs a prior understanding of the country's disaster management profile and current status of progress in this regard. Pakistan emerged as a country on the globe in 1947 and experienced first severe calamity as floods in 1950 claiming around 3000 lives and affected more than 10,000 villages. Then it continued to suffer from floods, drought, cyclones, earthquakes and landslides one after the other and subsequently various legislations and policies have been devised and implemented to respond to emerging disasters. Initially, in the absence of a comprehensive disaster management national policy, the West Pakistan National Calamities Act 1958 was formulated and used as a legal remedy that regulated the maintenance and restoration of order in disaster hit areas and relief against such calamities. Afterwards, the Emergency Relief Cell (ERC) established in 1971 under the Cabinet Division, worked as an institutional disaster relief support at national and provincial levels. All such efforts were revolving around a reactive approach of dealing disasters in only post disaster scenarios until in the aftermath of the 2005 Kashmir Earthquake and following the global commitments of Hyogo Framework of Action (HFA 2005-15), the Government of Pakistan promulgated the National Disaster Management Ordinance (NDMO) in 2006 to introduce a comprehensive National Disaster Management System, followed by

# Are We Prepared for Disasters?

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National Disaster Management Act 2010.

Following the above mentioned legal arrangement a three tier disaster management system at national, provincial and district level and National Disaster Management Commission (NDMC) were established. National level policy framework aiming a disaster resilience was developed in 2007 (National Disaster Risk Management Framework) based upon the macro level country's risk assessment afterwards a refined and target oriented plan evolved as National Disaster Management Plan (NDMP) 2012-22 with revised assessment of risk at macro (national) level and a pilot exercise at advance level (i.e. Sindh Province). The country entered into new global commitment of disaster risk reduction by adopting the Sendai Framework in 2015 for a period of next fifteen years, i.e. 2030.

Pakistan has progressed in developing disaster resilience through adopting a paradigm shift of reactive to proactive approach at legal, institutional and policy level. However, to gauge this progress in terms of global common indicators, the country at least needs:

Pakistan's national commitment and the global obligations on DRR are settled together since 2005 onwards, however, as a national imperative; required disaster resilience has been a challenge to achieve. Country's disaster profile, frequency of events and the capacity attained so far is yet unmatched to be able of

- Full version of vulnerabilities and risks information accessible to all levels of the government, communities as well as non-government stakeholders to develop and adopt disaster resilient strategies;
- A national data disaster data base to know the cost and impacts of past catastrophic events and recovery speed after each disaster.

'being prepared'. Consistency in preparedness efforts are yet to be matched. For example, to deal with floods, being a very frequent calamity in recent past,

preparedness measures are taken in advance. Months ahead of monsoon season, stakeholders take collective measures to get ready and respond upcoming flood situation through yearly 'Flood Contingency Planning' at various levels of the government. Multi-stakeholders plannery sessions and meetings begin early in the year i.e. March to May for taking precautionary measures and establish 'Emergency Operation Cells' within each relevant agencies/ department/ organization operation on 24/7 basis during monsoon period (15 June to 15 October). On the contrary, for seismic hazard, national precautionary measures proved to be absolutely insufficient despite of continued sufferings from heavy human and financial losses in the recent events of 2005 Kashmir Earthquake, 2013 Awaran Earthquake and October 2015 Earthquake in Khyber Pakhtunkhwa province. Legislation and effective implementation of the building codes, byelaws and land use regulations could not be enforced in the country. The efforts made to strengthen preparedness so far have been proved insufficient in comparison to the potential seismic hazard and the prevailing nationwide vulnerabilities.

Learning from the past events is yet not adopted as defined procedures in the country. Although efforts are made to develop post event report of a natural calamity, but such reports are usually not used to rectify the short comings on the basis of learning from past events. For example, organizations involved in the early warning chain are not bound, as a policy matter, to review their performance and capacity after every disaster and improve their system and procedures accordingly. As a case study, the flood, 2010 in Pakistan created unprecedented havoc and losses. The review of early warning effectiveness during the Floods 2010 was conducted for the development of NDMP 2012-22 Volume II for Early Warning in the 33 identified districts and findings were:

## Are We Prepared for Disasters? Realities and Way Forward

No. of Districts	Effectiveness of EWS during 2010 Floods
2	People cooperated with district government and evacuated timely
9	No Early Warning at all or no time for evacuation
22	Community disregarded Early warning

Table 1: Lesson learned from 2010 Floods, 33 districts survey by JICA study team. Source: NDMP-EWS-Vol. II 2012

As a routine practice of Early Warning System (EWS) in Pakistan, the disaster management authorities and some other stakeholders involve media within dissemination chain and share same early warning information originally issued by Pakistan Meteorological Department (PMD) or Flood Forecast Division (FFD), without developing the message further in easily understandable formats for communities. The issue was also highlighted during consultation with communities held at Mardan KP and Daado in Sind Province, after 2010 Floods. Both communities disregarded the warning initially and suffered a lot, complaining the content of the EW message not understood, “it was in thousands of cusecs water approaching and we could not have estimation of quantities water, had we been told about knee or waist high water levels we could have responded accordingly”.

Despite the review processes conducted after Floods 2010, the warning message contents and dissemination mechanism is yet unchanged in the country. On the contrary, nations with stronger resilience capacities always aim at incorporating lesson learnt in the disaster management system for achieving advance level of preparedness. For instance, in Japan as required by the Disaster Countermeasures Basic Act, related agencies have to submit a 'White Paper'<sup>1</sup> to the central government containing their evaluations of plans for disaster prevention under taken for disaster in that period. Surveys on effectiveness of EWS are done on regular basis to take feedback on end users satisfaction. Japan Meteorological Agency (JMA) together with other agencies have been submitting the White Paper every year since 1963 and till date has issued more than 50

editions. Similarly, a Technical Investigation Group on 'Inheritance of Lesson from Disasters' (TIGLD) was established in 2003 under the Central Disaster Management Council, aiming to collect, systematically, historical disaster related information such as damages, countermeasures by the local and central governments, and impacts (on society & economy) in order to convey traditional “know-how” to younger residents and make people aware of disaster prevention plans. The council targets about 100 historical disasters and investigating those over ten years period [Institutional Partnership in Multi-Hazard Early Warning System, A Compilation of Seven Best Practices and Guiding Principles; Maryam Golnaraghi]

Another important feature toward nation's preparedness is the capacity building of local communities. Pakistan has made tremendous achievement in implementing capacity building of community groups. However, this has always been a one-time project bound activity, mostly under donor funded community based disaster management initiatives. Sustainable and continued involvement of such trained community groups and volunteers could not be ensured. In Bangladesh the Cyclone Preparedness Programme (CPP) uses over 42,000 volunteers for dissemination of warning messages and community response. They receive training on response plans, disaster impacts and first aid every year, through a comprehensive volunteers training programme. In Bangladesh at unit level there are 2,845 teams of volunteers with each team having 10 male and five female members, headed by a team leader. The Unit teams are frontline soldiers of the warning system with their mandate to disseminate

<sup>1</sup>The White Paper on Disaster Management in Japan is a report designated by law to be drawn up and reported annually to the ordinary session of the Cabinet pursuant to the Disaster Countermeasures Basic Act, The White Paper is issued every year as an overview of the EW and DM System performance since 1963.

## Are We Prepared for Disasters? Realities and Way Forward

cyclone warning signals among villagers and help them in their evacuation. The teams are equipped with hand sirens, megaphones and transistor radios to receive meteorological information and cyclone warning signal bulletins transmitted by Radio Bangladesh. Volunteers are selected by the villagers using a clearly defined a set of criteria. The CPP is a volunteer organization organized in 274 Unions of 32 Upazilas and is made up of 2,845 Units. Each unit serves one or two villages with an approximate population of two to three thousand each. Fifteen volunteers are recruited for each Unit by the villagers. The fulfillment of several criteria by a person makes him or her eligible to be a volunteer, according to the volunteer by-laws [Institutional Partnership in Multi-Hazard Early Warning System, A Compilation of Seven Best Practices and Guiding Principles; Maryam Golnaraghi].

Country wide comprehensive hazard profiling and vulnerability assessments although initiated but are yet to be completed as mandated and planned under NDMP 2012 in Pakistan. Whereas national GIS data base is maintained in Japan and information is available to all stakeholders till community level for developing their respective resilient strategies and development plans. In Bangladesh, hazard profiling and vulnerability assessments are done by mandated agencies, national data base is updated and maintained through National Statistical Bureau every year [Institutional Partnership in Multi-Hazard Early Warning System, A Compilation of Seven Best Practices and Guiding Principles; Maryam Golnaraghi].

### Way Forward

Focused efforts are needed to strengthened coordination within and among organizations through establishing required protocol and tested through regular exercises and drills and incorporation of lesson learnt as a part of national policy and legislation.

Establishing synergized and end to end early warning system shall be addressed as a national priority in legislation and action plan at all levels. Setting up required protocol and Standard Operating Procedures (SOPs) would help in evaluating performance within and among stakeholders involved in disaster management cycle.

Disaster management legislation needs to establish detailed mandated tasks supported by coordinated SOPs for all stakeholders involved in building nation's disaster resilience i.e. agencies, organizations and departments responsible for risk assessment, monitoring & forecasting, communication & dissemination of early warnings as well as preparedness & emergency Response.

A national level GIS data base of comprehensive hazard profiling and vulnerability assessments at micro level shall be developed and accessible to the end user.

Advancing disaster resilience is a long term process but can be achieved through short term, achievable and visible goals to set and progress measured as a full and clear national commitment.

# The Role of Human Networks and their Implications for Disaster Management Policy and Practice



Usman Qazi

In all democratic societies, the State, the Private Sector and the Civil Society are expected to work in harmony to ensure the collective well-being of the citizens. This imperative becomes especially significant in the face of adversities of all kinds. One emerging form of civil society institutions is the networks of individuals and organizations around themes of shared interest. This article seeks to initiate a discussion on the potential role of civil society networks in managing disaster risks and how the national or sub-national policy regimes affect them in Pakistan.

The participation of citizens' social networks in disaster preparedness has a history as old as the country itself. Entities like the Pakistan Red Crescent Society and the state supported Civil Defences Volunteers had been active in providing relief to the affected areas during the times of crises. The social transformation - particularly during the 1980s and 1990s- undermined a lot of this type of volunteerism while the professionalized Civil Society Organizations (CSOs) emerged and evolved, primarily in the areas of social services and grassroots level development. In parallel to this, the conventional governmental disaster management apparatus too had become outdated.

The year 2005 can be termed as a watershed moment in the history of Pakistan when an earthquake measuring 7.6 on the Richter scale devastated vast areas in Northern Pakistan, killing at least 76,000 people and leaving a larger number injured, homeless and socially and economically scarred. The government resorted to deploying the armed forces to lead the relief operation and the national and international CSOs operating in Pakistan joined the effort. Additionally, in response to a humanitarian appeal by the Government, a large number of

international humanitarian organizations poured in to supplement the local efforts. This also happened to be the year when the Inter Agency Standing Committee (IASC) of the UN had just agreed upon the Humanitarian Architecture popularly known as the Humanitarian Cluster System. Pakistan became the first test case of rolling out the Humanitarian Clusters.<sup>1</sup>

One result of direct interaction with the international humanitarian workers was the germination of a new cadre of local professionals and volunteers with hands-on experience on modern approaches towards disasters. The Government of Pakistan, learning from the experience of the earthquake, created the National and Provincial Disaster Management Authorities with a view to promote Disaster Risk Reduction and coordinate disaster preparedness and response. The CSOs also organized themselves as the Pakistan Humanitarian Forum (PHF) and the National humanitarian Network (NHN), representing, respectively, the international and national humanitarian partners.

Since then, a number of national, sub-national and local level initiatives towards risk reduction, preparedness and response to the subsequent disasters have taken place across the country.

**Statutory Arrangements for Government-CSO Cooperation in Disaster Governance -** Pakistan's disaster risk management and disaster management institutional setup is based upon the National Disaster Management Ordinance 2007 (later Act 2010) and the subsequent sub-national legislation. The apex national body for disaster risk management is the National Disaster Management Commission formally headed by the Chief Executive and has representation by the provinces and the key national ministries. The act provides for civil society

<sup>1</sup><https://interagencystandingcommittee.org/about-iasc>

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representation in the Commission.<sup>2</sup> The selection process for the civil society membership however has been left to the discretion of the chair of the Commission. Similar situation exists at the provincial Commissions.

Practical Implications for Government-civil society partnership - being environmentally diverse, Pakistan offers a most varied hazard-scape with high levels of vulnerabilities to geo-seismic risks such as earthquakes and tsunamis, as well as extreme climatic events such as floods, droughts, landslips and Glacial Lake Outburst Flooding (GLOF). Also, weak governance structures, competing demands on public exchequer and the weak revenue base would not allow for the state machinery to ensure adequate public sector capacity at every level for managing disasters and disaster risks.

On the other hand, various CSO supported local, sub-national and national networks of professionals and volunteers, with well-trained and experienced individuals and organizations exist in all parts of the country. These networks and their members offer a great potential to strengthen the work of localized risk reduction, and also to increase predictability of the capacity for the “first response”. Leaving aside the chronic lack of trust among various segments of society, particularly between the public and voluntary sector, some positive experiences have emerged in the recent past where the significance of the role of humanitarian networks has been recognized by the state institutions. Signing of Memoranda of Understanding (MoU) and jointly organized training workshops are positive steps in the direction of closing the gap.

Prospects for the Future - a number of policy and practice level recommendations can be made to further strengthen the role of humanitarian networks and to channelize their potential for integrated and coordinated DRM and response.

## Policy Actions:

- The representation of the civil society actors in the apex statutory bodies can be made more meaningful and transparent by laying down a procedure for consultation with the humanitarian networks so that the policy level discussions at the national and provincial Councils can adequately benefit from the civil society expertise, experience and insight
- The curricula of the public sector training institutions should include material on the value, role and mode of engagement with the humanitarian agencies in general and humanitarian networks in particular
- The public sector training institutions should reach out to humanitarian networks to include their members as both resource persons as well as participants in specialized and generic courses related to disaster management
- The humanitarian networks should try to reach out to the legislators at all levels and from across the political divide to apprise them of their role

## Practice related Actions

- The humanitarian networks should make sure that the relevant authorities are fully abreast of all their activities and factor these in while preparing development, contingency and response plans
- The professionals' databases maintained by some humanitarian networks should be accessible to -and include- public sector officials with the mandate and capacity for DRM
- The humanitarian networks should implement targeted advocacy packages to promote greater transparency and accountability among their members and to the public sector
- The humanitarian networks must continue to strive for greater democratization of their structures to ensure that they are viewed by the society at large as responsible, accountable and truly representative of their members

<sup>2</sup><http://www.ndma.gov.pk/ndmc.php>

# Disaster Risk Reduction (DRR) Mainstreaming In Governance Where Now and Where to?



Yusra Qadir

Pakistan is highly susceptible to reoccurring disasters having faced 311 disasters over 71 years.<sup>1</sup> The population of the country is 21.70 million (National Bureau of Statistics 2017) and 29.5% of the population in Pakistan lives below the national poverty line.<sup>2</sup> Natural disasters from 1947 to 2016 have affected over 85 million individuals while human

displacement since 2009 has affected over 5 million individuals. As per 2017 HNO 3.4 million people are in need of assistance in KP and FATA. Meanwhile Sindh province remains on the radar due to endemic chronic and acute malnutrition in many rural communities.

Disaster threat level Assessment Matrix based on 70 years history							
Disaster	Punjab	Sindh	Balochistan	Khyber Pakhtunkhwa	Azad Jammu & Kashmir	Gilgit Baltistan	FATA
FLOOD	53	32	26	34	7	5	1
EARTHQUAKES	25	3	35	30	5	13	3
EXTREME TEMPERATURES	8	10	4	1	0	0	0
STORMS	6	7	2	1	0	2	0
EPIDEMICS	6	6	1	3	1	0	0
LANDSLIDES	0	0	0	6	4	3	0
CYCLONES	0	9	2	1	0	0	0
AVALANCHES	0	0	0	7	5	1	0
DROUGHTS	0	3	4	1	0	0	0

Data Source: Counting Disasters 1947-2016 by Plan International endorsed by Anthropology Department Quaid e Azam University Islamabad

Recurring natural disasters are common in Pakistan due to the impacts of climate change. Vulnerability is compounded by poverty; poor development indicators and deep rooted structural inequalities based on gender, religion and social status. Pakistan has braved mega disasters through cross sectoral and multi stakeholder coordination and cooperation. It would be fair to say that Pakistan is no more novice in responding to disasters. As a developing country Pakistan is challenged to allocate required resources to DRR and preventive measures. Despite challenges,

coordination has improved inter and intra departmentally. Political awareness and commitment (sometimes triggered by the economic consequences of disasters and climate change) have contributed in role clarity between departments and between centres and peripheral governance structures too. The State has been very welcoming for non- state actors to join hands for collaboration and this has been well received and well responded to by all non- state actors.

<sup>1</sup>(Counting Disasters 1947-2016)

<sup>2</sup>Dawn (December 2016) <https://www.dawn.com/news/1300512>

<sup>3</sup>Aljazeera (2014) <https://www.aljazeera.com/humanrights/2014/08/pakistan-idps-reach-record-one-million-201482712311342575.html>

## Disaster Risk Reduction (DRR) Mainstreaming in Governance Where Now and Where to?

In Pakistan's foreseeable future recurrent disasters (natural and man-made) seem inevitable. To ensure that the pre-burdened economy is not strained with large scale relief and reconstruction, it is imperative that Pakistan adopts a proactive approach for DRR. A proactive approach has been on the governance agenda for a while now. Pakistan's Statement during 5th Session of Global Platform on Disaster Risk Reduction, Mexico also specifically mentioned the need for and overview of efforts being underway to ensure mainstreaming DRR in governance.

Hyogo Framework for Action 2005-2015 explicitly linked sustainable development to integration of DRR into governance processes: "There is now international acknowledgement that efforts to reduce disaster risks must be systematically integrated into policies, plans and programs for sustainable development and poverty reduction.... Sustainable development, poverty reduction, good governance and disaster risk reduction are mutually supportive objectives and in order to meet the challenges ahead, accelerated efforts must be made."

While the ground-breaking development within DRR in Pakistan was pushed by the Hyogo Framework for Action by Government of Pakistan's approval of National Disaster Risk Reduction Policy in 2013, there still remains a lot to be done. Commitment to streamline multi-stakeholder DRR activities, adoption of a more proactive approach, investment in DRR and ensuring inclusivity of all groups and supporting the

four priority areas of Sendai framework have repetitively resonated from the State. However, they have been accompanied by calls for support in coordination, expanding resource base and capacity building. While it is understandable that integration and mainstreaming do not happen fast at governance level especially for resource-stricken countries, it is also true that to ensure certain inertia some pace has to be maintained.

The government should lead the way in persuading and influencing coordination between national and sub-national actors to join heads and hands to manage and reduce disaster-related risk. Increase in public awareness, investment in scientific data generation, analysis and its link to planning, setting up of robust early warning systems, connecting communities to early warning systems, investing in risk insurance and appropriate resource allocation remain the way to go.

So far, the Government of Pakistan is taking measures to ensure effective implementation of the National DRR policy. This included drafting and approval of a National Disaster Management Plan (NDMP) which undertakes scientific data analysis for macro level hazard and risk assessment in line with Sendai Framework for Action (SFDRR). The Plan will be implemented by 2020 and effective implementation will require over 2 billion US dollars. An implementation roadmap for the plan's roll out was launched in 2015. There have also been concrete efforts to ensure a dedicated budget line for Disaster Management at national, provincial and district levels and actions for disaster risk insurance for vulnerable communities to reduce their dependence on assistance are also being pioneered.

Some projects which are almost approved encompass a) Short & Medium Range Forecasting (all four provinces, federal capital); b) Project for Capacity Building of DRM Institutions in Pakistan; c) Up-gradation of Islamabad Weather Surveillance Radar; c) Up gradation of Karachi Weather Surveillance Radar; d) Satellite based Integrated Flood Alert System for flash floods; e) Human Resources

Development through Master Degree & PhD Programs.

Multiple donors are supporting climate change and DRR integration into development work through NDMA and PDMAs. NGOs and media are also playing a collaborative role to complement and augment the efforts and commitment by the government. Substantive support is also being channeled for

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mapping and assessments. Most donors have streamlined and pooled their funding to ensure disbursements in DRR and mitigation, research/innovation/learning and response. Donors have improved coordination to ensure effective coverage of funding gaps wherever possible. There have been projects piloting and testing joint rosters, pivoting combination of indigenous practice and scientific knowledge, investments in improving scientific technologies and forging linkages between scientific data analysis to communities and relevant departments.

A fiscal disaster risk assessment report supported by the World Bank Group and Global Facility for DRR revealed that nearly 3 million people are affected by disasters in Pakistan each year; the estimated annual economic impact of floods ranges between \$1.2 billion to \$1.8 billion, equivalent to 0.5% to 0.8% of Pakistan's GDP. The analysis also showed that a major flood event, such as the one experienced in 2010, could cause losses in excess of \$15 billion – almost 7% of the national GDP. Concrete evidence-based studies, commitment from the Government and public private partnerships have resulted in improved investment (budget allocations) to DRR. Punjab has been leading the way with substantial budget allocation to DRR while other provinces are also steadily increasing funding for DRR.

What needs more focus presently is that public awareness, political will and required capacity all need to be invested in as they are key to effective DRR. Natural disasters affect the already vulnerable communities augmenting the scale of loss and damage manifold. Apart from investment in DRR, it is critical to ensure DRR's integration in all development agendas and pushing stronger for inclusivity of all groups within development and DRR. Supportive governance for vulnerable and marginalized groups can enable reduction in vulnerability which in turn improves coping capacity for communities. Improved coping capacity can result in profoundly lower levels of loss and damage.

Ensuring that DRR is prioritized and adequately invested, requires effective redressal of competing interests at political level. Cash compensation and grants to disaster affectees sometimes carries political benefits and is opted for to ensure constituencies are retained. Better governance and understanding the long-term impacts of not integrating DRR in governance should be considered to deal with this challenge. There is no shying away from the lack of funds required for effective implementation of NDMP. The resource provision cannot be supported by government or donors in full.

Symbiotic private partnerships can be a key for resource generation to fuel effective policy implementation. It would need multi-stakeholder collaboration and implementation of innovative approaches but public-private partnerships is the way to go to bridge the funding gap.

We should also be cognizant of the institutional challenges that remain unaddressed or arise from current arrangements like reliance on military instead of capacitating state institutions and testing their capacities. This reinforces trust and acceptance of the Pakistan Army as it has always responded timely and extensively whenever called upon. At the same time this highlights the failure of State to invest in building civilian capacity to predict and adequately respond to disasters. A research brief from the Strauss Centre points out that sometimes legislation/policy exists but failure to implement it surfaces as a structural/institutional issue. 'For example, the Canal and Drainage Act prohibits any construction on flood plains but the government has no capacity to go after illegal settlements and implement the law'.

Pakistan is paving its way across the DRR mainstreaming and integration agenda however pace needs to be enhanced to ensure that we meet our international commitments and are able to build capacities, as localized as possible to minimize the impact of disasters.

# Disaster Risk Reduction (DRR) Mainstreaming In Governance Where Now and Where to?

The meteorological department and the geographic survey of Pakistan have done valuable work in setting up systems to pre-empt disasters. However, we still have a long way to go in terms of optimal use of technology and linking scientific data analysis to decision making. Pakistan still scored very low (8th out of 11 Asian countries) in use of scientific knowledge in decision making and investment in science and technology in a report produced by International Council for Science (ICS) and Integrated Research for Disaster Risk (IRDR) in 2017 titled 'Assessing country-level science and technology capacities for implementing the Sendai Framework'.

For communities to decipher scientific data or implement DRR some basic amenities need to be ensured and a certain awareness level needs to be reached – this takes us back to investment in social/human capital and integrating DRR across

governance. Similarly, it needs to be recognized that other disasters like cyclones and heat waves are increasing in frequency and intensity. They should therefore, be given importance and priority along with earthquakes and floods. It is also important that institutions spear heading DRR in Pakistan revisit their missions and visions to include DRR along with disaster management and response so that DRR becomes as institutional responsibility. Being amongst the top 10 countries which are worst affected of climate change, Pakistan needs to brace itself and hit home with integration of DRR within the governance umbrella as it will be the corner stone for building resilient communities. With the commitments of high level officials in the International Conference on Disaster Management on 20th June 2018, we hope that the political and institutional will stays strong and translates into effective actions at desired pace.

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# DISASTER MANAGEMENT SYSTEM OF PAKISTAN

## Introduction.

Since before partition, the area of Pakistan has seen more than its fair share of devastating disasters, from earthquakes, tsunami, droughts to floods, landslides and avalanches. Most devastating of these disasters to affect Pakistan pre-partition was the 1935 Quetta Earthquake which completely destroyed the old city of Quetta & killed approx. 60,000 persons, followed by 1944 Cyclone which hit coast of Karachi; leaving homeless 20,000 persons and the 1945 Makran Tsunami which killed an estimated 4,000 persons. After independence, Pakistan as a new nation made a great deal of progress, establishing its Civil Defence Service which had a large and varied mandate, including many aspects of disaster management. Over the years, Pakistan has progressed greatly in its capacity to mitigate and respond to disaster situations.

## Institutional Framework.

Since independence, various legislations and institutional bodies were promulgated / established. A brief rundown of these important milestones is:-

- a. The Civil Defence Act 1952 was passed to aid civil populace in defence of any form of hostile act as well as any calamity or disaster situation. This Act has been amended over time in view of national requirements.
- b. The Calamities Act 1958 was mainly focused on organizing emergency response (maintenance and restoration of order in areas calamities affected). This act was later amended when the four provinces were created in 1971.
- c. Emergency Relief Cell (ERC) was created within the Cabinet Division in 1971 and was responsible for disaster relief at national level. It provided assistance in cash and kind to supplement the resources of the Provincial Governments in event of major disaster.
- d. Federal Flood Commission (FFC) was established in 1977 in the aftermath of the 1973 and 1976 Floods which wreaked havoc throughout the country. FFC was mandated to help coordinate flood prevention measures at national level.
- e. National Crisis Management Cell (NCMC) was established in July 1999 under Anti-Terrorist Act in the Ministry of Interior to coordinate with Provincial Crisis Management Cell and to collect information regarding various emergencies in the country.
- f. Earthquake Reconstruction & Rehabilitation (ERRA) Ordinance 2005 and Federal Relief Commission was passed to establish an authority to coordinate the recovery and rehabilitation of areas affected by the devastating 2005 Kashmir Earthquake. The ordinance was later passed as an Act.
- g. National Disaster Management Ordinance 2007 was promulgated resultantly, NDMA was established in 2007 as a lead agency at federal level to implement, coordinate and monitor the whole spectrum of disaster management including prevention, preparedness, mitigation, response, reconstruction and rehabilitation programs. The Ordinance was later passed as an Act in 2010.
- h. Organization of NDMA. As per the NDM Act 2010, the Authority is headed by Chairman while it has three Members heading different Wings. The Chairman also acts as an ex-officio Secretary of the National Disaster Management Commission (NDMC) which is chaired by Prime Minister of Pakistan and NDMA serves as a Secretariat of NDMC.

h. NDMA's Mandate as per NDM Act 2010. NDMA, the executive arm of NDMC is assigned following main roles and responsibilities as per Article 9 of NDM Act 2010:-

- (1) Act as the implementing, coordinating and monitoring body for National Policies related to disaster management.
- (2) Prepare the National Plan to be approved by the National Commission.
- (3) Lay down guidelines for preparing disaster management plans by different Ministries or Departments and the Provincial Authorities.
- (4) Provide necessary technical assistance to the Provincial Governments and the Provincial Authorities for preparing their disaster management plans in accordance with the guidelines laid down by the National Commission.
- (5) Co-ordinate response in the event of any threatening disaster situation or disaster.
- (6) Lay down guidelines for or give directions to the concerned Ministries or Provincial Governments and the Provincial Authorities regarding measures to be taken by them in response to any threatening disaster situation or disaster.
- (7) For any specific purpose or for general assistance requisition the services of any person and such person shall be a co-opted member and exercise such power as conferred upon him by the Authority in writing.
- (8) Promote general education and awareness in relation to disaster management. Functions of Various Wings. In order to carry out the assigned tasks / functions, NDMA is divided into three wings with following tasks:-
  - (1) Administration and Finance (A&F) Wing. Provides all admin and financial support for daily NDMA Operations.
  - (2) Disaster Risk Reduction (DRR) Wing. Handles all matters related to Disaster Risk Reduction Policies & Plans concerning all

types of disasters, Risk Insurance, National Disaster Management Plan (NDMP) including implementation & progress and disaster awareness. Moreover, Coordination with UN Organisations, Bilateral / Multilateral Organisations and INGOs / NGOs with respect to all matters in given domain is also carried out by DRR Wing.

- (3) Operations (Ops) Wing. Ops Wing deals with operations / coordination of National Emergency Operations Centre (NEOC), relief, rescue, recovery and rehabilitation operations during all disasters (inland and foreign). It also carries out coordination of humanitarian assistance and rescue, relief, recovery, rehabilitation efforts with Federal / Provincial Authorities & organizations as well as all stakeholders including UN Organisations, INGOs / NGOs. Moreover, preparation of contingency and response plans for various hazards.
3. History of Major Disasters in Pakistan. As explained briefly in the introduction, the area of Pakistan has seen more than its fair share of since before partition & independence in 1947. A brief overview of the major disasters the area has faced is:-
  - a. 1935 Quetta Earthquake. Took place on 31 May at 0233 hours at Quetta, the earthquake had a magnitude of 7.7 and killed approximately 60,000 persons.
  - b. 1944 Karachi Cyclone. On 27 July a power cyclone made landfall at Karachi, causing large scale damages leaving approximately 20,000 persons homeless.
  - c. 1945 Makran Tsunami. A powerful earthquake with magnitude of 8.1 struck off the Makran Coast near Pasni, the subsequent tsunami with waves as high as 15 meters struck the Pakistan coastline from Pasni, Gwadar, Ormara, Karachi and Keti Bandar. It is estimate the tsunami killed as many as 4,000 persons.
- 1950 Punjab Floods. An estimated 3,000 persons were killed and 900,000 persons were made homeless when River Ravi

flooded, bursting its banks, the city of Lahore was the worst affected.

- e. 1964 Indus Valley Cyclone. A powerful cyclone made landfall along Sindh coast on 12 June causing massive damages, approximately killing 450 persons and leaving homeless up to 400,000 persons.
- f. 1965 Karachi Cyclone. On 15 December, the deadliest cyclone on Pakistan's records hit Karachi leading to the deaths of approximately 10,000 persons and making numerous others homeless.
- g. 1973 Floods. The floods began on August 8 and deaths of people were reported from Sialkot and Gujranwala. Many villages of Lahore and Wazirabad were inundated on 11 August. Indus flood waters entered Larkana on 21 August, suburban areas of Sadiqabad came under water on 2 September. Massive losses and damages were reported. The floods affected more than 4.8 million persons.
- h. 1974 Hunza Earthquake. On 28 December a magnitude 6.2 earthquake struck the Hunza Valley at 1211 hours. The effects of the earthquake were felt throughout the northern half of Pakistan. The earthquake approximately killed 5,300 persons, injured 17,000 persons and affected 97,000 persons. Its destructive effects completely destroyed the town of Pattan in Northwest Frontier Province (now Khyber Pakhtunkhwa).
- i. 1992 Floods. The 1992 floods came in September due to torrential rains. Flood warning was issued on 12 September. River Jhelum witnessed flood peak on 14 September and inundated many villages. High flood situation was witnessed in rivers and water flow had to be diverted by way of breaches in an embankment to save city of Multan on 15 September and breaches were also made on 18 September to save Punjnad Headworks. These floods killed approximately 1,400 persons and affected 12 million persons.
- j. 1993 Sindh Cyclone. On 16 November a cyclone which moved into Sindh from Indian

Gujrat started dissipating near the Sindh-Gujarat border. However, it caused massive rainfall and flooding in Karachi, Thatta and Badin killing 609 persons and displacing 200,000 persons.

- k. 1998 – 2002 Pakistan Drought. Considered worst drought in Pakistan's history affecting more than 2 million persons throughout the country.
- l. 2005 Kashmir Earthquake. The single most deadly earthquake to hit the country, it caused massive damages in areas of Azad Jammu & Kashmir, Northwest Frontier Province (now Khyber Pakhtunkhwa) and Islamabad Capital Territory. The earthquake approximately killed 73,338 persons, injured 128,304 persons and affected 3.5 million persons, causing billions of dollars' worth in damages and losses.
- m. 2007 Cyclone Yemyin. At least 730 people died as a result of flash floods triggered by Cyclone Yemyin, which struck coastal areas of Sindh and Balochistan in July. Approximately 350,000 people were displaced, 1.5 million persons were affected and more than two million livestock perished.
- n. 2010 Pakistan Super Floods. The single worst instance of flooding to affect Pakistan which started on 20 July. The floods affected Khyber Pakhtunkhwa, Punjab, Sindh, Balochistan and Azad Jammu & Kashmir, causing approximately 1,985 deaths, injuring 2,946 persons, affecting 20 million persons and leading to over 10 billion dollars worth of damages and losses.
- o. 2010 Attabad Lake Landslide. Attabad village in District Hunza of Gilgit Baltistan was declared hazardous by NDMA in September 2009 based on a study undertaken by Geological Survey of Pakistan (GSP). 103 families were evacuated prior to the incident. On 4 January a massive landslide blocked the natural flow of River Hunza leading to the creation of Attabad Lake.

p. 2011 Sindh Floods. Due to unprecedented rainfall in Sindh over a period of 4 weeks in August, approximately 167km<sup>2</sup> was inundated. The floods approximately killed 516 persons and affected 9.3 million persons.

q. 2015 Khyber Pakhtunkhwa Earthquake. On 26 October at 1409 hrs an 8.1 magnitude earthquake struck the Hindukush Mountains causing large scale losses and damages in Khyber Pakhtunkhwa (KP), Gilgit-Baltistan (GB), Azad Jammu & Kashmir (AJ&K) and Federally Administered Tribal Areas (FATA). The earthquake approximately killed 272 persons, injured 856 and destroyed 96,152 houses.

4. NDMA & Pakistan's Progress on Disaster Management. Since establishment of National Disaster Management Authority in 2007 our disaster management system has been steadily developing through facing numerous disasters and learning from them. We have spearheaded many unique practices in disaster management, which are now considered global best practices. Pakistan has developed its National Disaster Risk Reduction Policy and its National Disaster Management Plan in 2013. Pakistan is a committed to Sendai Framework for Action on Disaster Risk Reduction and is a signatory of the Paris Climate Change

Accord. NDMA has developed numerous contingency plans, policies and guidelines, such as the National Industrial / Technical Disaster Contingency Plan, National Disaster Response Plan and Host Nation Support Guidelines for Foreign Assistance to Pakistan During Disasters. It has played pivotal role in raising, training and establishment of Urban Search and Rescue Teams in Islamabad, Mardan, Karachi, Lahore and even for the Pakistan Army. NDMA through its National Institute of Disaster Management has trained over 10,000 government officials and private individuals in various aspects of disaster management.

5. As we work towards building a better and disaster resilient Pakistan, NDMA is working with stakeholders and partners both in Pakistan and Internationally, in the future, NDMA is working to establish its Disaster Management Complex, a purpose built institute with state of the art National Emergency Operations Centre and buildings for National Institute of Disaster Management, as well as establishing Pakistan's first specialized National Disaster Response Force (NDRF), which will be rapid response force that can be deployed anywhere in the country within 6 hours.

National Humanitarian Network Pakistan (NHN) is a volunteer network, founded in 2010 as a result of an interactive dialogue in National Disaster Management Authority (NDMA) to act as an independent and vibrant voice to engage with stakeholders throughout Pakistan for promotion of humanitarian values by influencing policies and building capacities to ensure right based humanitarian response.

NHN has been given the mandate by its members to represent the local/national NGOs on the forums and platforms related to the whole spectrum of humanitarian activities ranging from Disaster Preparedness & Disaster Risk Reduction (DP/DRR) to Response and Recovery & Rehabilitation. Structurally, the primary function of NHN is to take a lead on issues of collective and shared importance, especially the issues where a united stance is considered more effective than individual members' tackling the issue on their own. This would imply that NHN steers clear of the functions and activities that are not of a collective nature and might bring the secretariat in a conflict of interest with the members. The NHN would best remain focused on strengthening the collective and shared values, stances, capacities and standards of the humanitarian community.

# NHN

National Humanitarian Network Pakistan



**NHN**

National Humanitarian Network Pakistan

**NHN National Secretariat**

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