NDMA Pakistan

Seminar

Role of Development Organizations in Enhancing Infrastructure Resilience in Pakistan

12 Feb 2025

Strategic Intent

- Showcase innovative global infrastructure resilience projects
- Highlight successful disaster-resilient infrastructure projects in Pakistan
- Discuss the nature of challenges in building resilient infrastructure
- Emphasize the role of climate adaptation in sustainable and resilient infrastructure
- Explore the role of communities in disaster preparedness
- Outline strategies for enhancing infrastructure resilience against potential disasters

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1. **Context**

   a. Pakistan is among the ***top 10 countries most affected by climate change***, with increasingly erratic weather patterns exposing the country to various natural disasters. Past disasters have ***revealed the vulnerability of infrastructure*** which have caused significant financial and human losses. ***Weaknesses in construction and planning have contributed to these devastating impacts***. Recurrent floods, earthquakes and extreme weather events pose significant challenges to the country's infrastructure, emphasizing the critical need for enhanced solutions.

   b. To address these challenges, the ***Infrastructure Advisory & Project Development (IA&PD) Wing of NDMA*** organized a seminar on the Role of Development Organizations in Enhancing Infrastructure Resilience in Pakistan, bringing together key stakeholders, including representatives from major UN agencies, international development organizations, policymakers, academia and industry leaders to deliberate on building a resilient future.

   c. The ***session was held at NEOC Auditorium, HQ NDMA, Islamabad.*** The seminar focused on ***showcasing and promoting development projects*** while fostering cross-sector ***collaboration***.

2. **Key Outcomes**

   a. It brought together the ***international development organizations, industrial experts, engineering departments and academia experts*** to discuss the following: -

      i. ***Showcasing Global Innovations:*** Participants discussed internationally successful disaster-resilient infrastructure projects, with actionable insights for Pakistan's context.

      ii. ***Capacity Building Initiatives:*** Strengthened collaboration between academia, government bodies and private organizations to foster research and training in disaster-resilient construction methodologies.

      iii. ***Global Best Practices:*** Adaptation of international standards and techniques to local contexts, ensuring practical implementation in Pakistan's infrastructure.

iv. ***Strengthening Policy Mechanisms:*** Recommendations for integrating resilience-building measures into national infrastructure policies and urban planning frameworks.

v. ***Adoption of Smart Technologies:*** Experts advocated for AI-driven infrastructure risk assessment tools, satellite-based disaster monitoring and real-time structural health tracking.

vi. ***Capacity Building:*** Strengthening collaboration between private sector and government entities to advance research and development in disaster resilient sustainable practices.

b. The seminar provided a ***platform to discuss problems faced by development organizations while implementing resilience enhancing projects*** and steps for adopting the disaster resilient modern construction practices.

c. Increasing community involvement to ***enhance the sense of ownership*** resultantly; leading to better maintenance of delivered projects in the longer run.

d. Emphasizing the ***economic benefits*** of projects to increase ***community adoption.***

e. Strengthening compliance with ***disaster-resilient building codes and bylaws.***

f. Developing a ***cohesive policy framework*** to foster multi-departmental collaboration.

3. **Insights from Development Organizations**

a. The ***seminar featured notable speakers who presented successfully implemented projects and shared their expertise***, including: -

i. ***Aga Khan Agency for Habitat (AKAH):*** presented a strategy to enhance Pakistan's infrastructure resilience through climate-smart solutions, risk-informed planning and disaster mitigation. Emphasizing vulnerabilities to floods, earthquakes and glacial outbursts, it highlighted economic and infrastructural losses. The key initiatives included multi-hazard risk assessments, seismic-resistant housing, flood mitigation, green infrastructure and nature-based solutions. AKAH employs GIS-based hazard mapping, early warning systems and community-led programs. The presentation underscored policy integration, public-private partnerships and local engagement for adaptive infrastructure solutions.

ii. ***United Nations Development Programme (UNDP):*** emphasized the urgency of climate-resilient infrastructure in Pakistan, given the nation's increasing exposure to floods, droughts and temperature extremes. The presentation outlined UNDP's initiatives, including the Glacial Lake Outburst Flood (GLOF) II project, which focuses on risk reduction in 24 valleys of Gilgit-Baltistan and Khyber Pakhtunkhwa, through early warning systems, flood protection walls, irrigation rehabilitation and slope stabilization. The key projects included reconstruction of houses in Balochistan (750 climate-resilient homes planned for 2025), rehabilitation of 150 schools in KP and 60 schools in Sindh. Additionally, UNDP highlighted its Monitoring & Evaluation (M&E) dashboard for flood recovery tracking and urged stakeholders to prioritize community resilience, financial inclusion and inter-sectoral collaboration for mobilizing climate finance.

iii. ***United Nations Human Settlements Programme (UN-Habitat):*** emphasized the urgent need for climate-resilient infrastructure in Pakistan. Active since the 2005 earthquake, it leads disaster resilience, urban planning and reconstruction efforts. The key projects included the Pakistan Settlements Flood Recovery Project, climate-resilient housing and green infrastructure. The “Build Back Better” approach emphasizes earthquake-resistant and flood-adaptive designs. UN-Habitat promotes rainwater harvesting, disaster-resilient schools and confined masonry for housing. The presentation urged policy reforms, capacity building and inter-agency collaboration for long-term resilience.

iv. ***Secours Islamique France (SIF):*** outlined its multi-sectoral approach to enhancing resilience through livelihood support, disaster response, education and climate adaptation across 18 districts in Pakistan. Currently implementing 11 projects, it focuses on livelihood empowerment (SMILE Program), disaster resilience (BEST Project) and flood risk reduction. Major achievements include 2 million trees planted, 105 flood walls, 143 water schemes, 9 bridges, 1500 check dams and climate-smart agriculture. SIF also rehabilitates schools, improves sanitation and trains disaster response teams, emphasizing community-based disaster risk reduction and local resilience against climate change.

v. ***United Nations Office for Project Services (UNOPS):*** highlighted its role in building climate-resilient infrastructure in Pakistan, emphasizing the link between infrastructure development, climate adaptation and disaster resilience. UNOPS showcased key initiatives, including the GHAR project for flood-resistant housing, Women Police Hostels with sustainable design and the Pakistan Bridges Project, constructing eight flood-resistant pedestrian bridges in Swat benefiting upto 49,700 people. UNOPS has also developed climate-resilient hospital incineration facilities. The presentation highlighted science-based climate targets, community-driven planning and scaling green building codes, urging integration of resilient construction techniques into education for a sustainable future.

vi. ***Agency for Technical Cooperation and Development (ACTED):*** presentation emphasized disaster risk reduction and infrastructure resilience in Pakistan, focusing on climate-smart water management, sustainable infrastructure and renewable energy. Since 2005, it has benefited over 3 million people through 30+ infrastructure projects, including rehabilitating 140 irrigation channels, installing 150 tube wells and constructing 47 gravity-driven water systems, 16 drainage systems and 200 rainwater harvesting ponds. ACTED promotes climate-smart housing, solarized schools and small-scale hydropower. It highlighted challenges like funding gaps and land disputes, urging stronger collaboration for sustainable, community-owned infrastructure resilience.

4. **Way Forward:**

a. Pakistan must continue advancing its disaster-resilient infrastructure agenda. The ***seminar reinforced the urgency for enhanced coordination between development organizations, policymakers and industry experts***. All stakeholders should focus on:

i. ***Facilitating ongoing collaboration*** between key stakeholders to drive resilience-focused policies and practices.

ii. ***Encouraging large-scale adoption*** of disaster-resilient construction methodologies across urban and rural development projects.

iii. Seeking ***partnerships and funding opportunities*** to implement smart infrastructure technologies.

iv. Promoting ***local capacity building*** **initiatives** to train engineers, planners and builders in sustainable construction techniques.

b. This seminar marks a ***significant milestone in Pakistan's journey toward resilient and sustainable infrastructure development.***

c. NDMA remains committed to advancing this agenda through continued collaboration with all stakeholders, ensuring that ***the vision of a resilient and sustainable Pakistan*** becomes a reality.

Table 1: Participating Stakeholders of the Seminar

Category	Organization
Development Organizations	United Nations Development Programme (UNDP)
	United Nations Office for Project Services (UNOPS)
	United Nations Human Settlements Programme (UN-HABITAT)
	Agha Khan Agency for Habitat (AKAH)
	Secours Islamique France (SIF)
	Agency for Technical Cooperation and Development (ACTED)
	Pakistan Humanitarian Forum (PHF)
	Islamic Relief Pakistan
	Caritas Pakistan
	Alight Pakistan
	Mercy Corps
	Center for Peace Development and Reforms (CPDR)
Government Departments / Institutions	PDMA Punjab
	PDMA Sindh
	PDMA KP
	Institute of Engineers
	Pakistan Engineering Council
	DESCON Engineering
	MARS Pakistan Pvt. Ltd
	China Civil Engineering Construction Cooperation
	University of Engineering and Technology (UET) Taxila
	COMSATS Islamabad
	National University of Sciences & Technology (NUST)
	Bahria University Islamabad
	National University of Technology (NUTECH)