From Risk to Resilience: Climate Change & Disaster Adaptation Strategies for WASH



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SESSION 2: WASH Strategies for Disaster Resilience

WASH Governance in Disaster Response



What makes India vulnerable to disaster?

- India is one of the most disaster-prone countries in the world due to its geo-climatic conditions as well as a high degree of socio-economic vulnerability (NDMP 2019).
- India stands third worst-affected country due to climate-induced natural disasters (United Nations global assessment report on disaster risk reduction 2015).







India is prone to several types of disasters including biological hazards

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Out of 36 states and union territories in the country, 28 are prone to the natural disasters

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Almost 58.6 percent of the landmass is prone to earthquakes of moderate to very high intensity

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Over 40 million hectares (12 percent of land) are prone to floods/river erosion

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Of the 7,516 km long coastline, close to 5,700 km is prone to cyclones and tsunamis

Source: NDMA, Annual Report 2018-19, Govt of India

The world has witnessed outbreaks of infectious diseases like, Ebola se, SARS, avian and pandemic influenza, MERS, Swine Flu etc. But the impact remained localised in India till coronavirus outbreak. Last severe pandemic was Spanish Flu, in 1918, that claimed 12 million





The pandemic has particularly spotlighted the fragility of Urban systems

The urban poor in informal settlements have been disproportionately impacted during the COVID crisis

Lack of basic amenities and adequate housing in urban poor settlements



Lack of affordability heightens inability to access adequate health care





Inability to access and manage privacy and menstrual health and hygiene for women and girls



Inability to maintain personal hygiene coupled with poor sanitation in congested and unhealthy living conditions





Evidence of WASH challenges faced during pandemic by vulnerable groups

Urban poor faced significant challenges due to lack of access to WASH during COVID



1.89x higher risk of COVID-19 cases in slums as compared to those living in urban non-slum areas

Only 6% of the poorest 20% have access to non-shared sources of improved sanitation, compared to 93.4% of the top 20%

94 Million Indians are at greater risk of COVID-19 because of lack of access to clean water

Source: ICMR, 2020

Source: Berkhout, et al., 2021

Source: Paliath & Raman, 2020

Shared sanitation facilities

- ~40% lack access to both a toilet and a bathroom within their house (NSS 2018)
- Reliance on CTs and PTs → these places became potential sites for spread of infection (Malerkotla, Bhilai, Ajmer and Delhi)

Shared water supply source

- 60% rely on a shared source of water (NSS 2018)
- Use of "water ATMs", and water tankers (Delhi, Dhenkanal)
- Water shortage → foregoing regular handwashing (Jhansi, Delhi)

Source: Re FORM: Lessons for Urban Governance futures from the Pandemic'. FCDO CPR Research Report





50% of Households reported increased water needs post the outbreak of COVID-19.

Pre-existing water shortage was reported in all three cities

Lack of in-house water supply

- "Due to non-availability of running water supply to household, HHs face water shortage". (Swachhagrahi, Cuttack)
- "There is no provision of in-house tap water supply by ULB. Households bring drinking water from nearby stand-post which is 1 km away from their area". (Transgender, Behrampur)

HHs relying on public water sources faced more water shortage

54% Households reported reliance on a combination of government provided facilities.

- Like standpipe, hand pump, bore well and water tanker. This is their primary water source.
- **41%** Households have piped water to dwelling.

2/3 Households need to fetch water

- The share is as high as 90% in Berhampur and 81% in Cuttack where the reliance on public sources is high.
- In 90% Households, adult female members fetch water.

1/4 Households take more than 30 minutes to fetch water.

- Time taken in water fetching has increased marginally post the outbreak of COVID-19.
- Berhampur is taking the longest in fetching water, followed by Bhubaneshwar and Cuttack.



Source: Endure: Redress inequities to build back better, Unpublished, UNICEF - CPR research Report



Socio-economically weaker sections relied mainly on CTs and OD exacerbating vulnerabilities

- SC HHs are 11 times more likely to rely on a shared toilet or PTCT or OD as compared to General category.
- Lowest consumption quintile is 3 times more likely to rely on a shared toilet or PTCT or OD as compared to the top quintile.
- 1/4 renters rely on shared toilets while only 1/10 of house owners rely on a shared toilet
- Exclusive toilet ownership is less among HHs worried about their land rights.
 - While 45% among the 'non-worried' own an exclusive toilet, this declines to 38% for the 'worried' HHs.

Reasons for high OD

- Due to limited seats in CT, many shift to OD during rush hours
- Time constraint faced by daily wage labourers especially in the morning, coupled with limited seats leads to low CT usage by them.
- CT is unaffordable for many slum dwellers
- Poor condition of CT
- Stress on one IHHL in a family pushes people towards OD
- Unavailability of water inside IHHL while there is easy availability of water at the OD spot (mostly located close to a waterbody)

Decline in number of CT users post the onset of COVID-19, reported by CT caretakers.

Amenities in PTs&CTs improved after COVID:

- **75%** HHs reported PTCTs to be cleaner after the outbreak of COVID-19
- **58%** reported **Zero cost** for PTCT.

HHs increasingly resorted to OD due to fear of contracting COVID-19:

- **35%** HHs reported that people are not maintaining social distancing in PT&CTs.
- 15% HHs reported that people under quarantine were being allowed in PT&CT
- However, nearly 63% reported no change in rush in PT&CTs after the onset of COVID-19



Source: Endure: Redress inequities to build back better, Unpublished, UNIECF CPR research Report



Limited access to water & soap act as an impediment to maintain hygiene

Nearly 2/5 HHs did not have soaps at their handwashing station/area

- Soap availability improved for higher income quintiles and social category.
- > Water insufficiency is another barrier for frequent handwashing, as reported by 5% Households.







How WASH features in the current DRR framework in India

WASH features in existing disaster management frameworks as relief-based measures, extensively



Existing Institutional Arrangement: National level as per NDMP 2019

Overlapping Mandates: Multiple agencies share responsibilities, creating confusion and inefficiency.

- Unclear Lines of Authority: Reporting hierarchy and decision-making are ambiguous, hindering action and accountability.
- Limited Information
 Sharing: Inefficient
 communication channels
 hamper real-time data flow and
 coordinated response.
- Lack of Inter-departmental Coordination: Departments with complementary expertise don't collaborate effectively.

Source: A. Ogra, A. Donovan, G. Adamson, K.R. Viswanathan, M. Budimir, Exploring the gap between policy and action in Disaster Risk Reduction: A case study from India, International Journal of Disaster Risk Reduction



- Insufficient Community Engagement: Top-down approach neglects local knowledge and practices in risk reduction.
- Resource Disparities: Uneven funding and equipment across regions create vulnerabilities.
- Limited Accountability Mechanisms: Lack of clear channels to hold agencies accountable for performance.
- Fragmented
 Departments: Unclear roles
 and collaboration between
 crucial agencies like
 NDMA, SDMA, NIDM, and
 ministries.



-----> chain of command -----> Additional pathways of communication



Existing Institutional Arrangement: State level as per NDMP 2019

- Limited Funding and • **Resources:** Insufficient budget and equipment allocation compared to state needs, impacting preparedness and response capacity.
- Ineffective Local . **Engagement**: Weak linkages between SDMA and local communities, hindering access to local knowledge and effective interventions.
- **Training and Skill** Gaps: Inadequate training for personnel at all levels, leading to knowledge and capacity deficiencies.

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Reduction



- **Delayed Resource Allocation:** Bureaucratic hurdles and unclear procedures hamper timely disbursement of resources.
- **Inefficient Logistics and** Coordination. Lack of streamlined systems for managing logistics and coordinating response efforts across agencies.
- **Limited Media and Public** Awareness: Inadequate communication strategies for early warning dissemination.
- Weak Monitoring and **Evaluation:** Insufficient mechanisms for tracking the effectiveness of DRR programs and adapting strategies.



Role of local government and CBOs were spotlighted during pandemic

Spontaneous efforts of collaboration:

- Slum residents' collective benefitted from services of NGOs and CBOs, who
- supported public processes; private efforts and initiatives also bolstered efforts at the local level (Delhi and Malerkotla)
- Members of civil society involved with the healthcare workers for contact-tracing, helping in rapid contract tracing (Dharavi)

DM Act 2005 failed to involve local communities in disaster management practices

District Disaster Management Plans (DDMPs) lacked focus on the poor and the vulnerable

National Disaster Management Plan, 2019:

- Lacks specific measures for control, management
 and mitigation of infectious zoonotic diseases
- Biological Disaster Management (BDM) guidelines lacks focus on the impact of suspension of economic activity
- DRR framework lacks specific provisions for the control, management and mitigation of infectious zoonotic diseases
- Linguistic component not considered →spread of rumors and hoaxes

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Strengthen DRR framework

Community participation and involvement of civil society emerged as the key to managing the pandemic Odisha institutionalized community-based preparation during disasters and empowering the local *sarpanches*, building its skilled healthcare force through community participation, and protecting the vulnerable groups → reduced disease burden with low mortality rates



Evidence

4th tier of governance

Local govt (Dhenkanal):

- Reached the most marginalized communities very quickly due to the active participation of CBOs
- Local community-based networks helped FLWs by providing information and insights

State govt:

- UWEI in Odisha
- Close coordination between state health dept, FLWs and ward members and RWAs; constitution of the Sannadhasena platform (Kerala)



Source: Re FORM: Lessons for Urban Governance futures from the Pandemic'. FCDO CPR Research Report

Learnings and Way Forward

There are evidences of evolutions of WASH interventions across the globe due to health hazards



Source: Re FORM: Lessons for Urban Governance futures from the Pandemic'. FCDO CPR Research Report

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Learnings from Pandemics and disasters – Way forward

- Strengthening the powers of ULBs to lead assessment and onground response.
- Encourage and facilitate localised action and innovation as a potent resilience strategy within the urban planning frameworks.
- Fostering partnerships with vulnerable communities to minimise the risk and impact of disasters through the involvement of Civil Society Organizations (CSOs).
- Prioritise improving water and sanitation in poor urban neighbourhoods irrespective of land tenure while addressing operational barriers by comprehensively understanding the broader political, institutional, legal, economic, cultural, and historical contexts.
- Augment in-house water supply or increase common water sources to ensure household access and reduce the number of households relying on a single stand post.
- Promoting preparation of Emergency Response Plans to strengthen localized action plan and reduce response time for highly dense neighbourhoods.
- Undertake periodic need assessments and implement drills within the utilities to improve preparedness.
- Earmarking funds, including from MDBs and other bilateral cooperation, to ensure programmatic long-term financial assistance to address infrastructure losses resulting from disasters toward building back better.



