

City Resilience | Inclusion of WASH in Disaster Management Framework

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To review and input into the DRR framework, please [click here](#)

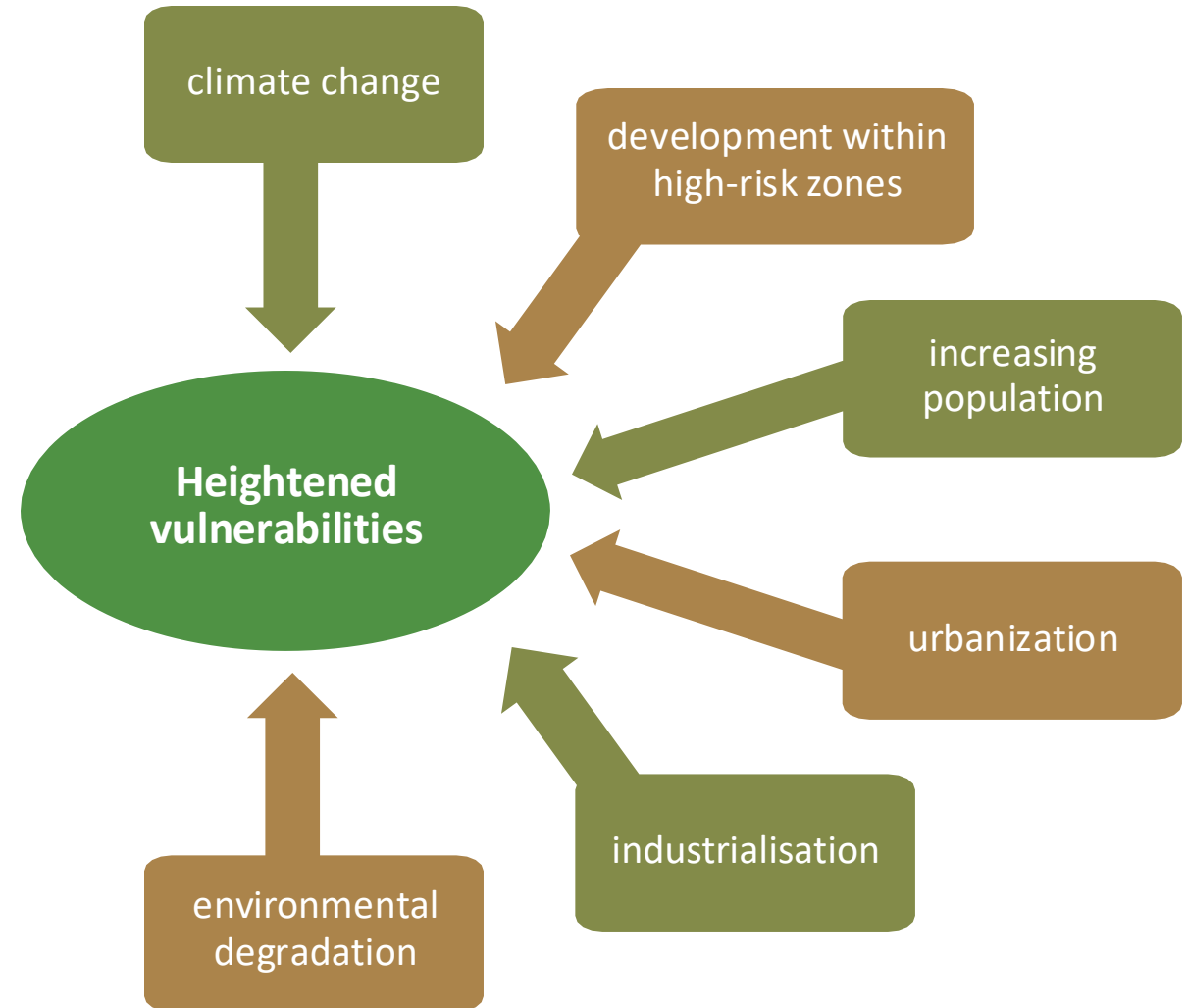
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Introduction & Context



- 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) .





Out of 35 states and union territories in the country, 27 are prone to the natural disasters



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

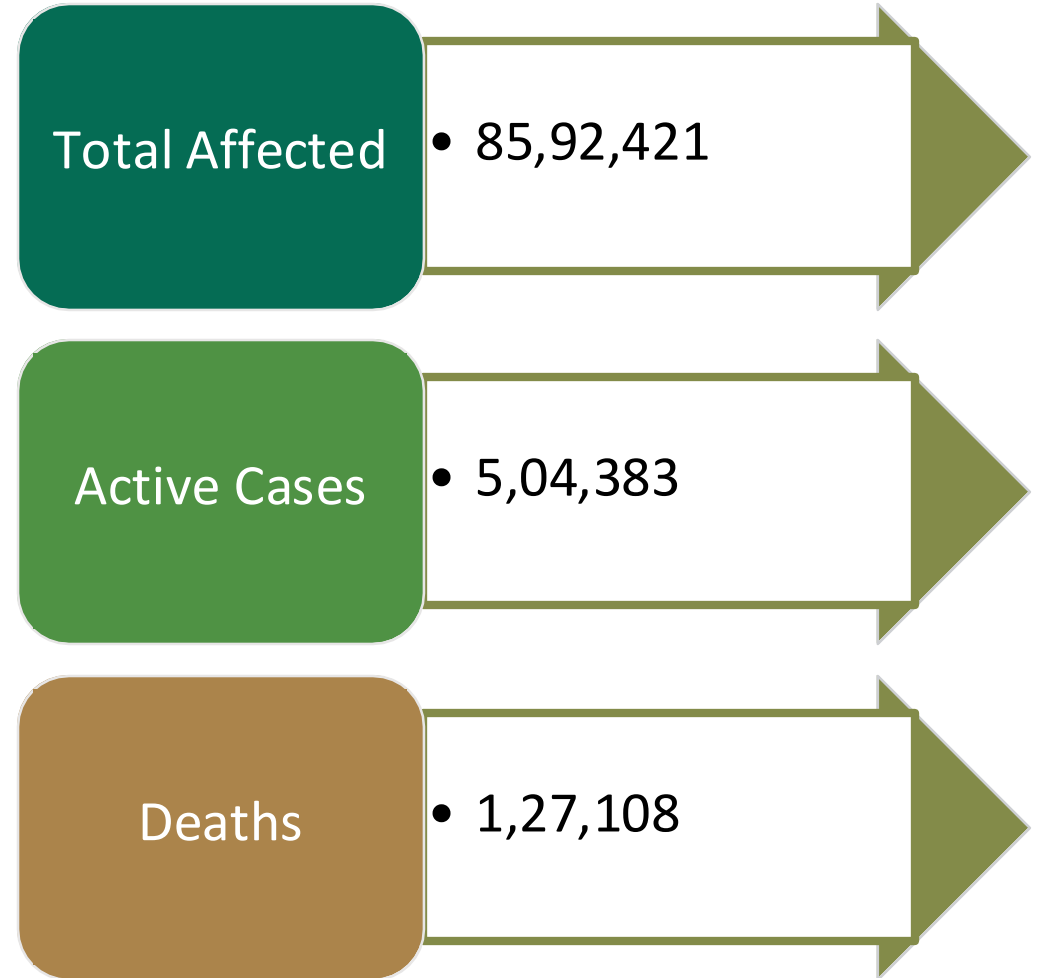


Over 40 million hectares (12 percent of land) are prone to floods/river erosion



Of the 7,517 km long coastline, close to 5,700 km is prone to cyclones and tsunamis

- The world has witnessed outbreaks of infectious diseases like, Ebola se, SARS, avian and pandemic influenza, MERS, Swine Flu etc.
- India largely remained insulated from pandemic till coronavirus outbreak - Covid 19
- Last severe pandemic India faced - Spanish Flu, claimed 12 million lives in India over a period of just three months in 1918



As on 10th Nov 2020

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

“Unless adequate water and sanitation services are quickly provided to emergency-affected children and their families, disease and death will follow. And unless good hygiene is consistently practiced, the danger of diarrhoea, cholera and other disease outbreaks will persist. This is true in all types of emergencies, from rapid onset natural disasters to long-term crises caused by a range of complex factors.” - UNICEF

Lack of WASH infrastructure increases the number of people affected due to disasters, beyond direct affected victims.

Investment in WASH can be reversed due to disasters, if DRR measures are not taken into account upfront

COVID-19 pandemic spotlighted, shared water sanitation facilities and poor maintenance in slums could become hotspots

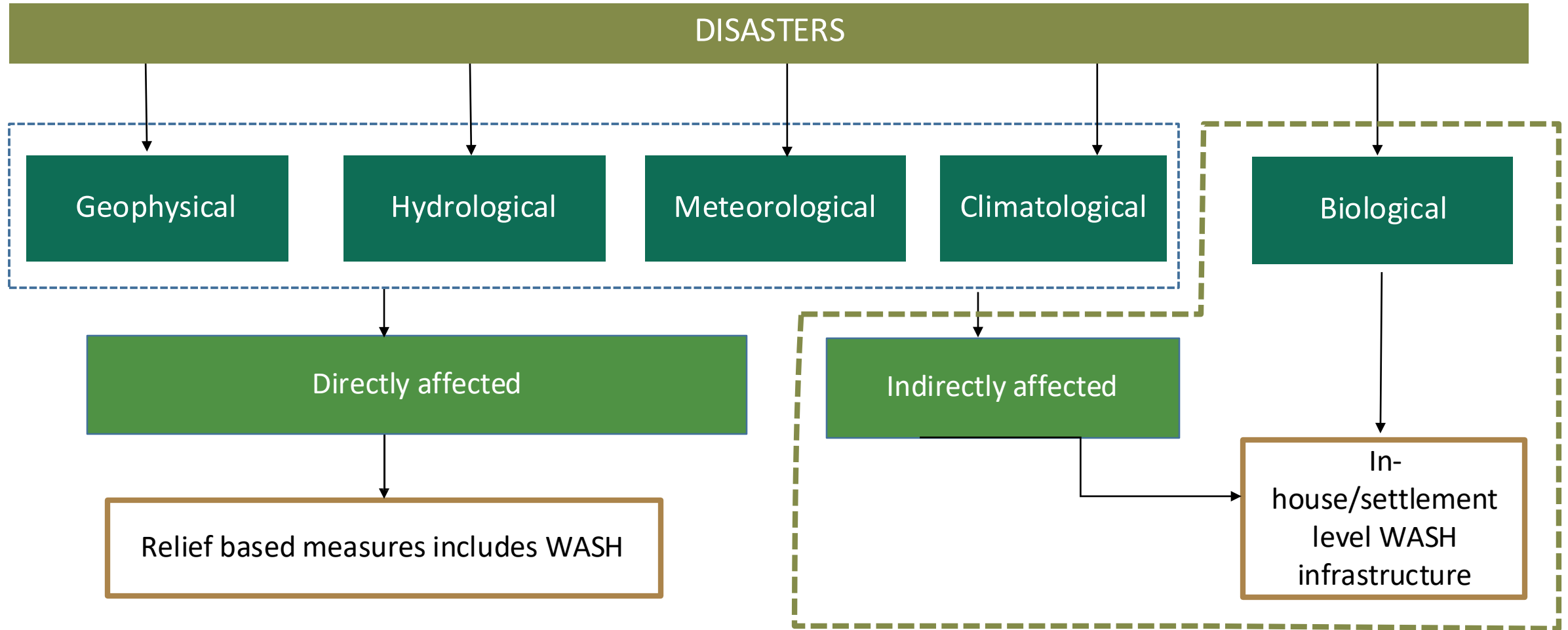


Various typologies of disasters intersect with WASH and require specific interventions

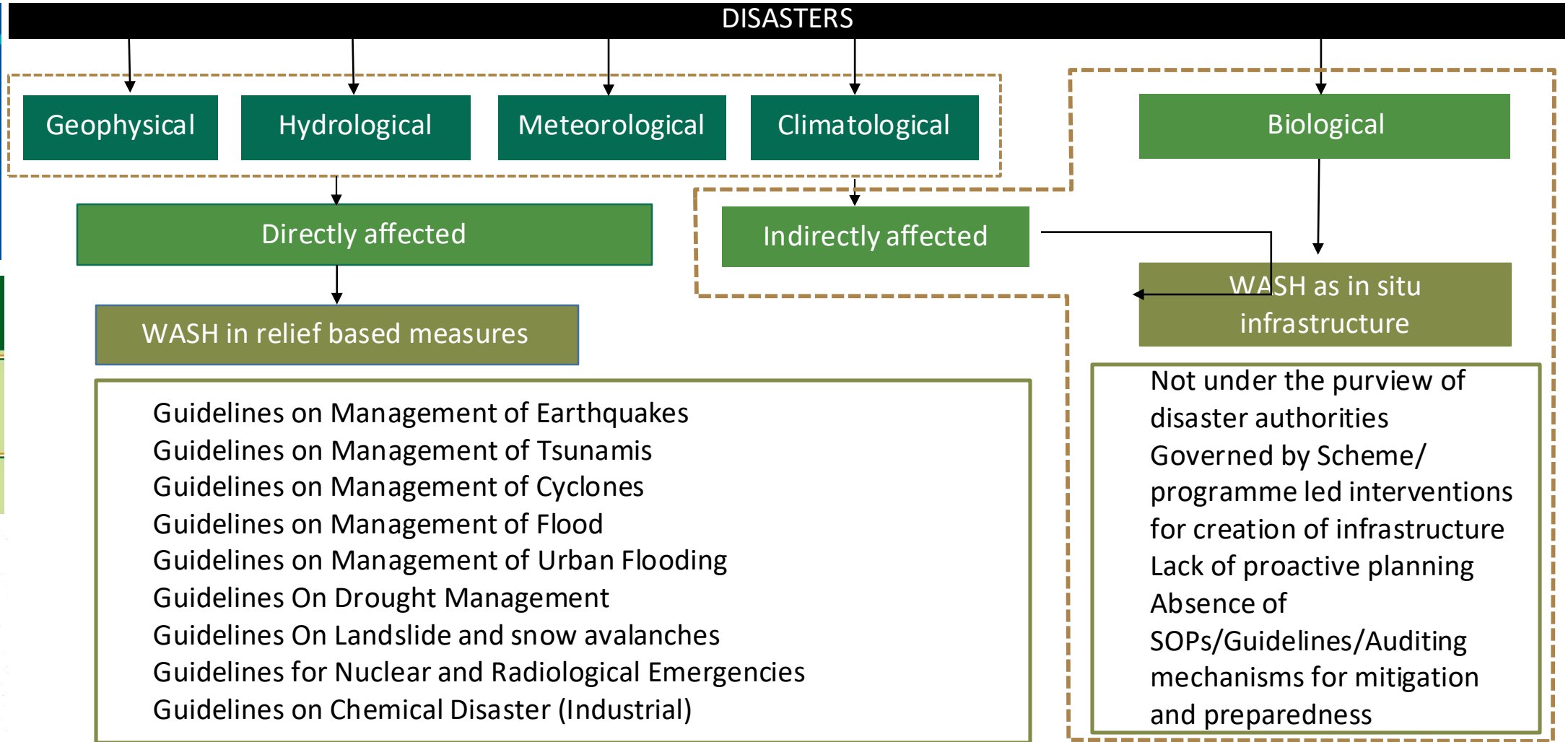
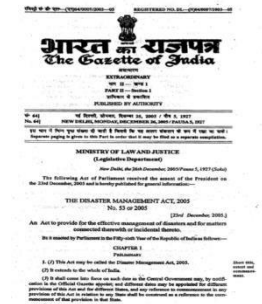
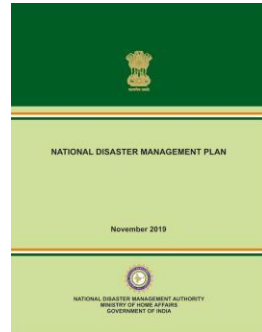
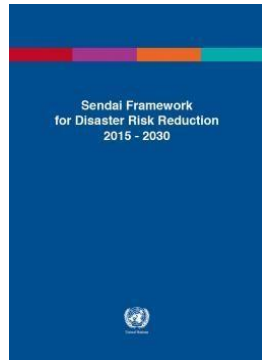
Sr. No	Disasters as defined under NDMA 2019	Is WASH planning and intervention required?
1	Cyclone and Wind	Infrastructure full proofing, WASH access and interventions
2	Floods	Infrastructure full proofing, WASH access and interventions
3	Urban Floods	Infrastructure full proofing, WASH access and interventions
4	Seismic/ Earthquake	Infrastructure full proofing, WASH access and interventions
5	Tsunami	Infrastructure full proofing, WASH access and interventions
6	Landslides and Snow Avalanches	Infrastructure full proofing, WASH access and interventions
7	Drought	Access to water supply
8	Cold Wave and Frost	Infrastructure full proofing mostly
9	Thunderstorm, Lightning, Dust, Squall and Strong Winds	Infrastructure full proofing
10	Cloudburst and Hailstorm	Infrastructure full proofing, WASH access and interventions
11	Glacial Lake Outburst Flood (GLOF)	Infrastructure full proofing, WASH access and interventions
12	Heatwave	Access to water supply
13	Chemical (Industrial) Emergencies	Operational interventions in WASH infrastructure
14	Nuclear and Radiological Emergencies	Operational interventions in WASH infrastructure
15	Biological and Public Health Emergencies (BPHE)	Operational interventions in WASH infrastructure

Review of Literature, Initial Assessment & Conceptual Framework





WASH features in existing frameworks



- Guidelines on Management of Earthquakes
- Guidelines on Management of Tsunamis
- Guidelines on Management of Cyclones
- Guidelines on Management of Flood
- Guidelines on Management of Urban Flooding
- Guidelines On Drought Management
- Guidelines On Landslide and snow avalanches
- Guidelines for Nuclear and Radiological Emergencies
- Guidelines on Chemical Disaster (Industrial)

International Frameworks Referenced

**Strategic Framework
for WASH Climate
Resilient Development
(GWP & UNICEF)**

- WASH specific processes, strategies and elements for mitigation and adaptation

DRR & WASH(UNICEF)

- WASH Performance Matrix relevant for detailed vulnerability planning

**Centers for Disease
Control and Prevention**

- CDC within WASH provides measures on how to prepare and respond to emergencies/disaster/outbreaks/ accidents for home water supply, handwashing hygiene, drinking water advisories and sanitation and wastewater

Objective: The objective of this exercise is to prioritise sustained adequate interventions on WASH as an integral component within the DRR framework so as to minimise the adverse impact of disaster.

Scope:

- Review the available documents like current national and state policies, guidelines and regulations on WASH during disaster published by NIDM and NDMA, the SOPs published by the MoDWS, Government orders on Rural drinking water supply and sanitation, DRR framework for Urban planning, NDMP 2019 and any other relevant document to identify the gaps related to water supply, FSM, toilet, waste water treatment and solid waste management.
- Review the institutional roles and responsibilities on WASH during disaster at national, state, district and local government level to identify the current institutional arrangement and suggest recommendations if required.
- Review the available international frameworks and identify best cases.
- Provide recommendation for inclusion of WASH in Disaster Risk Reduction across institutional, infrastructure, financial, communication, inclusivity, capacity building and M&E by centre, state, and district/local government

Limitations:

- The recommendation lists is limited to identifying the gaps in the current DRR framework and ongoing initiatives of GoI on WASH.
- The details of the recommendations will follow based on inputs from national key stakeholders.

Approach

Mainstreaming WASH in DRR framework taking the NDMP 2019 as the base document to address the identified gaps, from best practices .

Each stage will also highlight specific recommendations for small and medium cities (population less than 1 lac)

The interventions will also be aligned with the broader scope of SBM and JJM, wherever possible

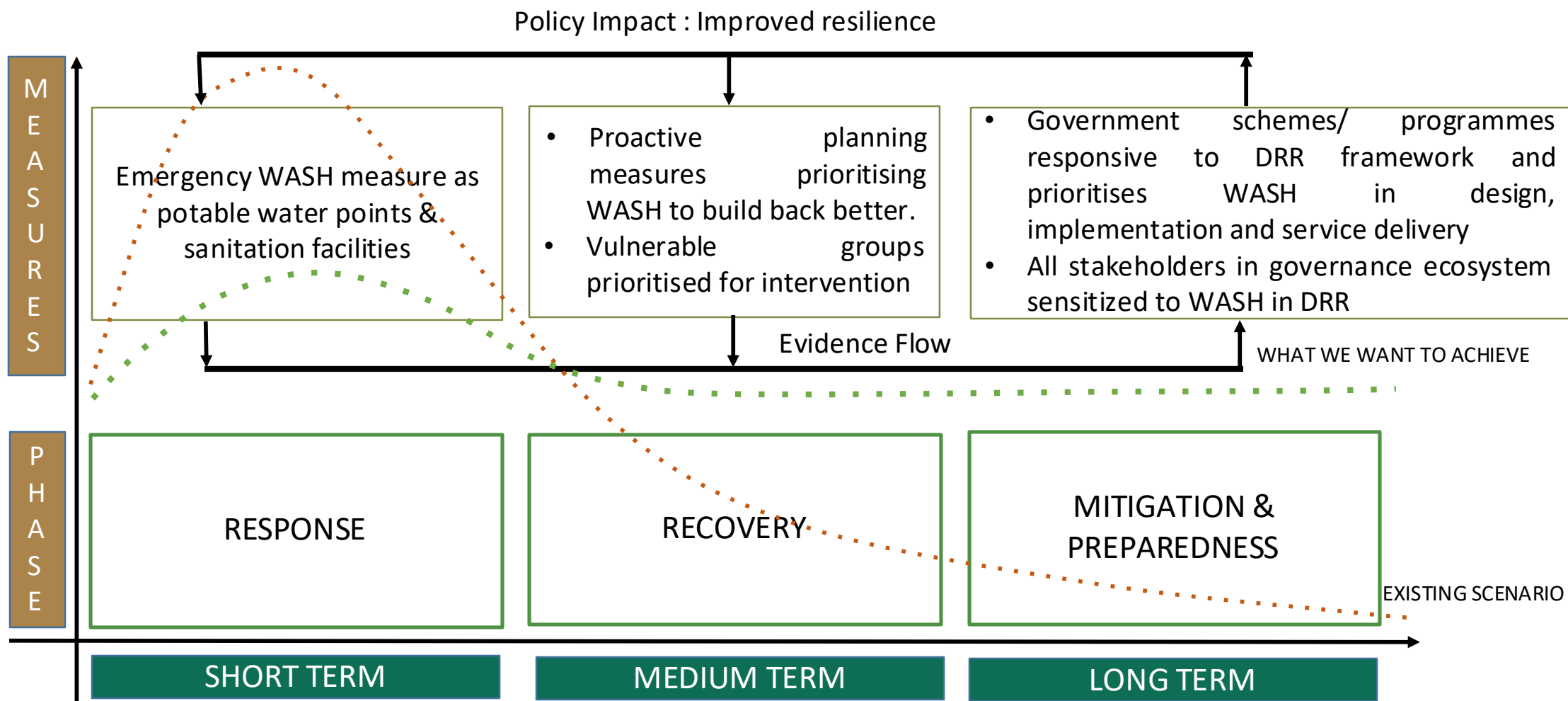
Key Components

Risk Assessment & Mitigation (Prevention and Risk Reduction) at Centre, State and ULB level

Preparedness at Centre, State and ULB level

Response at Centre, State and ULB level

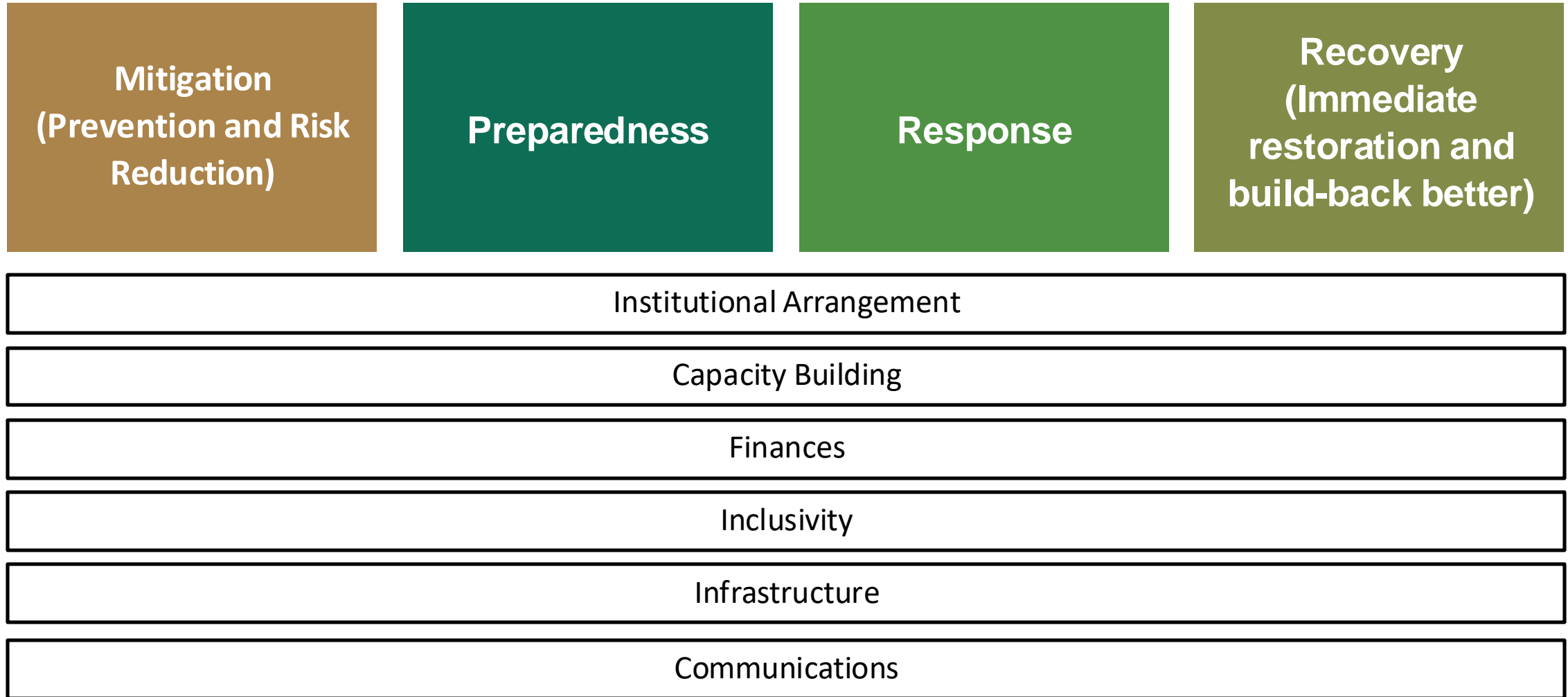
Recovery (Immediate restoration and build-back better) at Centre, State and ULB level



Recommendations for Inclusion of New WASH Related Measures



All recommendations include role of central, state & local governments

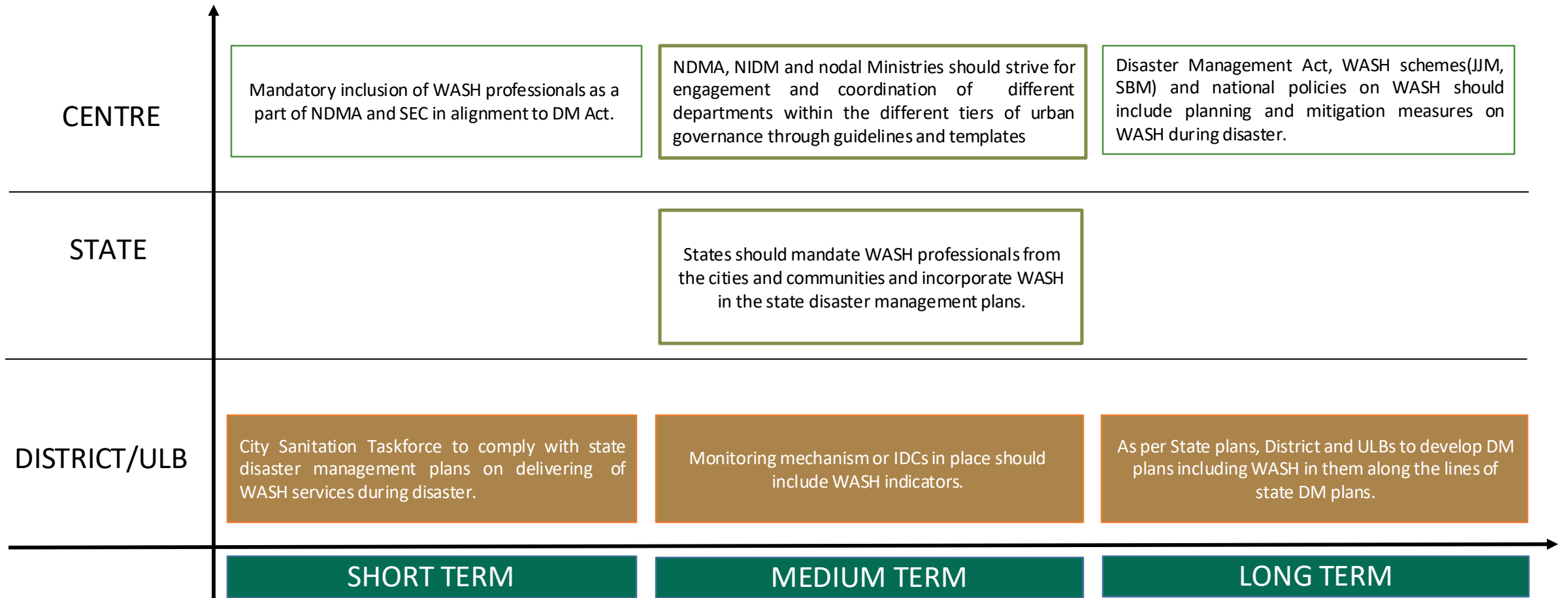


Include WASH preparedness and mitigation modules for all the identified disasters in existing training plans at all levels with special focus on the role of communities.

CENTRE	<p>NDMA and NIDM to compile relevant content and case studies (highlighting learnings from communities especially in vulnerable areas of different disasters) into training modules in consultation with states, Identification of organizations, NGOs for community level TOT and doing ToT of state training institutes.</p>	<p>All empaneled training institutes to include DRR for WASH as part of all DRR training curriculum.</p>	
STATE	<p>Engagement of state training institutes to develop relevant WASH training modules, including focus on solutions geared for local actions for WASH professionals, community leaders, sanitation workers, volunteers and commnities managing WASH infrastructure.</p>	<p>Formulation of response protocols for training city officials by SDMA on WASH</p>	
DISTRICT/ULB	<p>Imparts periodic training to the WASH workers, community leaders, volunteers and the communities managing community based WASH infrastructure on safety measures to be adopted, usage of protective equipment, and occupational safety while ensuring minimal disruption in sanitation services</p>	<p>Sensitisation of the community/RWA on the emergency response plan as directed by the center</p>	
	SHORT TERM	MEDIUM TERM	LONG TERM

INSTITUTIONAL ARRANGEMENT

WASH should be made an integral component in DRR. Each nodal ministry responsible for preparation of specific disaster plan must work with MoHUA or MoJS to include strategy for preparedness and mitigation on WASH



M&E to include assessing the preparedness of WASH solutions through third party auditing

CENTRE	<div data-bbox="1080 444 1724 601" style="border: 1px solid green; padding: 5px;"> Formulation of frameworks and guidelines/SOPs for monitoring and evaluation of WASH services, audits of disaster resilient WASH infrastructure and procedures to be followed </div>		
STATE	<div data-bbox="1080 619 1724 793" style="border: 1px solid green; padding: 5px;"> M&E to include assessing WASH solutions and preparedness for poor communities, M&E mechanisms should be gender intentional and collect sex and income disaggregated data </div>		
	<div data-bbox="428 919 1047 1036" style="border: 1px solid green; padding: 5px;"> State level helplines and database to include monitoring of WASH services </div>	<div data-bbox="1080 805 1724 1036" style="border: 1px solid green; padding: 5px;"> SEC should implement third party audits of all WASH infrastructure including preparedness of urban poor settlements to disaster. The concerned departments to ensure strict enforcement of the recommendations. </div>	<div data-bbox="1750 919 2405 1036" style="border: 1px solid green; padding: 5px;"> Updating of state level plan based on the periodic need assessment with a focus on WASH infrastructure and service delivery </div>
DISTRICT/ULB	<div data-bbox="428 1068 1047 1200" style="background-color: #e69d00; color: white; padding: 5px;"> Data collection and input into state database focusing on WASH, gender and urban poor communities </div>	<div data-bbox="1080 1068 1724 1200" style="background-color: #e69d00; color: white; padding: 5px;"> Undertaking periodic need assessment and implement drills within the utilities </div>	<div data-bbox="1750 1068 2405 1200" style="background-color: #e69d00; color: white; padding: 5px;"> Any online portal used for tracking of disaster preparedness or for monitoring should include WASH infrastructure </div>
	SHORT TERM	MEDIUM TERM	LONG TERM

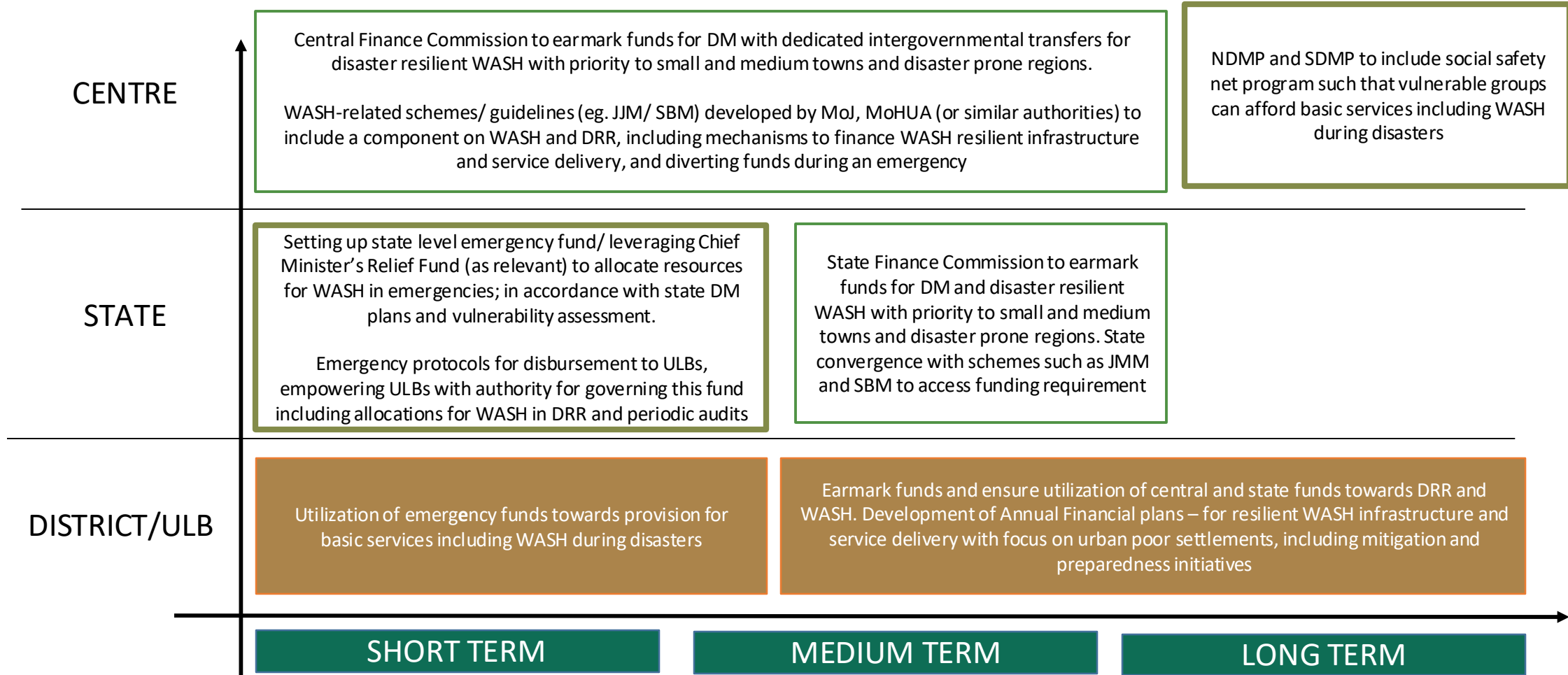
Communication framework to be developed on WASH for mitigation, preparedness and emergency response and disseminated to frontline workers and officials

CENTRE	<p>Communication framework to be developed on WASH for mitigation and preparedness. WASH should be included in existing IEC/ awareness campaigns including special campaigns in schools</p>	<p>Integration of ICT for maintaining disaster resilient community WASH infrastructure within Central government schemes (SBM/JJM etc)</p>	<p>Issue Communication protocol for different departments – utilities, private sector, administration, IT, suppliers, etc. as identified</p>
STATE	<p>Develop of IEC material on need for safe WASH practices and enable early warning wherever applicable.</p>	<p>Communication protocol for emergency response for WASH to be developed and disseminated to frontline workers and officials (including emergency infrastructure, provision of WASH services during disasters and supply of relief materials eg. PPE kits)</p>	<p>Develops IEC material for awareness campaigns for community on mostly prevention of diseases and other ensuing public health emergencies</p>
DISTRICT/ULB	<ul style="list-style-type: none"> ▪ Conduct periodic awareness campaigns on safe WASH for communities especially the most vulnerable settlements. ▪ Display contact details of responsible city officials for emergency in all public facilities 	<p>Undertake IEC campaigns on preparedness needed for handling safe WASH practices during emergencies.</p>	<p>Developing heat-health action plans which use meteorological information to enhance early warning and effective response over a range of time scales</p>
	SHORT TERM	MEDIUM TERM	LONG TERM

The specification for the design of WASH infrastructure specification to mandatorily consider local identified disaster and SOPs to include preparedness and response/recovery

CENTRE	<p>Directives to include Emergency Response plan for all buildings- as part of building byelaw - for WASH infrastructure</p> <ul style="list-style-type: none"> Standards for land use planning for the site to include WASH infrastructure such as FSTP, WTP, STP, decanting stations etc. Protocols to ensure that relocation site has adequate WASH facilities in proportion to the population impacted 	Publicly funded schemes for creating WASH infrastructure to consider local disaster issues and to mandate specifications for disaster resilient/local materials, technology and design as part of the tender documents	Develop minimum WASH standards, at HH/community level, public spaces and institutional buildings, with special focus on vulnerable settlements
STATE	Identifying decentralised WASH systems and mandate that SOPs in accordance with DRR measures are developed by District/ ULBs		<ul style="list-style-type: none"> Enforce standards on design for building disaster resilient WASH infrastructure and identify necessary technology and innovations in state specific contexts Issue guidelines for deploying such technologies
DISTRICT/ULB	<ul style="list-style-type: none"> Implementation of WASH Supply chain mobilization plan Call centre to address grievances related to WASH infrastructure deploy mobile WASH systems as emergency response 	<ul style="list-style-type: none"> Identification of local needs and materials considered in infrastructure design Identification and empanelment of vendors for emergency procurement of WASH interventions. 	<ul style="list-style-type: none"> Standards on specifications included in the tenders for identified disaster type for region Execution of innovative disaster resilient infrastructure and technology
	SHORT TERM	MEDIUM TERM	LONG TERM

Earmark funds for DRR and ensure convergence with schemes such as SBM, JMM



The DM plans to be inclusive considering gender, differently abled and underserved and marginalized communities, ensuring equity in WASH service provision during disasters

CENTRE		<p>National policies -NUSP/ NDMP to mandate minimum standards on access & services to vulnerable groups during disasters.</p> <p>DRR guidelines to be gender intentional (including a gender responsive process and gender integrated in risk profiling / vulnerability assessments that inform DRR plans)</p> <p>Guidelines on occupational safety to community led groups/ frontline workers</p>	<p>NDMA to mandate guidelines/templates on DM plans to mandatorily have sections on underserved communities - assessing risk groups, including communities in response and ensuring equal access during disaster</p>
STATE	<p>Conduct needs assessment with respect to marginalized groups and map out vulnerable populations based on disaster type</p>	<p>Prepare DM plan based on the need assessment to prioritize vulnerable groups</p>	<p>Post-event assessment of environmental and socioeconomic damage, provision of guidance materials on community damage and demand analysis</p>
DISTRICT/ULB	<p>Collate sex and income disaggregated data and submit to state for preparing DM plan, highlighting gaps in WASH infrastructure and services</p>	<p>Based on assessment, prepare DM plans and plan on how WASH services will reach marginalized groups during disasters + ensure provision of safety for frontline workers</p>	<p>Vulnerable prioritized in response and have access to information on location of supplies, WASH services and risks, community engaged in response</p> <p>WASH / DRR innovations to be gender intentional & reach urban slums</p>
	SHORT TERM	MEDIUM TERM	LONG TERM

THANK YOU

