



NFSSM Alliance & CPHEEO

Disaster Risk Reduction and Water, Sanitation & Hygiene

Presenters

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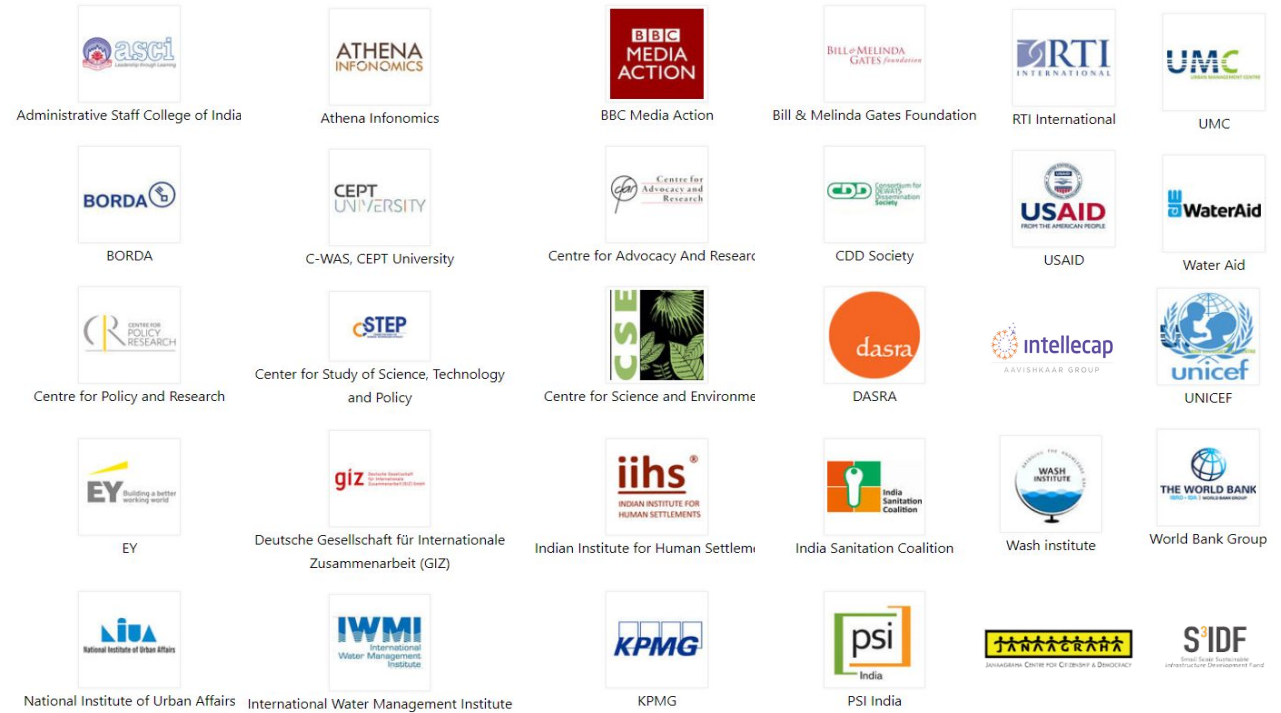
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In 2016, 30+ leading organizations in the sanitation space came together to inform policy and support governments at the national, state and city level via collaborative action

Need for Collaboration

In 2016, while organizations in India were doing exemplary work focused on sanitation, **there was a need for a unified voice to inform policy, build evidence and engage with the government for safe sanitation**

Recognizing this need, the NFSSM Alliance was formed with support from the Bill and Melinda Gates Foundation to **build consensus and drive the discourse on FSSM forward in India**



Who we are

A collaborative-action is now a think tank comprising of **30+ national expert organizations** working in the Indian water and sanitation space. The Alliance's 4 Taskforces support Government of India via evidence and policy recommendations.

Inclusive Taskforce

Addresses issues critical to meet the sanitation needs of the urban poor, gender, and other socially marginalized groups

Innovation & Technology Taskforce

Addresses challenges of scalability through innovative solutions and new technology tools

ULB Strengthening Taskforce

Addresses the urban governance issues that impede the delivery of quality sanitation services in cities and towns

Communications Taskforce

Addresses the need of mainstreaming sanitation amongst the government machineries, private sector and citizens

The NFSSM Alliance has undertaken a study for inclusion of WASH in Disaster Risk Reduction (DRR) efforts of the Government of India

1

In the absence of resilient WASH infrastructure and service delivery, **disasters have a significant multiplier effect** on adversity and existing WASH investments

2

The NFSSM Alliance has mapped **WASH interventions required for each of the 15 types of disasters** defined by NDMA and **MoHUA** plays a key role **in managing floods in India**

3

Current GoI DRR Framework is **heavily focused on relief based WASH measures** & there is a need to integrate WASH in mitigation, preparedness & recovery through **proactive planning**

4

Our recommendations drawn from the study focus **on inclusion of WASH across various aspects of disaster management, and levels of governments** (including best practices from International Frameworks)

5

As the technical wing of MoHUA and given its Public Health & Environmental Engineering expertise, **CPHEEO can play a key role in strengthening WASH focus in disaster management**

In the absence of resilient WASH infrastructure and service delivery, disasters have a significant multiplier effect on adversity and existing WASH investments

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)

Increased Human Adversity



Lack of WASH infrastructure **increases the number of people affected** due to disasters beyond direct affected victims, especially for **vulnerable groups** such as women, children and urban poor

Impact on WASH Investments



Significant investment in WASH made by the Government of India can be reversed due to disasters, if DRR measures are not taken into account upfront and resilient systems are not built

Effect on Health Outcomes



COVID-19 has demonstrated the urgent need for **inclusive and resilient WASH services** to tackle public health emergencies (eg. Spread of virus through community toilets), to ensure disease does not worsen

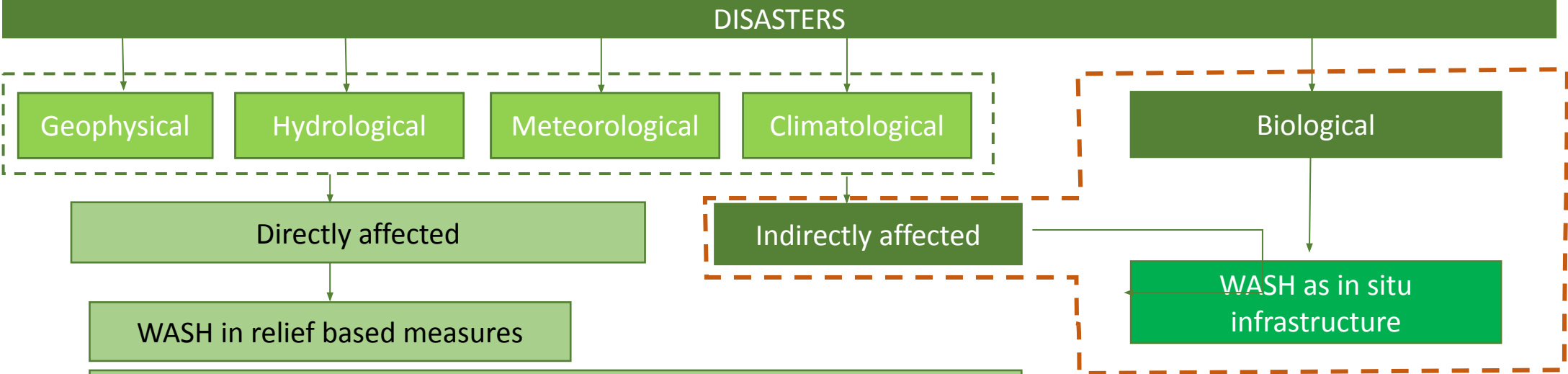
The NFSSM Alliance has mapped WASH interventions required for each of the 15 types of disasters defined by NDMA and MoHUA plays a key role in managing floods in India

Disasters (NDMA 2019)	Is WASH planning and intervention required?
Cyclone and Wind	Infrastructure full proofing, WASH access and interventions
Floods	Infrastructure full proofing, WASH access and interventions
Urban Floods	Infrastructure full proofing, WASH access and interventions
Seismic/ Earthquake	Infrastructure full proofing, WASH access and interventions
Tsunami	Infrastructure full proofing, WASH access and interventions
Landslides and Snow Avalanches	Infrastructure full proofing, WASH access and interventions
Drought	Access to water supply
Cold Wave and Frost	Infrastructure full proofing mostly
Thunderstorm, Lightning, Dust, Squall and Strong Winds	Infrastructure full proofing
Cloudburst and Hailstorm	Infrastructure full proofing, WASH access and interventions
Glacial Lake Outburst Flood (GLOF)	Infrastructure full proofing, WASH access and interventions
Heatwave	Access to water supply
Chemical (Industrial) Emergencies	Operational interventions in WASH infrastructure
Nuclear & Radiological Emergencies	Operational interventions in WASH infrastructure
Biological & Public Health Emergencies (BPHE)	Operational interventions in WASH infrastructure

Current institutional arrangements

- NDMA has defined 15 types of disasters, each intersecting with WASH and require specific interventions
- Nodal ministries are responsible for specific disaster types - **MoHUA is responsible for floods** as per the current DRR framework
- **The current institutional structure and steering committee does not have a WASH representative responsible for managing disasters from a WASH lens**

Current GoI DRR Framework is heavily focused on relief based WASH measures & there is a need to integrate WASH in mitigation, preparedness & recovery through proactive planning



- 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)

- Not under purview of disaster authorities
- Governed by Scheme/ programme led interventions creating infrastructure
- Lack of proactive planning
- Absence of SOPs/Guidelines/Auditing for mitigation & preparedness

We have also analyzed international frameworks to identify best practices for inclusion of WASH in DRR, learnings from have strengthened our recommendations

International Frameworks Referenced

International frameworks focus on instituting key mechanisms for managing and planning for WASH across various stages of disasters

Centers for Disease Control and Prevention

DRR & WASH (UNICEF)

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

Best Practices Identified in Indian Context

Specific states in India have adopted innovations to manage context-specific disasters

Emergency flood relief response in Kerala through Mobile Septage Treatment Unit

Development of a Disaster Resilient Toilet (DRT) in Assam and Gujarat

COVID Response focused on WASH in Maharashtra urban slums

Our recommendations drawn from the study focus on inclusion of WASH across various aspects of disaster management, and levels of governments

All recommendations include role of central, state & local governments

<p><u>Institutional Arrangement</u> WASH to be an integral component in DRR. Each nodal ministry responsible for preparation of specific disaster plan to work with MoHUA / MoJS to include strategy for WASH resilience</p>	<p><u>Infrastructure</u> Design specifications of WASH infrastructure to mandatorily consider local identified disaster and SOPs to include resilience preparedness and response/recovery (in line with government missions)</p>	<p><u>Capacity Building</u> 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.</p>	<p><u>Monitoring and Evaluation</u> M&E to include assessing the preparedness of WASH solutions through third party auditing</p>
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Communications
Communication framework to be developed on WASH for mitigation and preparedness, with campaigns focused on Household and community WASH infrastructure

Finances
Earmark funds for DRR, ensure devolution of funds from centre to state/cities, and ensure convergence with schemes such as SBM, JMM

Inclusivity
Official plans to be based on needs conducted with regard to gender, urban poor and marginalized groups, detailing out inclusive infrastructure design and planning

To be mainstreamed across mitigation, preparedness, response and recovery

 *CPHEEO engagement critical for inclusion of WASH*

As the technical wing of MoHUA and given its Public Health & Environmental Engineering expertise, CPHEEO can play a key role in strengthening WASH focus in disaster management

DRR Functions

Response

- Prepare guidelines & standards to ensure provision of **minimum WASH services**
- Assistance in **developing training modules for district and city DM unit** to provide WASH response

Recovery

- **Develop SOP for operations** on measures to **restart WASH operations** - depending on impact to infrastructure

Mitigation and Preparedness

- Develop of **standards and specifications for each type of disaster** – to be included in tender documents
- **Develop SOPs for WASH facilities** for disaster preparedness

Additional Focus

Technical Advise

Provide advisory to all nodal ministries (eg. MoHFW, MoEFCC, MoJS) on WASH integration in **DRR** frameworks

Advisories & Technical Manuals

Develop **manuals for state PHED / Water Boards / ULBs** for planning, designing, construction, O&M of disaster-resilient WASH

City Development Plans

Provide a **checklist of items** that need to be included from a WASH infrastructure perspective (*under National Mission on Sustainable Habitat*)

Collaboration with ICMR, CSIR, WHO

Formulate & implement **operational research projects** towards WASH in DRR

Collaboration with BIS

Prepare **various standards / specifications** for WASH in DRR

The NFSSM Alliance would be happy to support CPHEEO in developing tools and guidelines to ensure inclusion of WASH in Disaster Risk Reduction in India

Annexure (Detailed Recommendations)

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

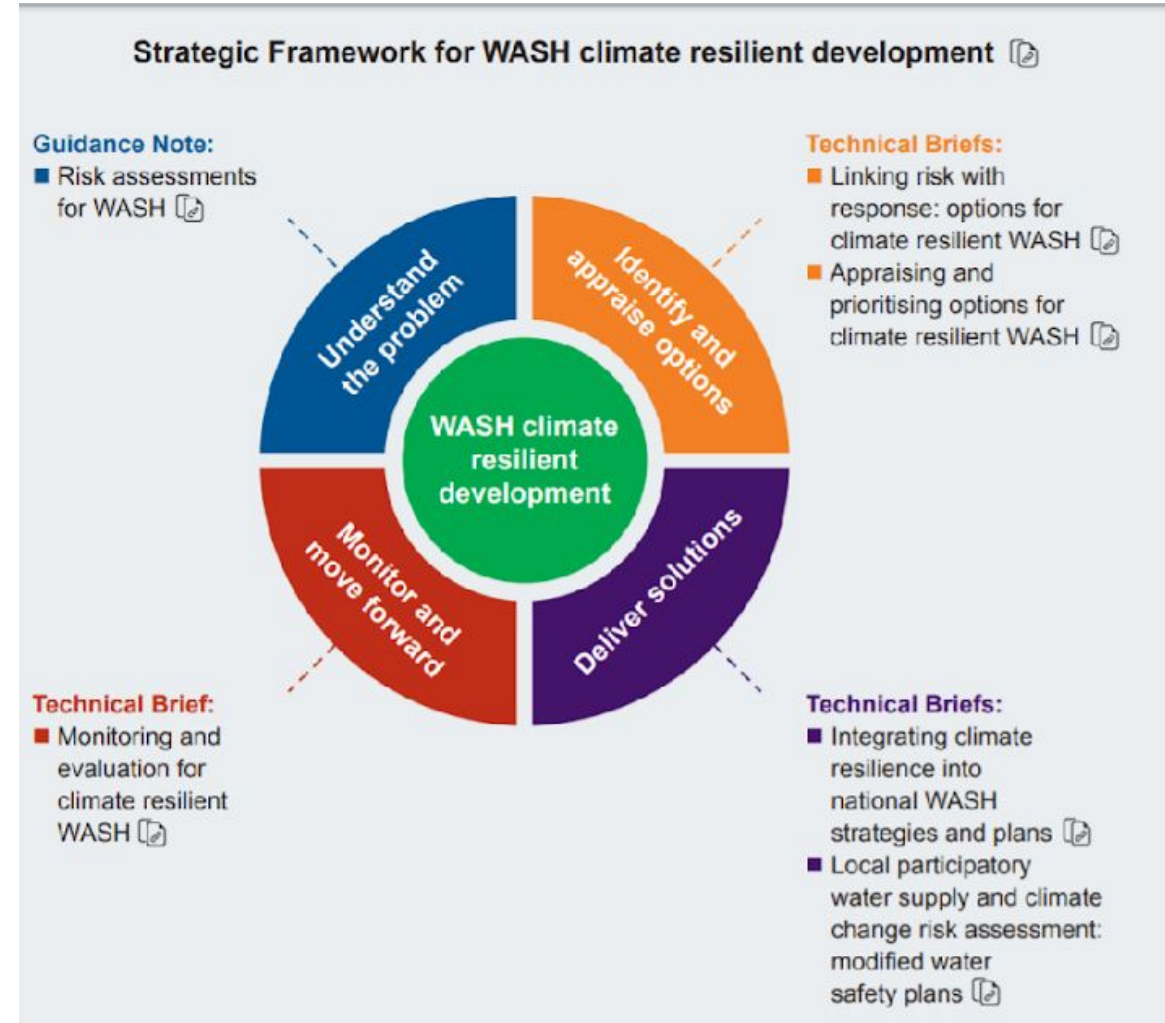
Climate resilience is addressed as a cross-cutting issue encompassing elements of both disaster risk reduction and climate change adaptation

It serves to set out the rationale and concepts for WASH climate resilient development, as well as improve understanding of how to ensure that climate resilience is considered in WASH strategies, plans and approaches

The objective of the Strategic Framework is to support WASH service delivery that is resilient to the climate, both now and in the future.

The Strategic Framework is centred around four quadrants of activity

(4 Technical Briefs details the framework)



DRR & WASH (UNICEF)

Disaster Risk Reduction and WASH



Disaster risk is the potential loss expressed in lives, health status, livelihoods, assets and services, which could occur in a particular community or a society due to the impact of a natural hazard.

Disaster risk reduction (DRR) is a systematic approach to identifying, assessing and reducing that risk. Specifically, the purpose of disaster risk reduction is to minimise vulnerabilities and disaster risks throughout a society in order to avoid (prevent) or to limit (mitigate and prepare for) the adverse impacts of natural hazards, and facilitate sustainable development.



UNICEF's DRR goals:

1. DRR for children and women is a national and local priority
2. Different risks faced by girls, boys, adolescents and women are identified and addressed
3. Safer and more resilient conditions for girls, boys and women
4. Strengthened humanitarian preparedness, response and recovery through capacity development

Introduction to DRR and WASH

- WASH services are critical to communities and save lives in both routine and emergency situations.
- Natural hazards can compromise WASH infrastructure and service delivery and this interruption of WASH services can increase the number of affected people beyond the area of direct impact.
- DRR interventions are necessary to protect WASH investments and should therefore be integrated into 'regular' development work, rather than viewed as a separate or additional task.
- It is essential that new vulnerabilities are not introduced, or reinforced, through new or existing WASH services.

Child-centred DRR requires focusing on the specific risks faced by children, as well as involving children in efforts and initiatives to reduce disaster risk.

Disasters negatively impact children's and women's rights, disproportionately affect poor countries and poor communities, erode development gains and set back progress in achieving the Millennium Development Goals (MDGs). With its local and national presence before, during and after disasters, and working across all key programme sectors, UNICEF is ideally placed to address disaster risk and to undertake risk reduction measures.

For further information, please refer to the DRR and WASH Technical Note or contact Andrew Colin Parker (acparker@unicef.org) and Antony Spalton (aspalton@unicef.org)

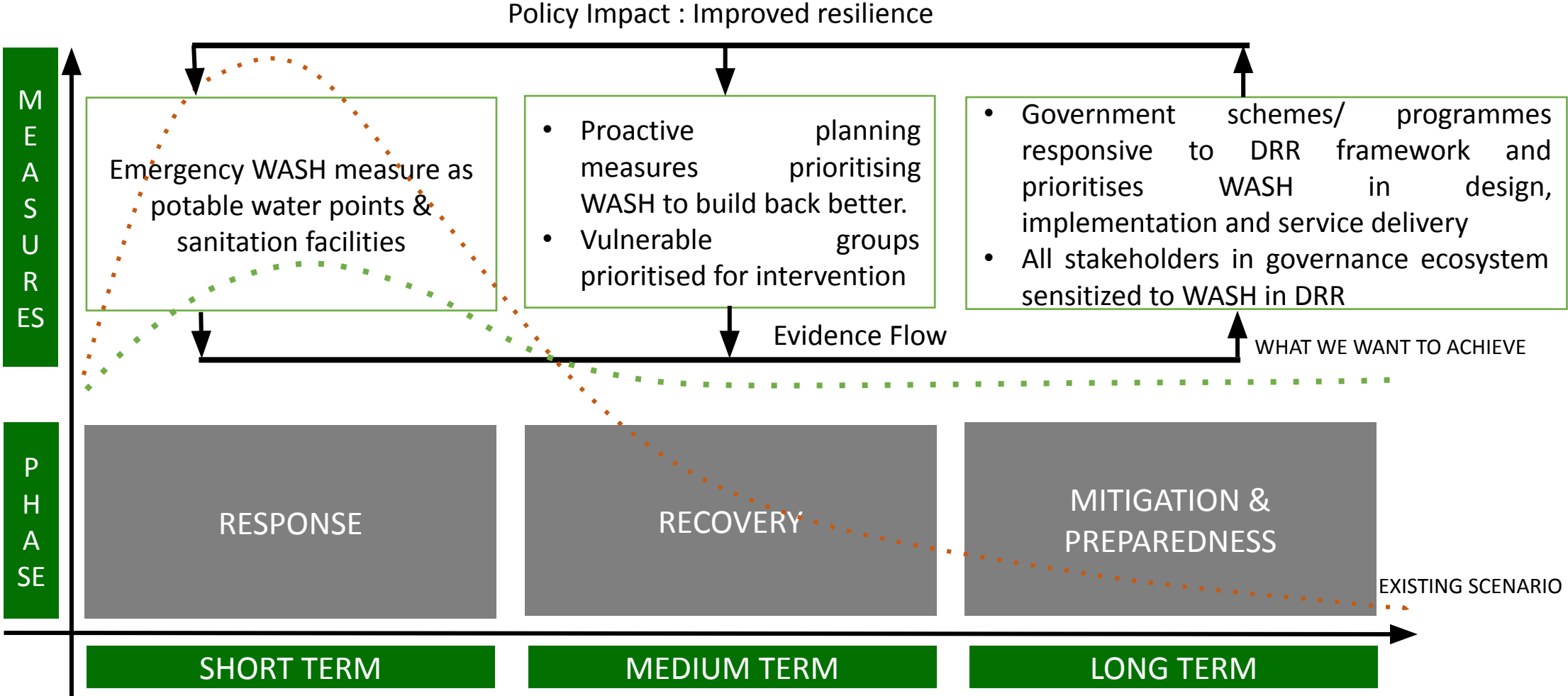
Type of activity	Examples of key DRR and WASH actions
Prevention/ Mitigation	<ul style="list-style-type: none"> • Analyse disaster risks to WASH infrastructure, services and behaviours at institutional, community and individual levels, incorporating potential impacts of climate change. • Carry out vulnerability and capacity assessments of water and sanitation systems and practices to assess ability to meet essential needs in the event of a disaster. • Design, build, locate and maintain water and sanitation systems which include modifications to mitigate risks.
Preparedness	<ul style="list-style-type: none"> • Develop and communicate preventive messaging on water usage, sanitation and hygiene in disaster situations. • Prepare systems for "emergency mode" to re-establish – in the shortest time possible – a minimum of service to reduce impacts on communities. • Ensure WASH sector is linked to existing early warning systems at the national, sub-national and community level.
Response/ Early Recovery	<ul style="list-style-type: none"> • Analyse why infrastructure was damaged or interrupted and investigate suitable ways to modify existent/future systems against this damage. • Ensure that recovery efforts focus on 'building back better', including measures to prevent or mitigate future disaster risk, incorporate previous development and emergency hygiene programmes, and focusing on building the resilience of communities to potential future hazards. • Analyse why WASH-related behaviours failed and investigate suitable programmes to build community resilience.

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.

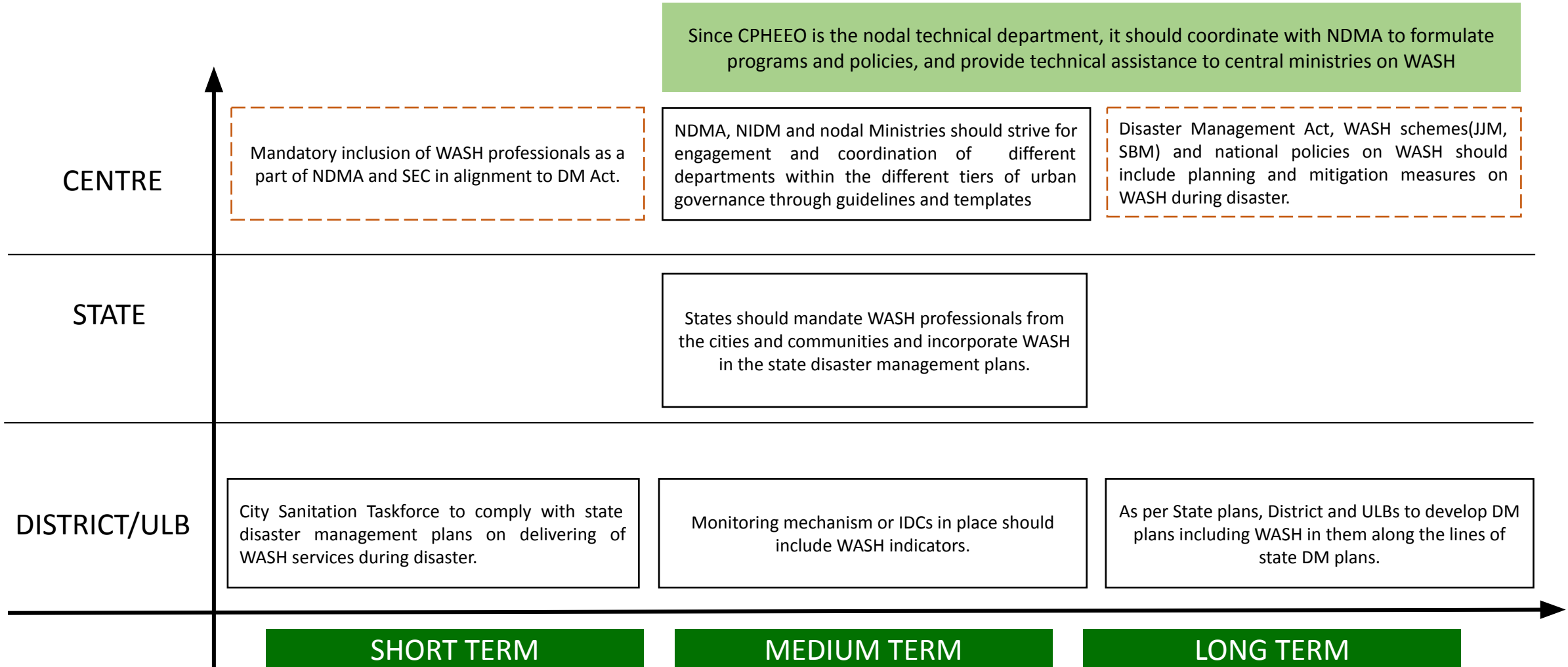
- Home water supply – provides guidance on making water safe in emergency, emergency water supply and storage containers and finding other water sources in an emergency
- Drinking water – Gives guidance to individuals using private wells, cisterns or other rain water catchment systems on how to prepare for emergency and disinfect these water sources after an emergency situation. They also provide guidance for preparation of plans for community drinking water systems.
- Sanitation and wastewater – The advisory provides guidance and links for septic and onsite wastewater system, community wastewater system, guidance to sanitation workers to mitigate health risks when handling human waste or sewage and water contamination from animal feeding operations
- Handwashing hygiene – Gives guidance on when you should wash hands and measures when you don't have soap and clean water. Also provides guidance on bathing, dental hygiene, wound care and diapering.

Conceptual Framework for Recommendations



Recommendations on Institutional Arrangements

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

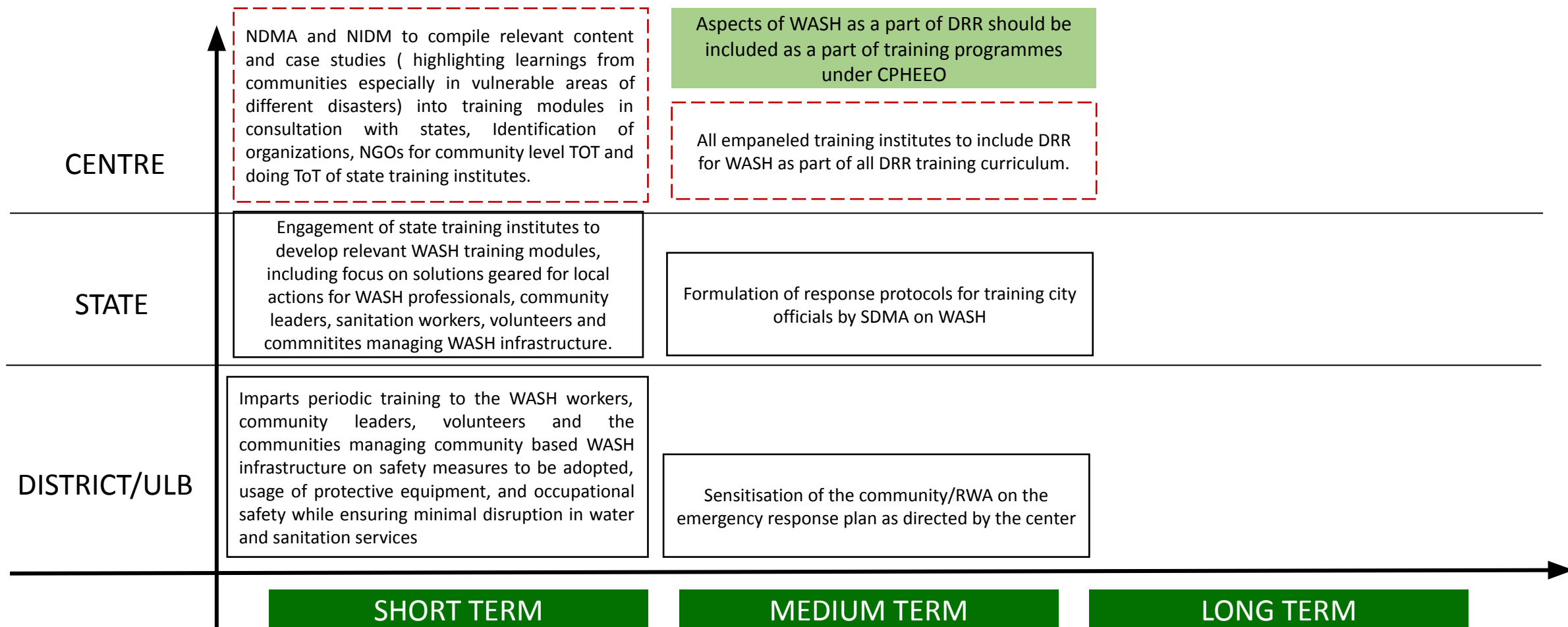


The specification for the design of WASH infrastructure specification to mandatorily consider local identified disaster and SOPs to include preparedness and response/recovery

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 	<p>The CPHEEO manuals should have separate section on adaptation of response mechanisms for natural as well as biological disasters</p> <p>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</p>	<p>develop minimum WASH standards, at HH/community level, public spaces and institutional buildings, with special focus on vulnerable settlements</p>
STATE	<p>Identifying decentralised WASH systems and mandate that SOPs in accordance with DRR measures are developed by District/ ULBs</p>		<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

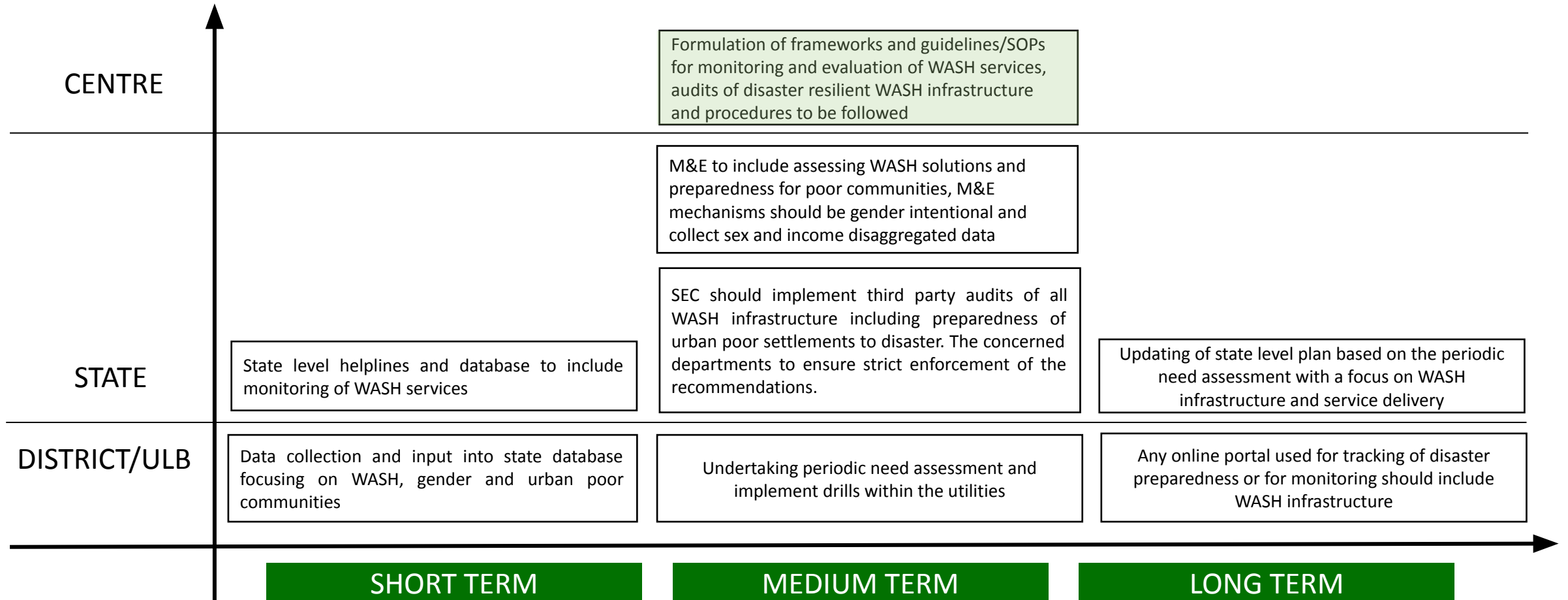
Recommendations on Capacity Building

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.



Recommendations on Monitoring and Evaluation

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



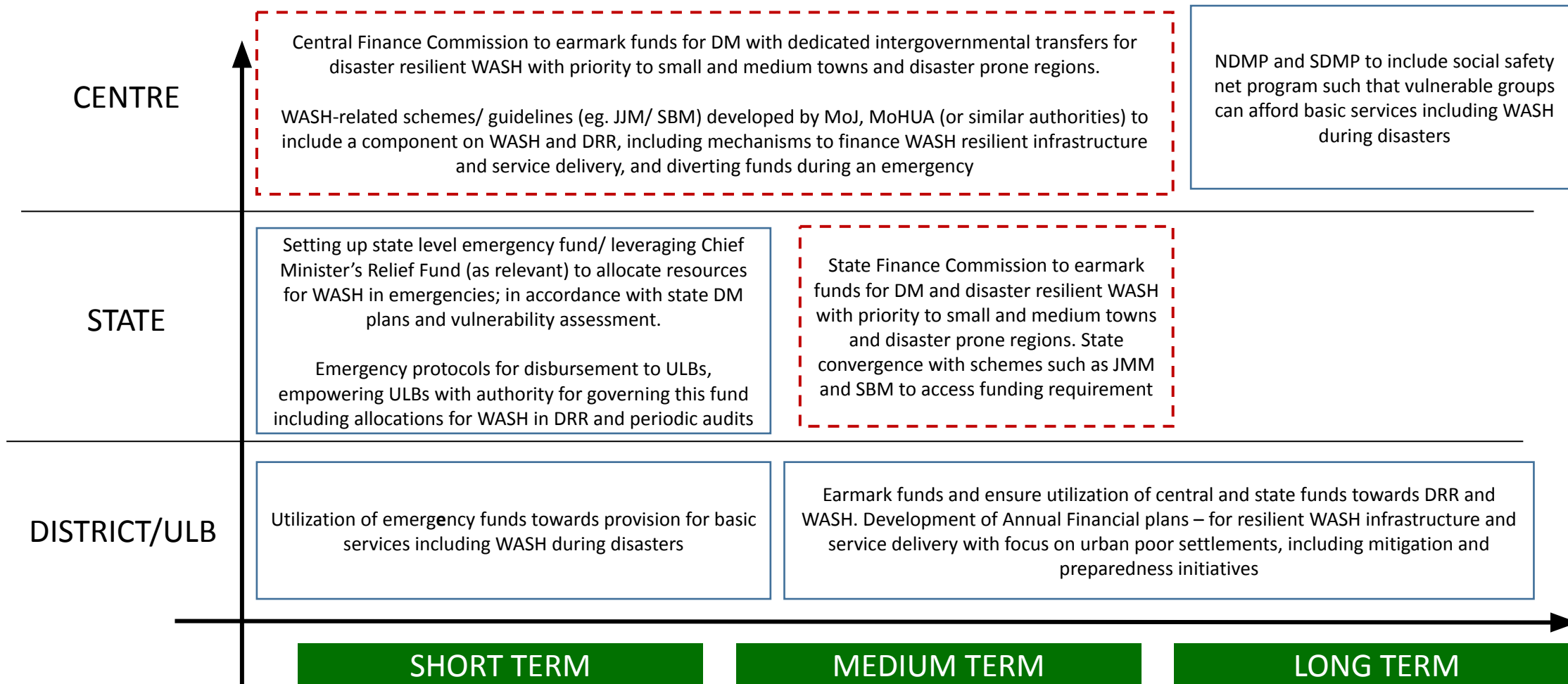
Recommendations on Communications

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

Recommendations on Financial Arrangements

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



Recommendations on Inclusive Planning

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

