Climate Change Adaptation Technologies for Water

A practitioner's guide to adaptation technologies for increased water sector resilience
WATER ADAPTATION TECHNOLOGY BRIEF







National and community disaster management plans

Challenge: Disaster preparedness **Adaptation response:** Disaster response

Description

National and community disaster management plans are created to improve disaster risk management governance from the state to local level. This facilitates a shift from a relief-based approach following a disaster toward an adaptive approach focused on improving disaster preparedness, community resilience and response. National disaster management plans incorporate disaster risk management into national policies and establish a framework that clearly specifies the roles of the responsible institutions/committees. Disaster management plans at the community level can be fine-tuned according to prevalent area risks, allowing for a more specific and detailed plan tailored to local circumstances. Additionally, they involve local stakeholders, including vulnerable groups, in the plans. Effective plans increase resilience and mitigate disaster impacts, potentially saving lives and reducing the socio-economic impacts on of damage to infrastructure, people, their belongings and ecosystems.

Implementation

Once a national disaster management committee or team is formed, a national disaster management plan should strive to address four central components: 1) mitigation, 2) preparedness, 3) response, and 4) recovery (ODPEM, 2011). Local and national government authorities, international bodies, NGOs, the private sector, and the scientific/ technical community should be involved in the planning process to the extent possible and feasible. Within the framework of the plan, system management and maintenance roles and responsibilities should be assigned, and the necessary staff should be trained. Plan effectiveness and procedures should be tested regularly. Community level disaster response plans can build on national level strategies and plans, tailoring the plan's four components to local needs and conditions. Local disaster risk assessments can identify priority vulnerabilities that need to be addressed. Disaster management plans should be updated regularly to ensure that they are kept up to date, particularly in relation to the functioning of key communication channels.

Environmental Benefits

- Improves environmental disaster (for example, contamination) response limiting the extent of damage.
- Establishes clear channels of responsibility and increases response speed and efficiency.

Socioeconomic Benefits

- Incorporates disaster management into the community-level planning agenda. Encourages a collaborative approach to management, involving stakeholders at all levels.
- Ensures communities are more prepared, resilient and responsive to disaster events, thus reducing health risks, mortality rates, infrastructure and damage.
- Addresses in part other development goals, including public participation, education and connectivity.

Opportunities and Barriers

Opportunities:

- Provides climate change adaptation benefits and community resilience

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- Coordination efforts produce significant benefits themselves (technologically not always complex)
- High costs of post-disaster relief efforts can be minimized due to improved preparedness
- Community disaster management plans are local in scale and can target particularly vulnerable members of society.

Barriers:

- People may be sceptical about new and unfamiliar systems
- Corruption or bad coordination may be an issue, particularly when giving financial responsibilities to local authorities
- Limited telecommunication networks in remote regions of developing countries can be a major barrier to dissemination
- In certain areas there could be a lack of citizen trust in t government, requiring more awareness raising.

Implementation considerations*

Technological maturity: 3-5
Initial investment: 2-3
Operational costs: 2-3
Implementation timeframe: 3-4

Technological maturity: 1 - in early stages of research and development, to 5 - fully mature and widely used Initial investment: 1 - very low cost, to 5 - very high cost investment needed to implement technology Operational costs: 1 - very low/no cost, to 5 - very high costs of operation and maintenance

Implementation timeframe: 1 – very quick to implement and reach desired capacity, to 5 – significant time investments needed to establish and/or reach full capacity

This assessment is to be used as an indication only and is to be seen as relative to the other technologies included in this guide. More specific costs and timelines are to be identified as relevant for the specific technology and geography.

^{*} This adaptation technology brief includes a general assessment of four dimensions relating to implementation of the technology. It represents an indicative assessment scale of 1-5 as follows:

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Sources and further information

CDEMA (2010). Community Disaster Management. The Caribbean Disaster Emergency Management Agency (CDEMA). Available at:

http://weready.org/CDM/index.php?option=com_content&view=article&id=8&Itemid=14

IFRIC (2011). Public awareness and public education for disaster risk reduction: a guide. International Federation of Red Cross and Red Crescent Societies (IFRIC), Geneva. Available at:

http://www.ifrc.org/Global/Publications/disasters/reducing_risks/302200-Public-awareness-DDR-guide-EN.pdf

NDMO (2009). National Disaster Risk Management Plan. National Disaster Management Office (NDMO), Office of the President, Republic of Botswana. Available at:

http://www.preventionweb.net/files/15402 nationaldisasterriskmanagementplano.pdf

National Disaster Management Plan (2016). National Disaster Management Authority, Government of India. New Delhi. Available at:

http://www.ndma.gov.in/images/policyplan/dmplan/National%20Disaster%20Management%20Plan%2 0May%202016.pdf

ODPEM (2011). Community Disaster Risk Management Plan for Porus, Manchester. Office of Disaster Preparedness and Emergency Management (ODPEM). Available at:

http://www.odpem.org.jm/Portals/0/Porus%20Complete.pdf

United Nations (2015). Sendai Framework for Disaster Risk Reduction 2015-2030. United Nations Office for Disaster Risk Reduction (UNISDR). Available at:

http://www.unisdr.org/we/inform/publications/43291