



WaterAid/ Suman Paul

A sanitation facility that was damaged by Cyclone 'Amphan' in Satkhira, Khulna.

Highlighting loss and damage to **water and sanitation** infrastructures due to climate hazards in Bangladesh

11 November 2022

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WaterAid

Keynote objectives

In this session you will find out about:

1. Why talk about Loss and Damage?
2. Overview of impacts on WASH : *The Losses and Damages*
3. Our expectations going forward

Why are we addressing loss and damage?

- Limiting global **heating to 1.5°C this century** is one of the central aims of the Paris Agreement *however*,
- With an atmospheric temperature that is now **1.1°C** above pre-industrial levels, **not only has human action caused the Earth to be the hottest** it has been for 12,000 years, but international **climate policy puts us on track for a temperature rise of at least 3°C by 2100** ¹
- Moreover, **90%** ² of all natural disasters are water-related
- *Irreparable damages to the world's vulnerable and poorest*

¹(Bova et al. 2021; Bathiany et al. 2018; Pattyn 2018; Hall 2019; Yumashev 2019)

²(UNEP: <https://www.un.org/sustainabledevelopment/blog/2015/11/un-report-finds-90-per-cent-of-disasters-are-weather-related/>)

WaterAid globally, has been trying to adapt its mission to address global water crisis & sanitation through low-regret adaptation, locally-led adaptation, and climate resilient technologies



22.2 m

people reached with safe water, improved sanitation, and hygiene education since 2003.

4.46m

reached with water coverage

10.93m

reached with sanitation coverage

6.83m

reached with hygiene coverage

But is this enough?

- **Joint Monitoring Program for Bangladesh, 2021, shows 59% only have safely managed water**
- **39% have access to safely managed sanitation**
- **One in every seven people in Bangladesh will be displaced by climate change by 2051 (IOM, Climate Reality, World Bank)**

Investigation

Our study investigated:

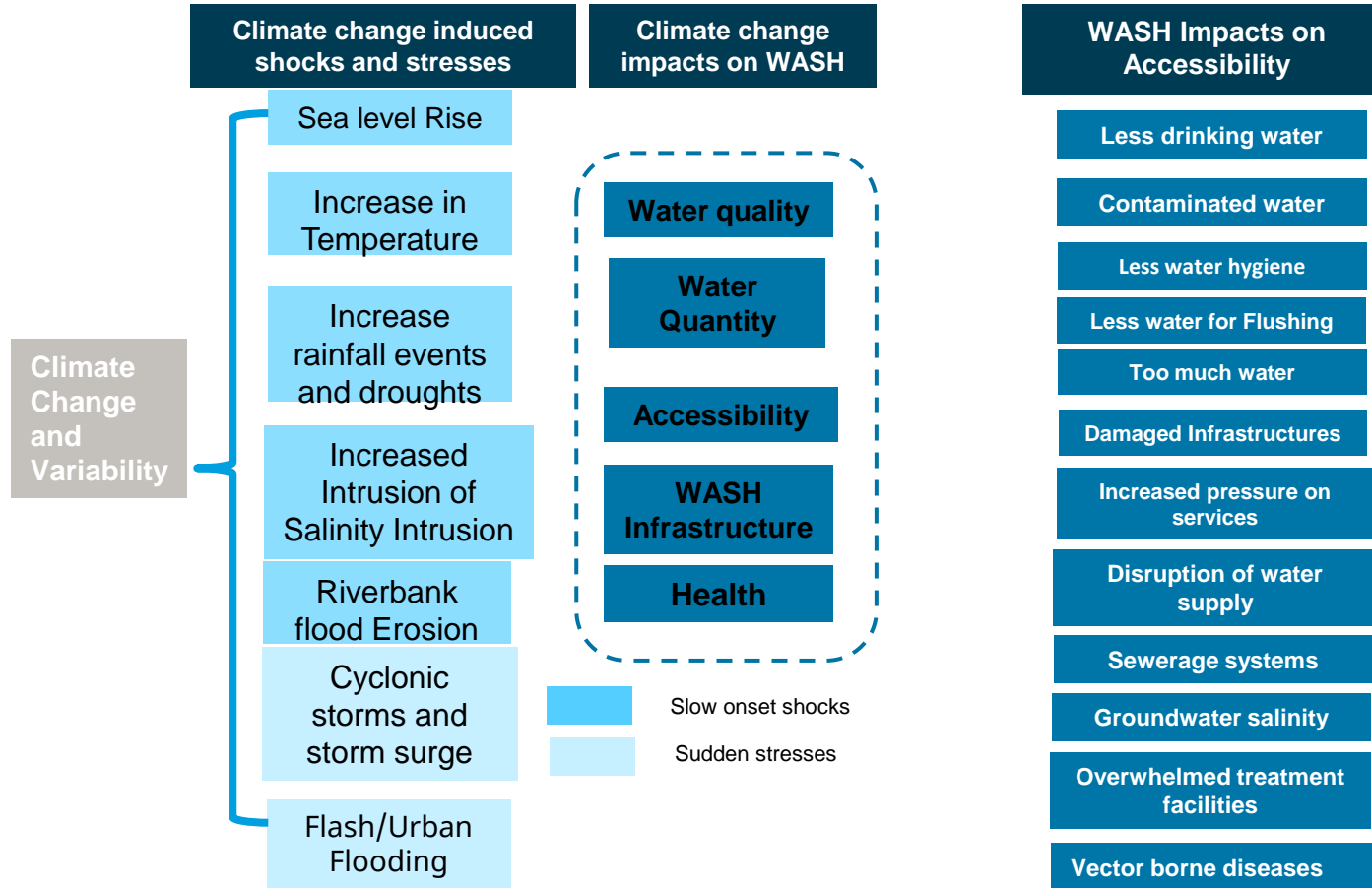
1. WaterAid's Global Study
2. Secondary data sources
3. Loss and Damage (*D-forms*) - National Disaster Response Coordination Center (NDRCC)

Session objectives

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What risks does climate change pose to universal, sustainable WASH access and water resources?



...the climate crisis becomes a water crisis

Impacts on WASH – *floods and cyclones*

- Bangladesh was recently hit by worst cyclones and floods in 50 years and 100 years respectively..
- 2020 flood affected **3.3 million people, while 10 million people were recovering from super cyclone Amphan (2020)** ¹
- Typical recovery period takes 3-5 years after each event – that is 1+ additional year added after a new event
- 2022 flood affected **4 million**, while the coast was devastated by cyclone Asani and Sitrang
- In average we are now seeing 18 years of full recovery period under various circumstances

¹ <https://reliefweb.int/report/bangladesh/counting-costs-cyclone-amphan-one-year>

Impacts on WASH – floods and cyclones of 2020

- A post disaster needs assessment (PDNA) ¹ published in July 2020 estimated that **82,000 toilets and 73,000 tube wells** were damaged or destroyed.
- Total loss and damage in boreholes/wells **USD 2,691,926 (NDRCC approximation)**
- As a result, nearly half of the most affected districts ran out of safe drinking water and hygiene services were significantly disrupted.
- It was also found that **90%** of affected regions reported water supply disruption and **93%** reported sanitation service disruption.
- Around **18,235 water points and 40,894 latrines** were destroyed in affected districts **during cyclone Amphan** (IFRC, 2020).
- Women have been disproportionately affected by these events.
- It was also found that **90% of regions reported water collection challenges**, which are typically borne by women, and **68% of regions reported difficulty in maintaining personal and menstrual hygiene**.

¹Needs Assessment Working Group – Bangladesh. Cyclone 'Fani' Joint Situation Analysis of Damage and Needs.

Our study concluded

- *Mission Critical Report*: in this report estimates WASH services in Bangladesh provide an annual benefit of **US \$28** per person for basic water services and **US \$49** per person for basic sanitation services.
- **As a result of the service disruptions, the 2020 floods cost at least US \$217 million in reduced WASH service benefits.**
- **Add another 259 million cost of post disaster recovery and you have **PRICE TAG** of 476 million USD for recovery.**

Mission-critical: Invest in water, sanitation and hygiene for a healthy and green economic recovery



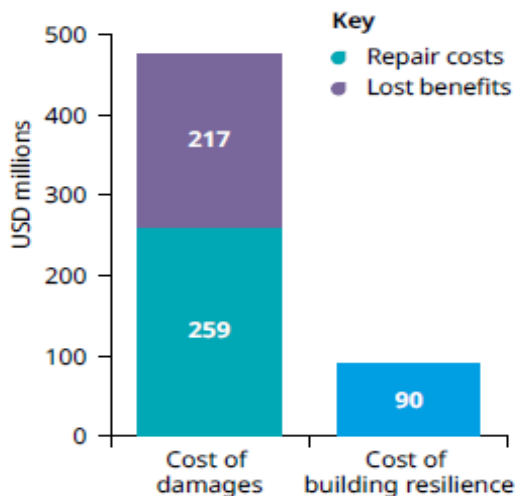
A close up of Gita Roy (38), leader of Golap Dol, Tengra Satkhira District, Khulna D

Cost of Resilience for flood: WASH infrastructures

In Numbers

- **Every dollar invested in strategic flood resilience upgrades could avoid up to US \$96 in flood restoration costs.**
- **Total cost of damage + recovery = 476 million USD**
- **Cost of Resilience 90 million USD**

Figure 9: The costs of inadequate infrastructure are significantly more than the cost of building resilience against flooding in Bangladesh



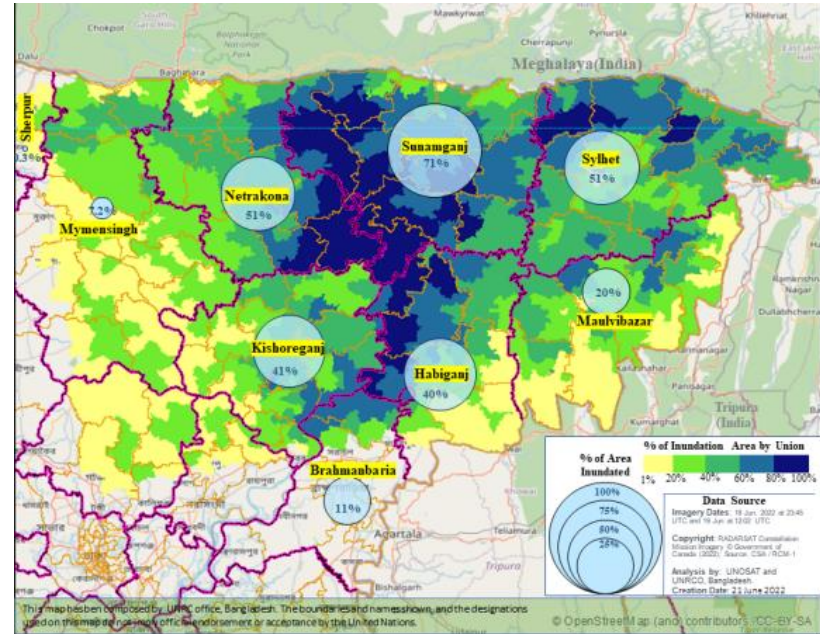
Source: Vivid Economics



Imagine if we didn't have to balance between economic recovery, adaptation or loss and damage

....2022 flood

- The 2022 flooding estimation damage was **USD 12,136,897** (NDRCC approximation), with 2 billion overall cost per year
- **44,254** water points, **48885** sanitation points (JNA 2022)
- 6 months in, and people will lose around **144 million of WASH benefits** (estimation).



UN Resident Coordinator Situation
Update # 2 (22 June 2022)



Photo Credit: Zahid Amin/Amphan

Economic Losses and Damages

In Numbers (As examples)

- **Cyclone SIDR (Landfall 15 November 2007):** Total losses reached Taka 196.25 billion (US\$2.31 billion).
- **Cyclone AILA (Landfall 25 May 2009):** Total losses amounted to Taka 89.46 billion (US\$1 billion).
- **Cyclone Roanu (2016):** Damage across the nation were estimated at Taka10 billion (US\$127 million).
- **Cyclone Fani (2019):** Total damage in Bangladesh were up to Taka 5.37 billion (US\$63.6 million).
- **Amphan (21 May 2020):** The total cost of the damage caused by the cyclone was estimated at Tk 1,100 million (around US\$ 13 million)
- **Cyclone Yaas (2021):** Taka 60 million in Khulna (US\$ 0.7 million)
- **Cyclone Asani (2022)..and it goes on**
- **Flood of 2020:**

**Around 3.5 Billion
USD**



Non-Economic Damages

In Numbers

- Notable Displacement Indicator records shows (Approximation):
- 2022: **Total: 2,016,125** **767,937 Women** and 887228 Men and others (NDRCC Records)
- 2020: **Total 1,812,108** **767,604 Women** 820,958 Men and others (NDRCC Records)

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*Some losses and damages are irreversible but
we can overcome it*

What we need to do

- Have accurate data on loss and damage over the years – longitudinal/historical data ...
- Understand better the economic and non-economic for Bangladesh
 - Research, strengthen national loss and damage data collection methodology
- Better understand Water, Sanitation L&D issues and how this is affecting other aspects of life and livelihoods
- WaterAid Bangladesh is ready to support the WASH – L&D issues at the national level.

Thank you