"Leaving No One Behind: Sustainable WASH Services in Rapidly Changing Context"

Climate Resilience Framework: UNICEF Perspective

Anu Gautam, WASH Specialist
UNICEF EAPRO, Bangkok

Marina Barrage

SCP SINGAPORE COOPERATION PROGRAMME

unicef for every child

PUB SINGAPORE'S NATIONAL WATER AGENCY

Session Objectives:

By the end of this session, you will:

- Understand the impact of climate change in the WASH sector
- Understand climate resilient WASH framework of UNICEF and its applicability

WASH Climate Resilience Programming: A UNICEF Perspective

SCP unicef OPUB

Global Trends: Rising Temperatures

- Over the past 50 years, the average global temperature has increased at the fastest rate in recorded history.
- All but 1 of the 16 hottest years have occurred since 2000. The hottest year on record was 2016.
- It is estimated that without additional mitigation efforts, by 2100 the world could be 3.7° to 4.8° C warmer than in pre-industrial times.
- Rising temperatures can lead to deadly pathogens in freshwater sources, making the water dangerous for children to drink.
- For every 1° C increase in temperature there is an 8% rise in E. coli-related diarrhoea.

Water Scarcity and Drought

- Evidence shows that since 1970, climate change has led to increased water scarcity and drought. Globally, droughts are becoming longer and more intense, and they are covering wider areas.
- During times of drought children risk dying of thirst – they also often have less food, need to walk long distances to collect water, leaving them with less time to go to school, study and play.

SCP unicef OPUB

Flooding

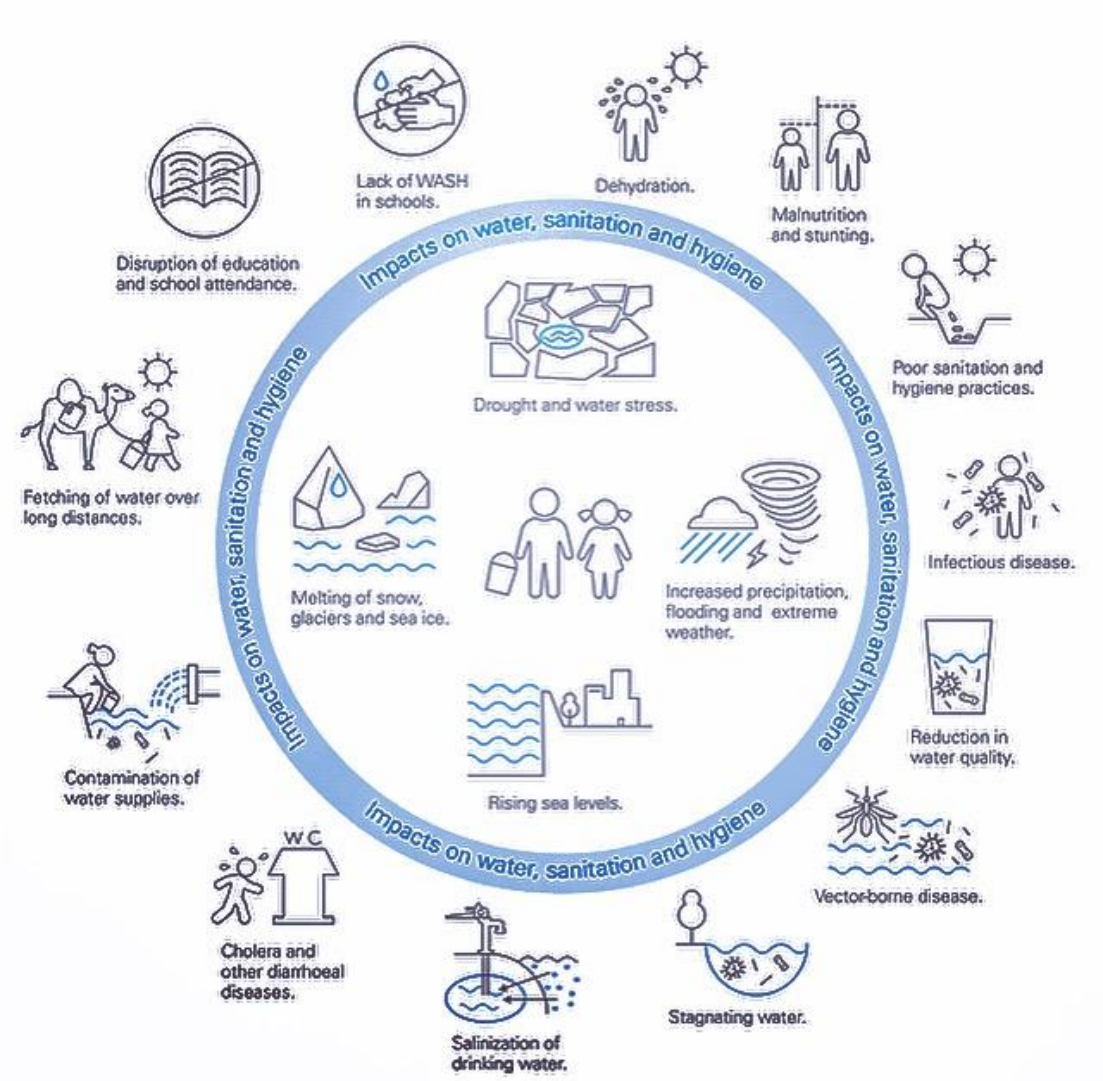
- Destroys or damages latrines and toilets, which can contaminate water supplies.
- Can cause communities to abandon important sanitation and hygiene practices.
- Peaks in diarrhoeal mortality and morbidity are commonly
- The risk of vector-borne diseases rises

SCP unicef PUB

Sea Level Rise

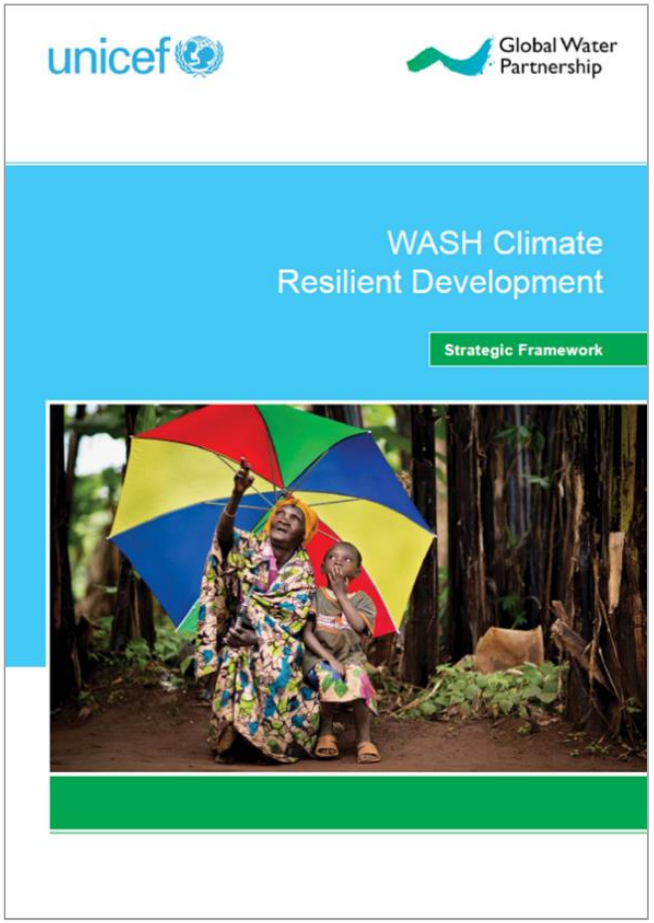
- When sea-levels rise salt water can infiltrate water supplies and cause irreversible damage
- Between 1993 and 2010, sea levels rose by 3.2 millimeters per year .
- A global temperature rise of 2° C is estimated to leave 130 million more people per year affected by coastal flooding

The Impact of Climate Change on Children



The Strategic Framework for WASH Climate Resilience

FRAMEWORK FOR WASH CLIMATE RESILIENCE



Focus on:

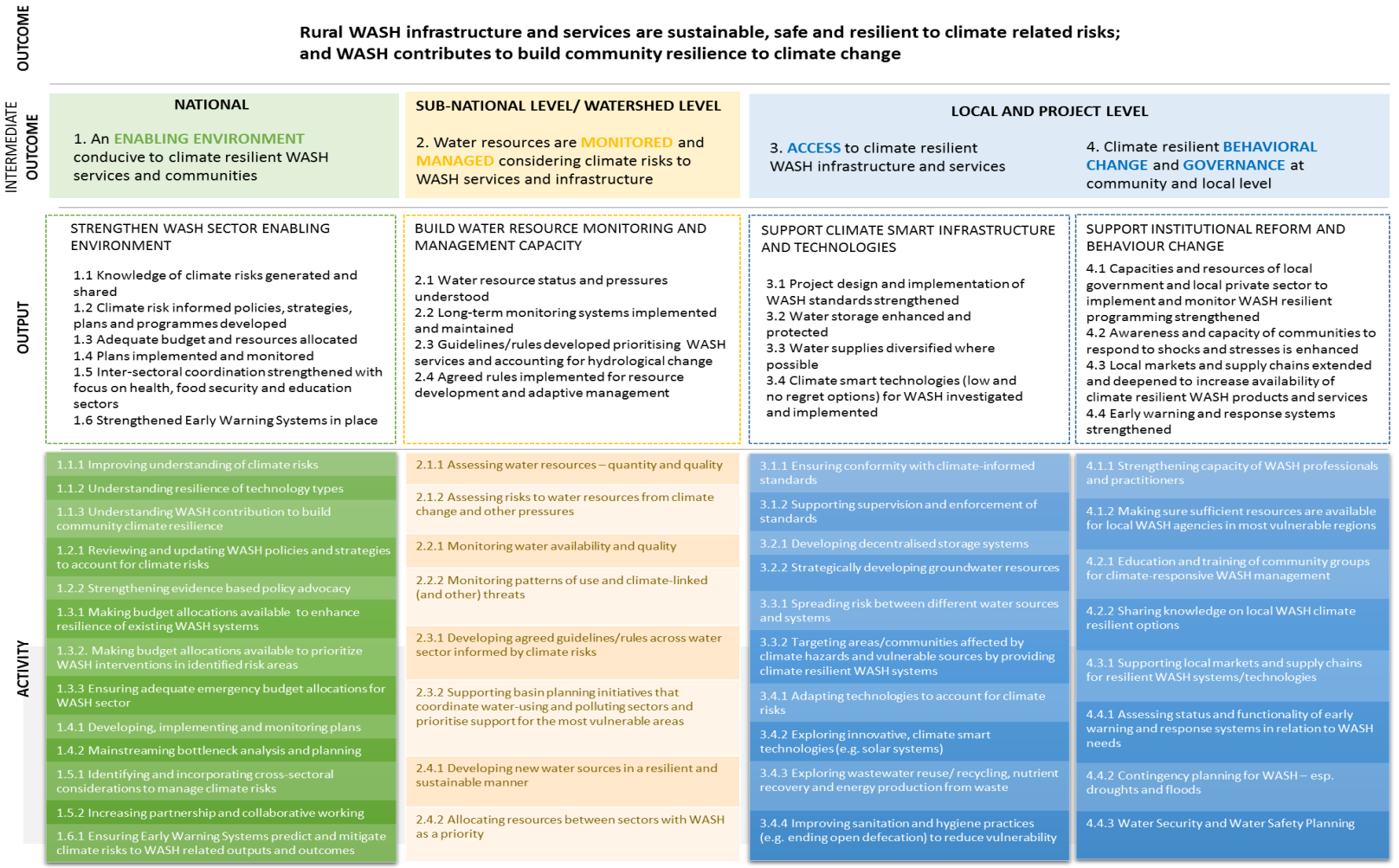
1. Rural WASH infrastructure and services are sustainable, safe and resilient to climate related risk

2. WASH contributes to build community resilience to climate change

AREAS OF WORK AND GUIDANCE DOCUMENTS

- Guidance note: Risk assessments for WASH
- Technical Brief: WASH Climate resilient options
- Technical Brief: Appraising and prioritizing options
- Technical Brief: Modified Water Safety Planning
- Technical Brief: Climate resilient WASH monitoring and evaluation
- Technical Brief: Integration of climate resilience into WASH strategies and plans

RESULTS FRAMEWORK



RESULTS FRAMEWORK: NATIONAL LEVEL

NATIONAL LEVEL

Intermediate Outcome

An **ENABLING ENVIRONMENT** conducive to climate resilient WASH services and communities

Output

Strengthen WASH sector enabling environment

Examples of activities

- Reviewing and updating WASH policies and strategies
- Making budget allocations available to enhance resilience of existing WASH systems
- Ensuring Early Warning Systems predict and mitigate climate risks to WASH related outputs and outcomes

RESULTS FRAMEWORK: SUBNATIONAL LEVEL

SUBNATIONAL LEVEL

Intermediate Outcome

Water resources are **MONITORED** and **MANAGED** considering climate risks to WASH services and infrastructure

Output

Build water resource monitoring and management capacity

Examples of activities

- Monitoring patterns of use and climate-related (and other) threats
- Developing agreed guidelines/rules across water sector informed by climate risks
- Supporting basin planning initiatives that coordinate water-using and polluting sectors and prioritise support for the most vulnerable areas

RESULTS FRAMEWORK: LOCAL LEVEL

LOCAL LEVEL

Intermediate Outcomes

ACCESS to climate resilient WASH infrastructure and services

Climate resilient **BEHAVIORAL CHANGE** and **GOVERNANCE** at community and local level

Output

Support "Climate-smart" infrastructure and technologies

Support institutional reform and behavior change

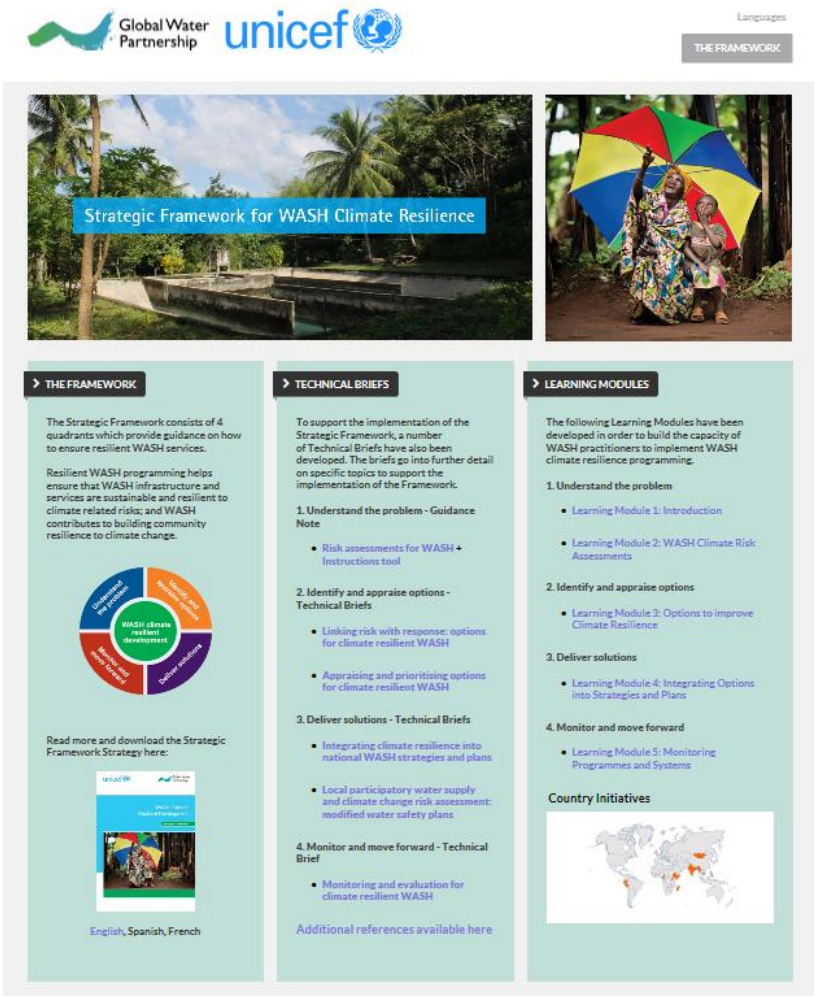
Examples of activities

Targeting areas/communities affected by climate hazards by providing climate resilient WASH systems

Improving sanitation and hygiene practicing (e.g. ending open defecation) to reduce vulnerability

Assessing status and functionality of early warning and response systems in relation to WASH needs

WASH Climate Resilient Development Website



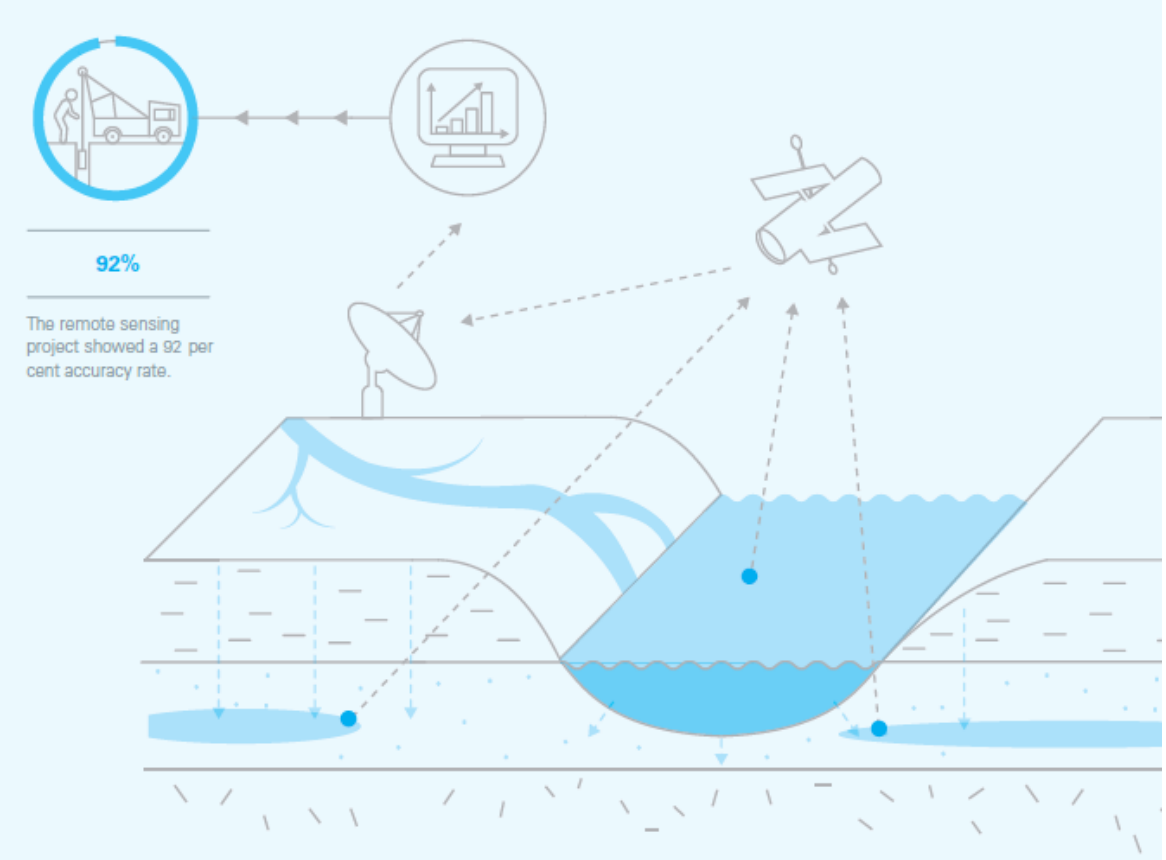
http://www.gwp.org/en/WashClimateResilience/

SCP unicef PUB

Examples of Climate Resilient WASH Programming

Examples of WASH Resilience Programming

GIS Water Mapping



- In 2016, Ethiopia experienced one of its worst droughts in decades.
- Piloting of remote sensing - combines satellite earth scanning with hydrological investigation techniques → groundwater suitability map.
- Improved drilling success rates from 50% to 92% accuracy in the most water scarce regions.
- More than 540,000 people have now gained access to safe water in drought-prone regions, including Multi Village Schemes.
- Approach is being scaled-up in 39 more districts.

Examples of WASH Resilience Programming

Diversification of Water Supply Sources

Cambodia: Beyond groundwater

- Shallow wells dry up during dry season
- Compliment with use of treated surface water sources

Bhutan: Rainwater harvesting

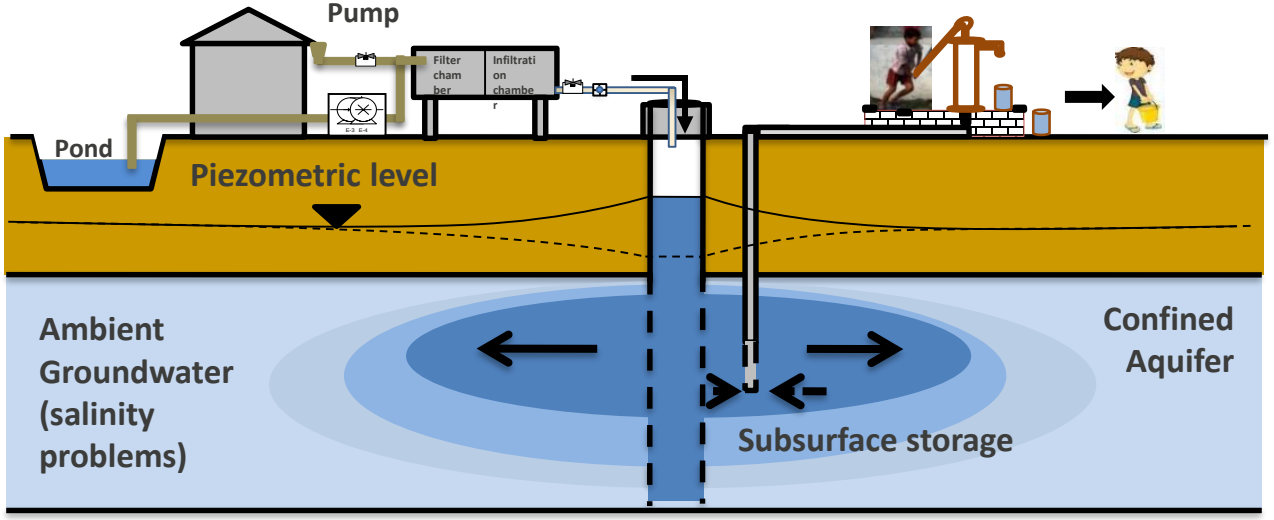
- Rain water captured when available and stored it (tanks or underground) for use throughout the year.
- Great way to diversify/provide back-up option

Myanmar: Solar powered water systems

- Durable, cost-effective, climate smart technology, also provides a water storage “buffer”

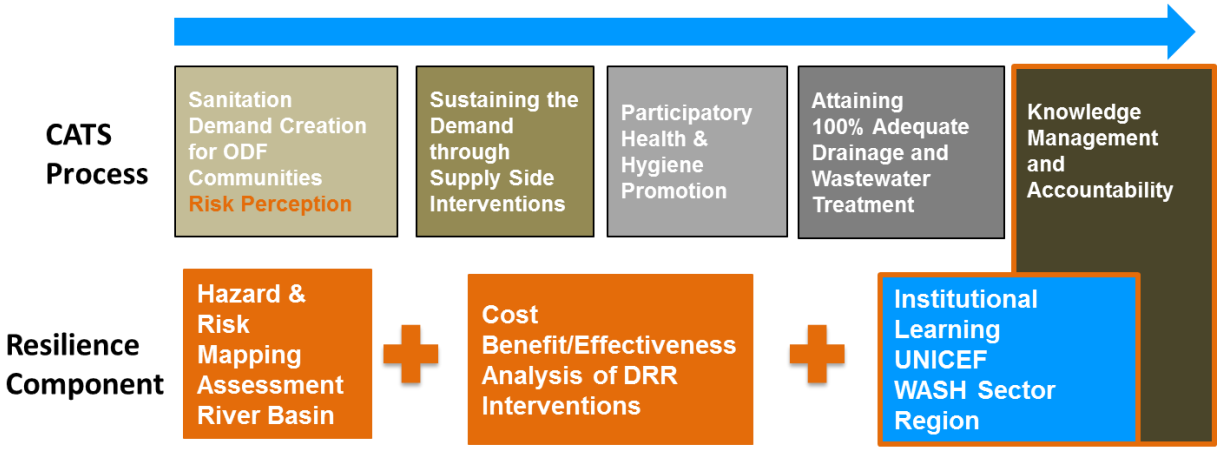
Examples of WASH Resilience Programming

Bangladesh: Managed Aquifer Recharge (MAR)



Examples of WASH Resilience Programming

Pakistan Approaches to Total Sanitation (PATS)



Examples of WASH Resilience Programming

Madagascar: Increasing community resilience through Multi Use Systems (MUS)

- MUS: Meets both people's domestic and productive livelihood needs, whilst at the same time, ensuring the most efficient use of water resources.
- Construction/rehabilitation of 72 boreholes (including solar powered water systems).
- Protects livelihoods and agricultural production in communities → improved health and nutrition of children
- Increased financial sustainability of systems: water use is directly related to livelihoods → increased desire to pay for water and maintain system

Thank you

Useful links:

Thirsting for a Future Report:
https://www.unicef.org/publications/index_95074.html

UNICEF-GWP WASH Climate Resilience Programming Guidance Portal:
https://www.gwp.org/en/WashClimateResilience/

Thank You

Marina Barrage

SCP SINGAPORE COOPERATION PROGRAMME

unicef for every child

PUB SINGAPORE'S NATIONAL WATER AGENCY