

**Sarah Ward**

**Associate  
Professor in  
Environmental  
Hazards &  
Community  
Resilience**

05 Nov 2109

# Embedding people & culture in off-grid WaSH TA

Abstract title: urban decentralised water, sanitation and hygiene interventions in technology assessment – when states and markets collide in the provision of alternative systems of provision

4<sup>th</sup> European Technology Assessment Conference  
Session: International TA Perspectives

[sarah10.ward@uwe.ac.uk](mailto:sarah10.ward@uwe.ac.uk)

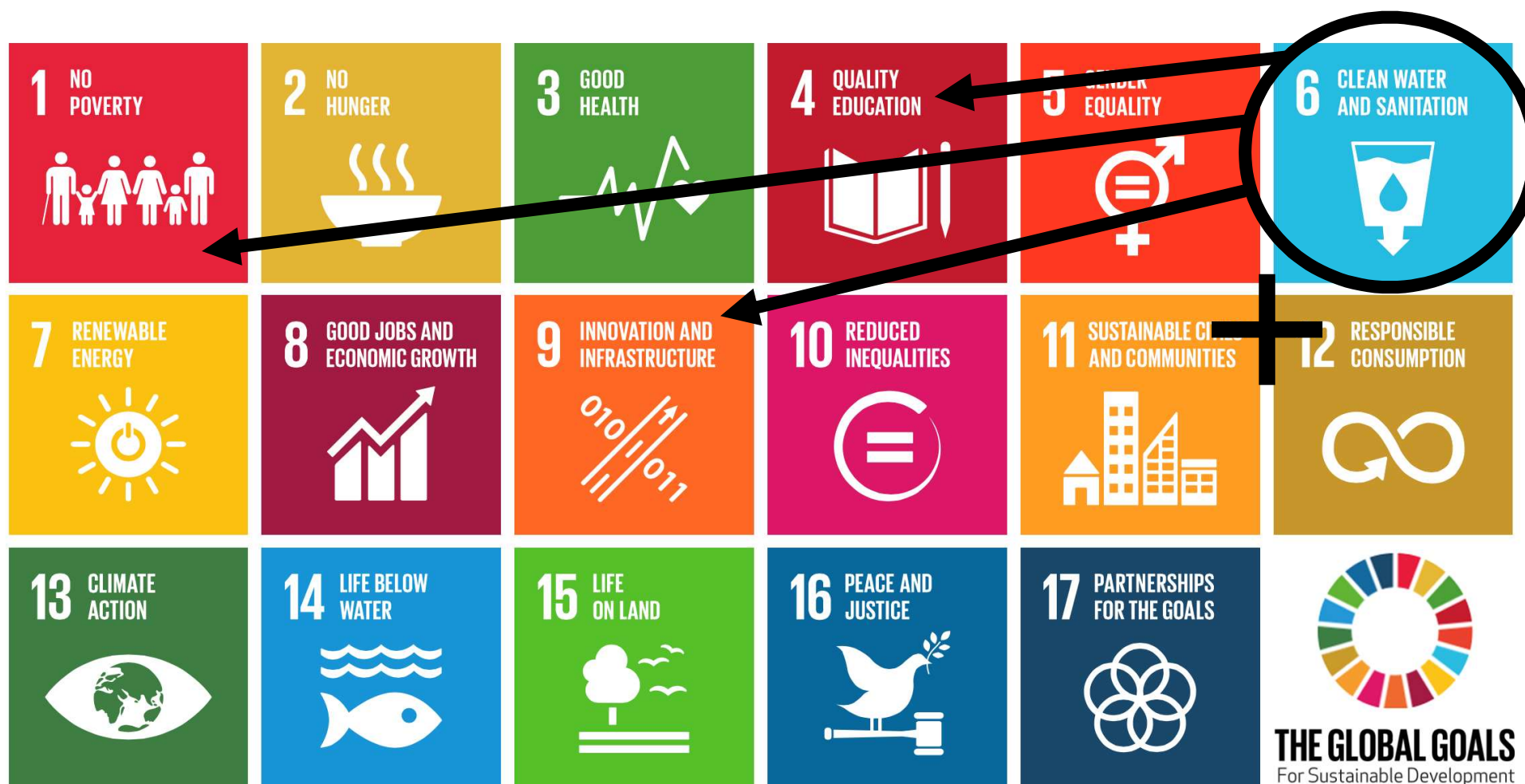
**UWE  
Bristol**

University  
of the  
West of  
England

# Outline

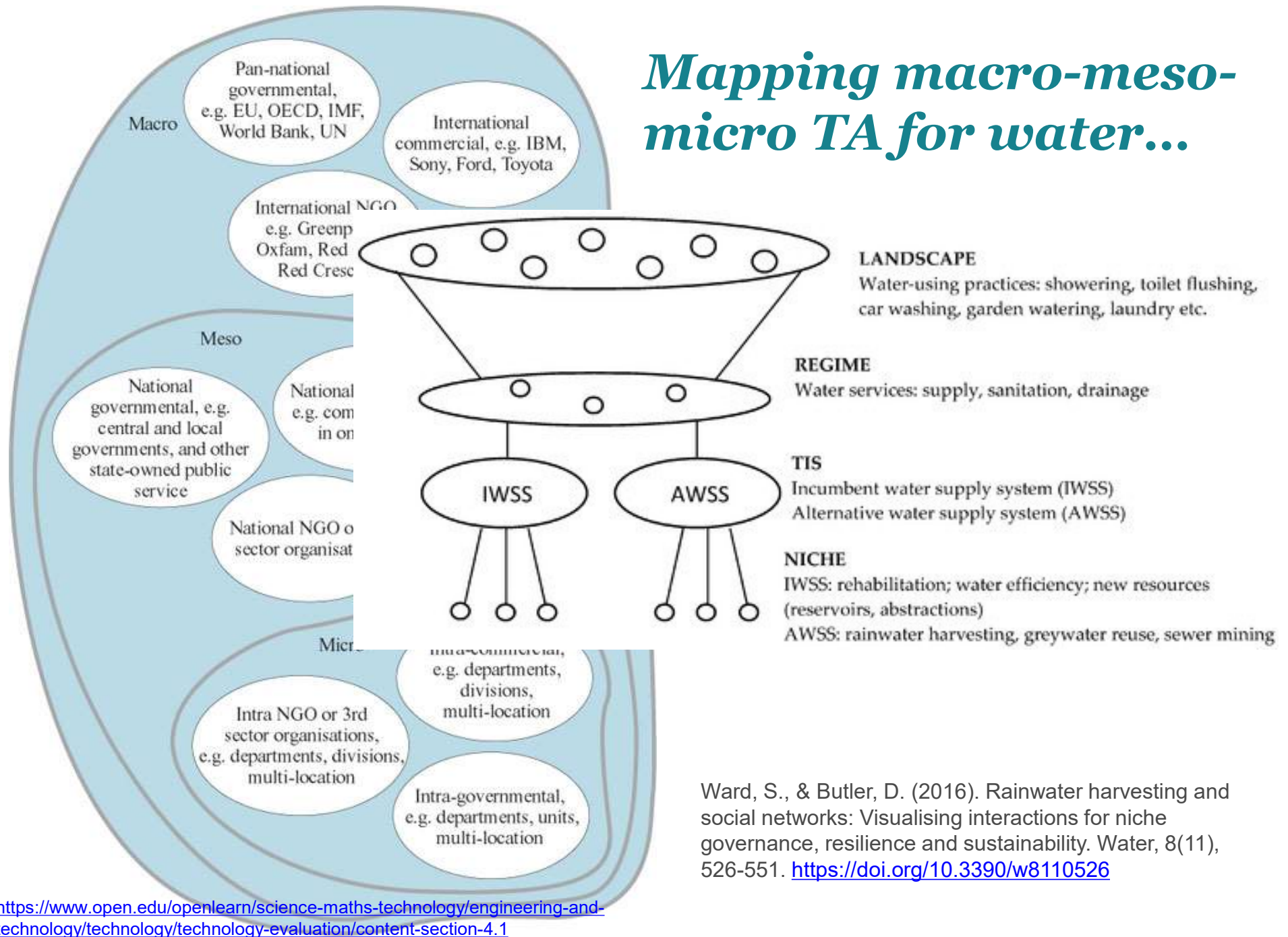
- Technology Assessment in the context of the Sustainable Development Goals (SDGs)
- Where water TA sits in the water STS domain
- Recognising a need for water TA
- Types of tech that might feature in water TA
- Where & why comparative water TA might be needed:
  - Mexico
  - Jamaica
- Points of provocation – values, power, futures

# TA & the SDGs



Strengthening the participation of local communities in improving water and sanitation management ([UN SDG 6.b](#))

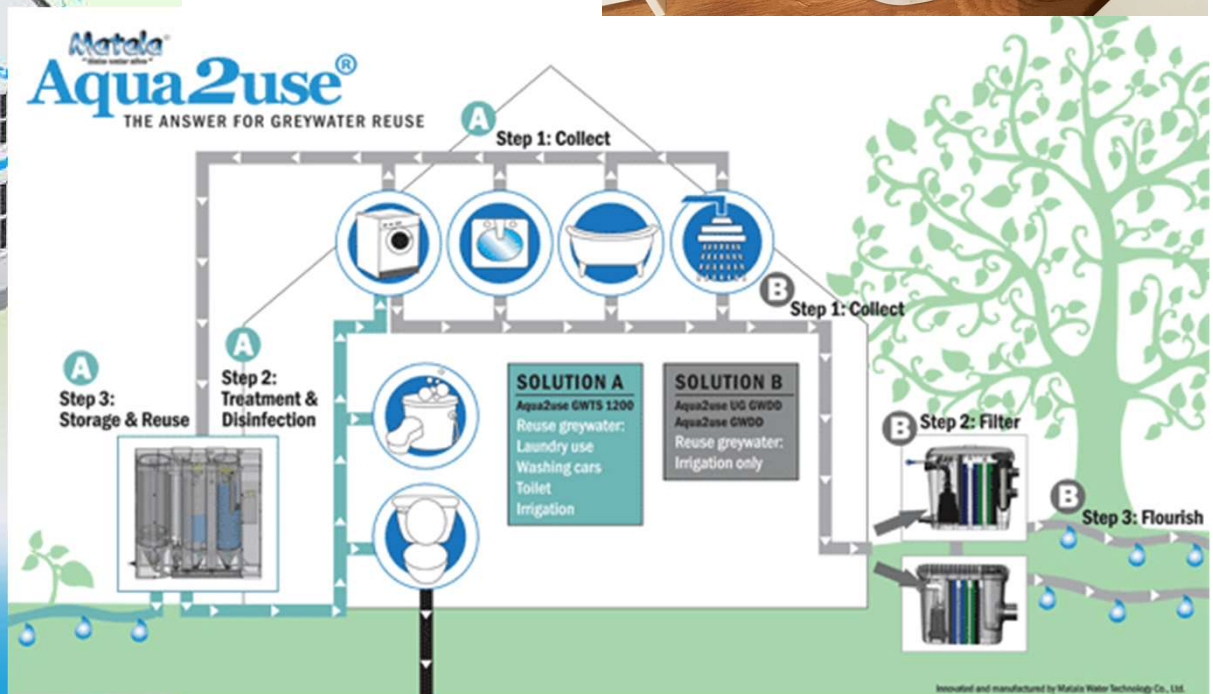
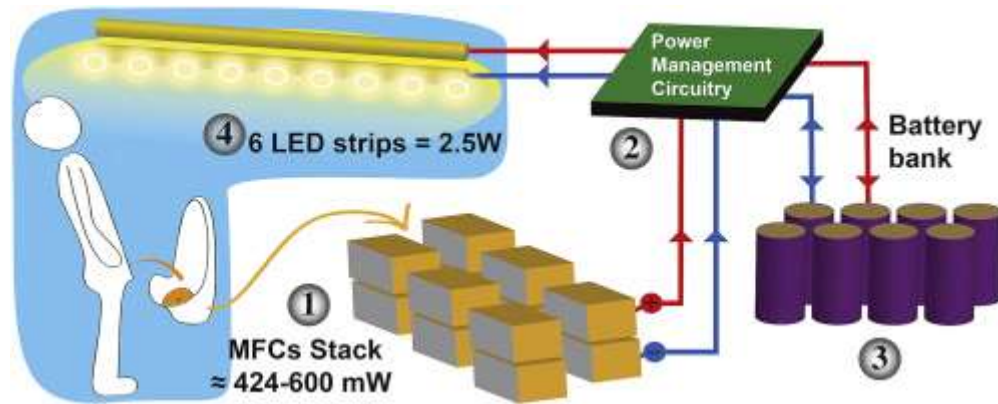
# Mapping macro-meso-micro TA for water...



Ward, S., & Butler, D. (2016). Rainwater harvesting and social networks: Visualising interactions for niche governance, resilience and sustainability. *Water*, 8(11), 526-551. <https://doi.org/10.3390/w8110526>

# Starts with recognition of a *need* for water TA – everyone's confused

- Alternative Water Supply Systems e.g. rainwater harvesting (RWH)
- Green Infrastructure, Blue-Green Infra etc
- Water, Sanitation & Hygiene (WaSH)
- Traditional & emerging
  - Recognising that *social and cultural value* is not fully included – needs connecting with economic and environmental value



# Mexico's Need

- SACMEX, the city's water operator says they can only guarantee water supply until 2019
- By 2030 it is not known where water supply for quarter of the 21m population will come from



# Mexico City's Rain-Harvesting Program Could Change How Cities Manage Water

ALAN GRABINSKY AUGUST 16, 2019



Earlier this year, Contreras found out about a government program to install rainwater-collecting systems in the houses of Iztapalapa and Xochimilco, another poor district with chronic water problems. The new mayor, Claudia Sheinbaum, an environmental scientist, promised to install 100,000 of these rainwater harvesting systems in the rooftops of Iztapalapa by the end of her six-year-tenure.



<https://nextcity.org/daily/entry/mexico-citys-rain-harvesting-program-could-change-how-cities-manage-water>



# The tech Mexico

## LOS 6 PASOS ESENCIALES para la captación de lluvia

Agua para todo uso residencial (no potable)



*Inviting citizens to become part of the city's water management process*

1

### Filtro de Hojas

(acero inoxidable)  
Sirve para filtrar hojas y material grueso del agua.

2

### Tlaloque

Separador de primeras lluvias.  
Después el primer volumen sucio de agua que cae en cada aguacero podrá impedir que este entre a la cisterna.

3

### Reductor de Turbulencia

Sirve para que el ingreso del agua a



6

### Tren de Filtrado

El tren de filtrado incluido consiste en un filtro contra sedimentos 50 micras, seguido de un filtro STD 20" con cartucho de Carbón Activado.

5

### Pichancho Flotante

Permite que la bomba extraiga siempre el agua que se encuentra a 20cm de la superficie, donde se encuentra el líquido de mejor calidad.

4

### Dosificador de Cloro

Un flotador-dosificador de hipoclorito de calcio que se



# Jamaica's Need

Monday, November 04, 2019

 Select Language ▼



## Latest News

### NWC lifts prohibition order on water usage

Tuesday, October 08, 2019  1 comment

 Like 0  Share  Tweet



*“Mr Prime Minister, please do better by the people of this country who pay your salary. I believe the power of the position has now gone to your head! Water IS life! I wonder what plans the prime minister and public bodies are putting in place to alleviate this water crisis. Every year it’s the same lame excuses. I am so fed up of getting home from work and wishing to take a shower, only to find that there is no water coming from the pipes. I spoke with a lady recently who shared that her community has not had water now for over one month. That is insane!” 08-10-19*

KINGSTON, Jamaica — The National Water Commission (NWC) has officially lifted the prohibition order that was imposed on water usage in May.

<http://jamaica-gleaner.com/article/letters/20191008/sick-and-tired-water-road-misery>

In a statement today, the NWC said with the recent rainfall, storage facilities particularly in eastern and southern parishes have seen a marked increase.

## Commendable rainwater harvesting programmes

Wednesday, October 23, 2019



Rural Water Supply Limited Managing Director Audley Thompson speaks at the recent commissioning ceremony for a \$7-million rainwater harvesting system installed at Enid Bennett High School in Bog Walk, St Catherine. (Photo: JIS)

*“We look forward to what the National Water Sector Policy and Implementation Plan 2019 will achieve, for there is great need for a coordinated approach to how we manage the island's water resources.”*

NWC Jamaica Retweeted



**Hope River** @AgentSasco · 1 Nov

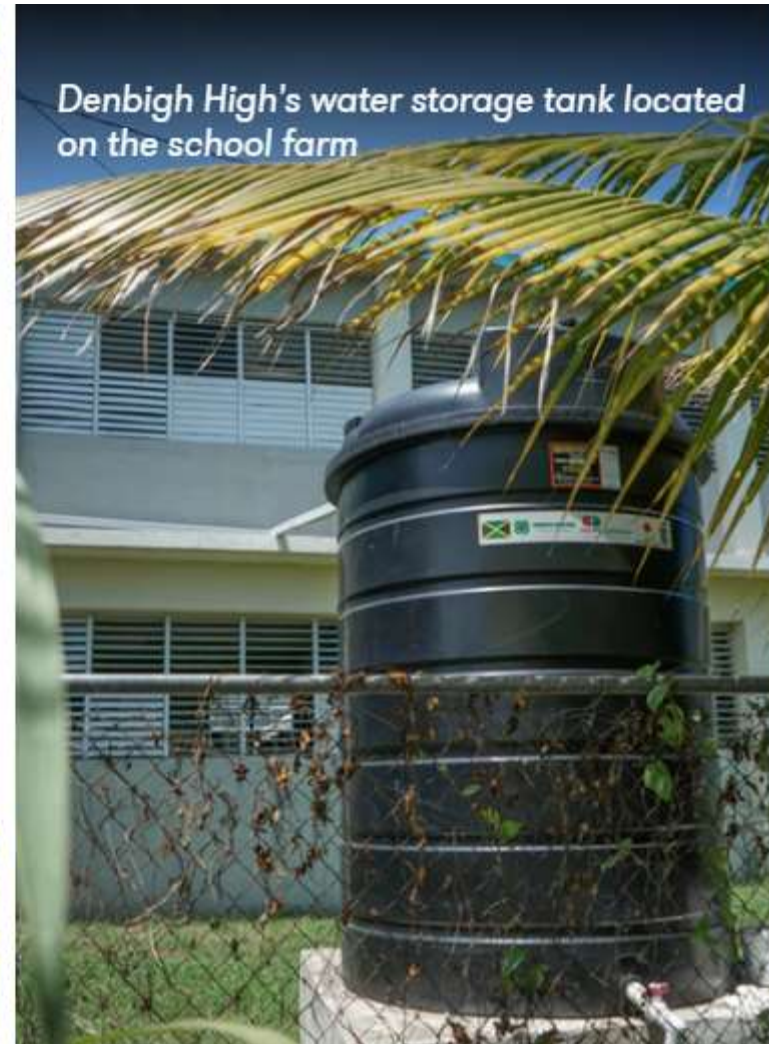
Replying to @NWCjam and @selectaprincess

#RainwaterHarvesting is a MUST!!! 🌧️💧



- Aims to provide 50 litres of water within 500m of every home

# Jamaica 4H Clubs (agri-focus) – UNDP and Japan Caribbean Climate Change Partnership



# Values, ethics, social justice – who holds the power?

## ***Mexico***

- Poorest people spend ~20% of income on accessing water
- Supply heavily subsidized-major consumers waste irresponsibly
- Top down policy, community-centred tech design – Isla Urbana
- Water conservation & Gender equality - promote empowerment of women via RWH system installation & maintenance training

## ***Jamaica***

- Even affluent experience rota cuts
- Significant international investment – local companies?
- Top down policy, top down technology design & provision – JCCCP (supply RWH equipment)
- Water conservation & agriculture locally tailored training scheme - UNDPJ-Ministry of Economic Growth & Job Creation

# Making judgements about future impacts

- What are the ‘right’ directions for Mexico and Jamaica?
- What can Jamaica & Mexico learn from each other’s trajectories?
- Can water TA help?
- Can off-grid water techs compete with gridded water tech when the former has not undergone TA?
- Are communities, their beliefs, values, behaviours, preferences and cultures on the WaSH TA agenda?

# Towards WaSH TA guidelines?

- WaSH TA needs to be:
  - Legislative advisor, to ensure the public good in relation to social needs
  - Market assessor, to determine how each privately developed intervention will be received by people who will use and rely on them in their daily lives
  - **Cultural steward**, to ensure local connections to water & materials are not lost - has happened already in so many contexts & where reversals are being attempted:
    - *Risk of this happening in Mexico & Jamaica?*

# Joint discussion key question

- What can we learn in a comparative perspective about the influence of cultural factors and the importance of ethical guidelines for the development of (new) technologies?
  - *This is highly applicable to WaSH tech – water finds itself in a diversity of everyday social practices; by its nature it is culturally situated, with symbolisms, spiritualisms and preconceptions about rights, access, power, which make ethical guidelines for its exploitation through technologies absolutely essential.*