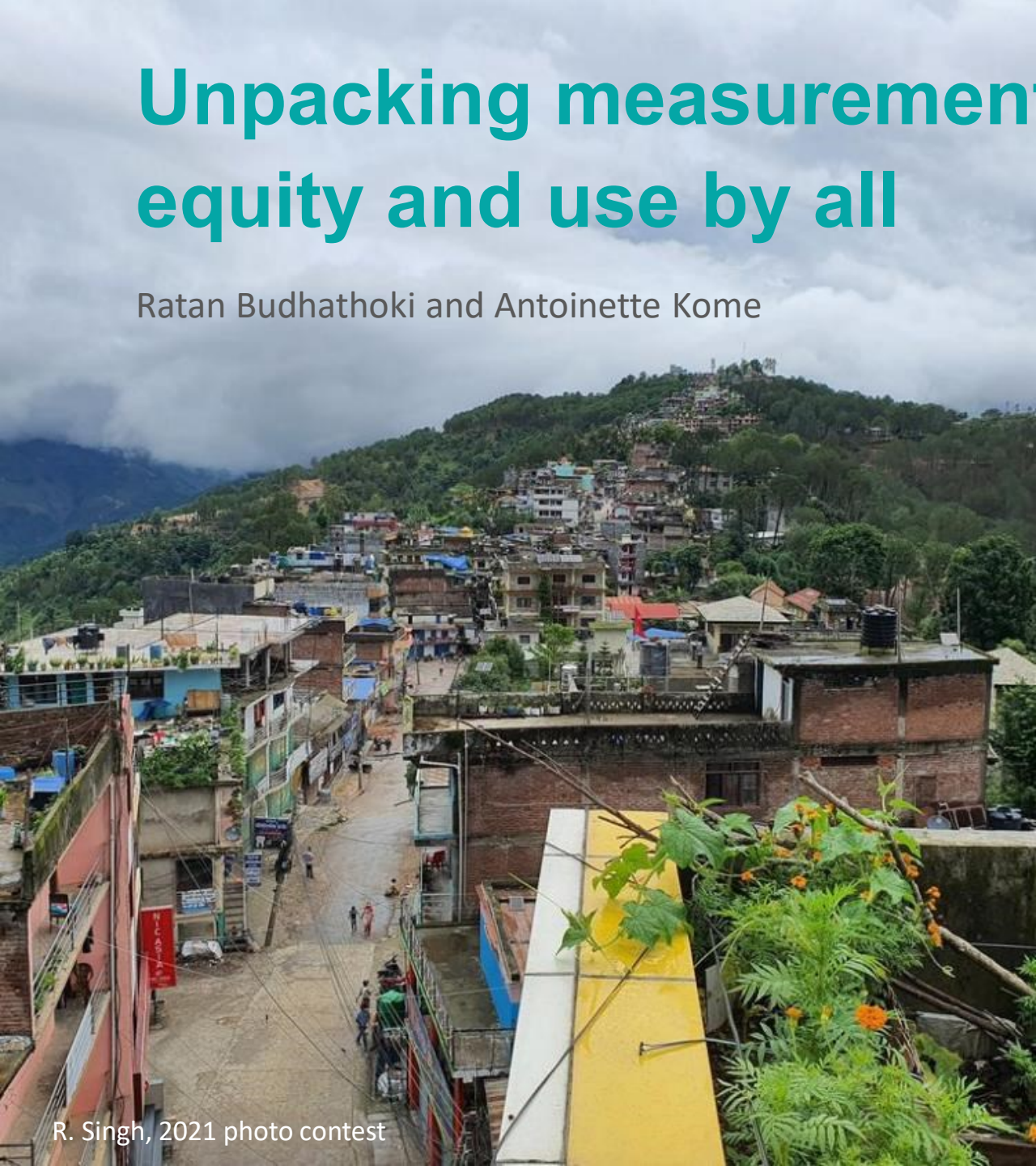# Unpacking measurements to water security, equity and use by all

Ratan Budhathoki and Antoinette Kome

R. Singh, 2021 photo contest

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WATER & WASH FUTURES 2023

Achieving SDG6 in a Changing Climate

#WaWF23

Acknowledgement of country

In the spirit of reconciliation, we acknowledge the Turrbal people as the traditional custodians of the land on which we are meeting today, Meeanjin *–the place of the blue water lilies.*

We acknowledge their connections to land, sea and community.

We pay respects to their elders and leaders past, present and emerging, and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

Find out more > https://www.turrbal.com.au/our-story

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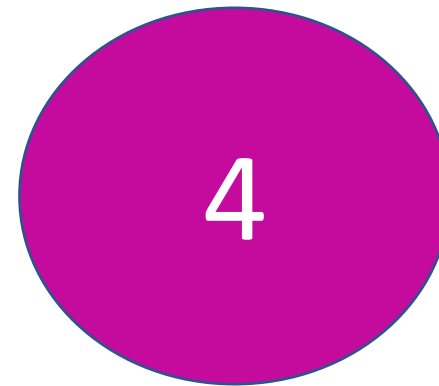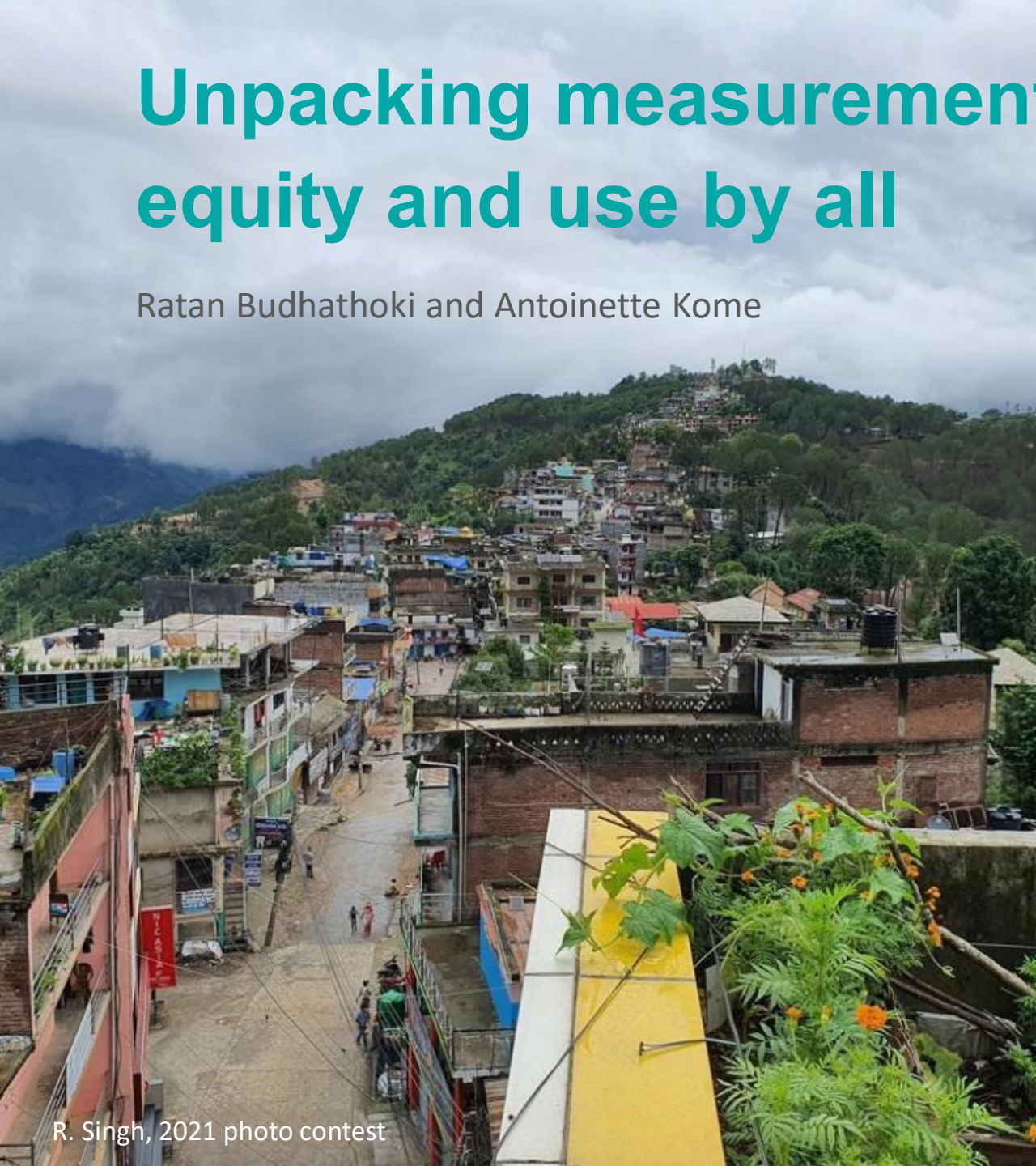
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An ever more thirsty and polluted world, in the face of climate change

- Demand for water has increased eight-fold:
  - Population growth
  - Economic growth
  - Rising living standards

- The hydrological cycle of water is severely disturbed:
  - Climate change
  - Human activity

Global freshwater use over the long-run

Global freshwater withdrawals for agriculture, industry and domestic uses since 1900, measured in cubic metres (m³) per year.
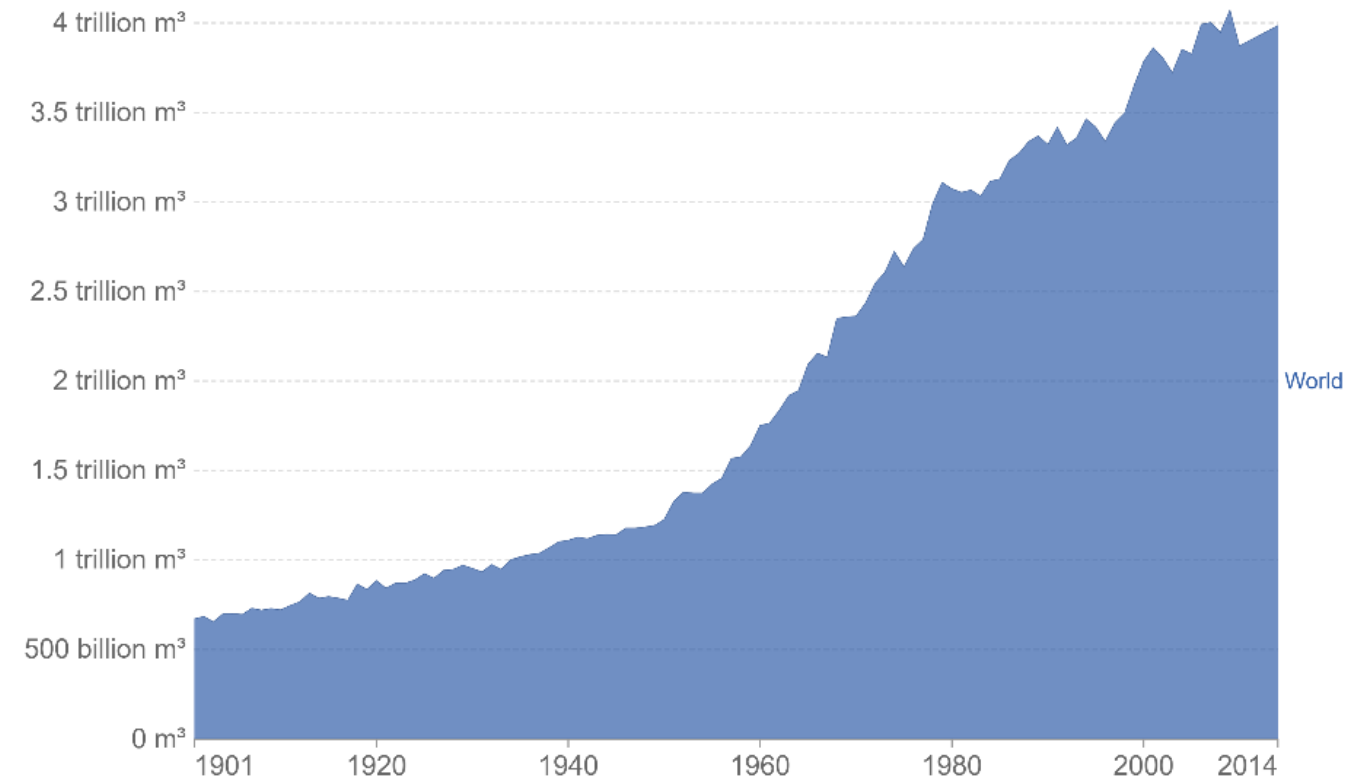
Source: Global International Geosphere-Biosphere Programme (IGB)

OurWorldInData.org/water-access-resources-sanitation/ • CC BY

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Vicious cycle of inequality
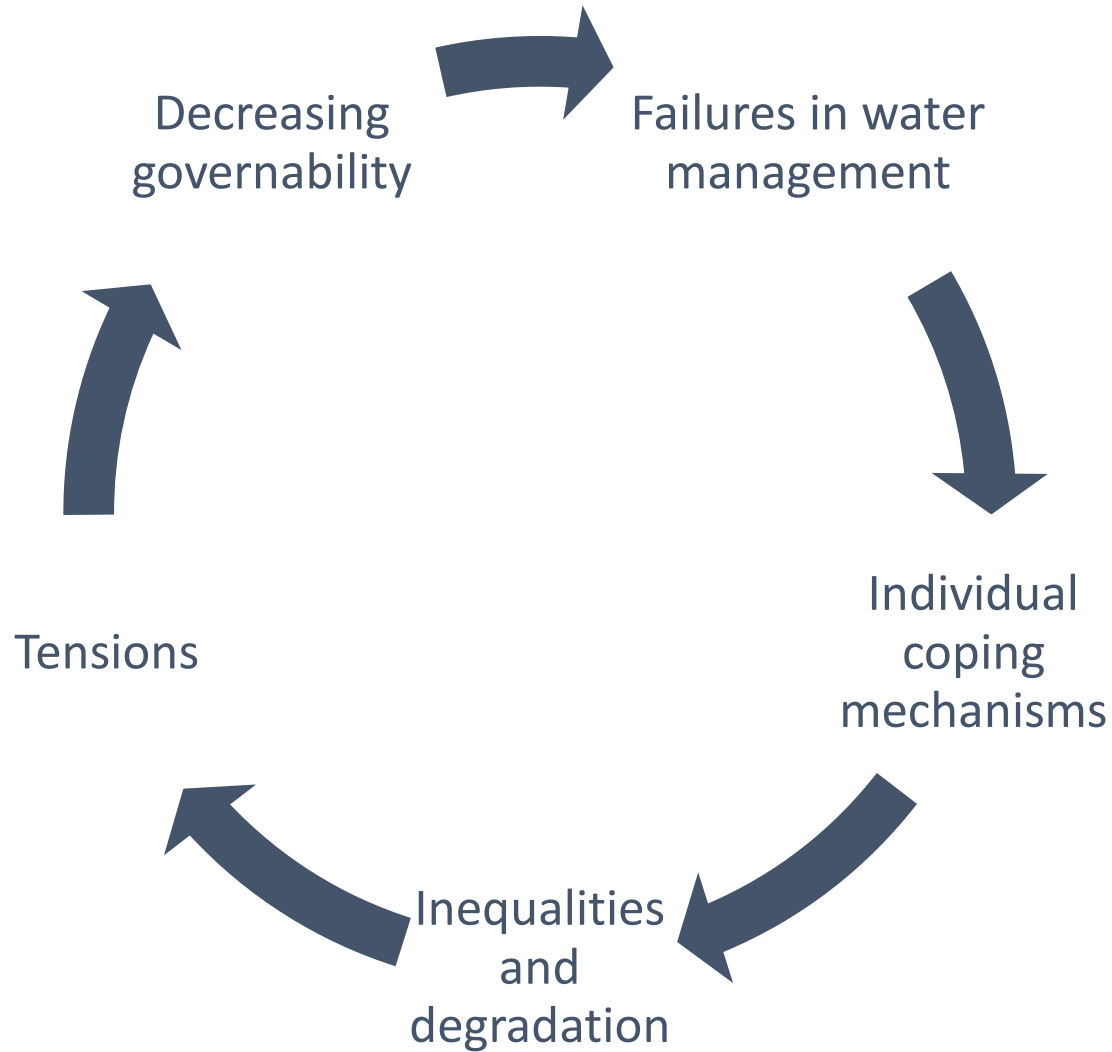
- 2 billion people experience high water stress,
- 4 billion people without safely managed sanitation
- Rate of groundwater depletion doubled between 1960 and 2000.
- 90% of all natural disasters are water-related
- Etc. etc.

Rethinking, reforming and strengthening water governance is urgent

What do we want to achieve in water?

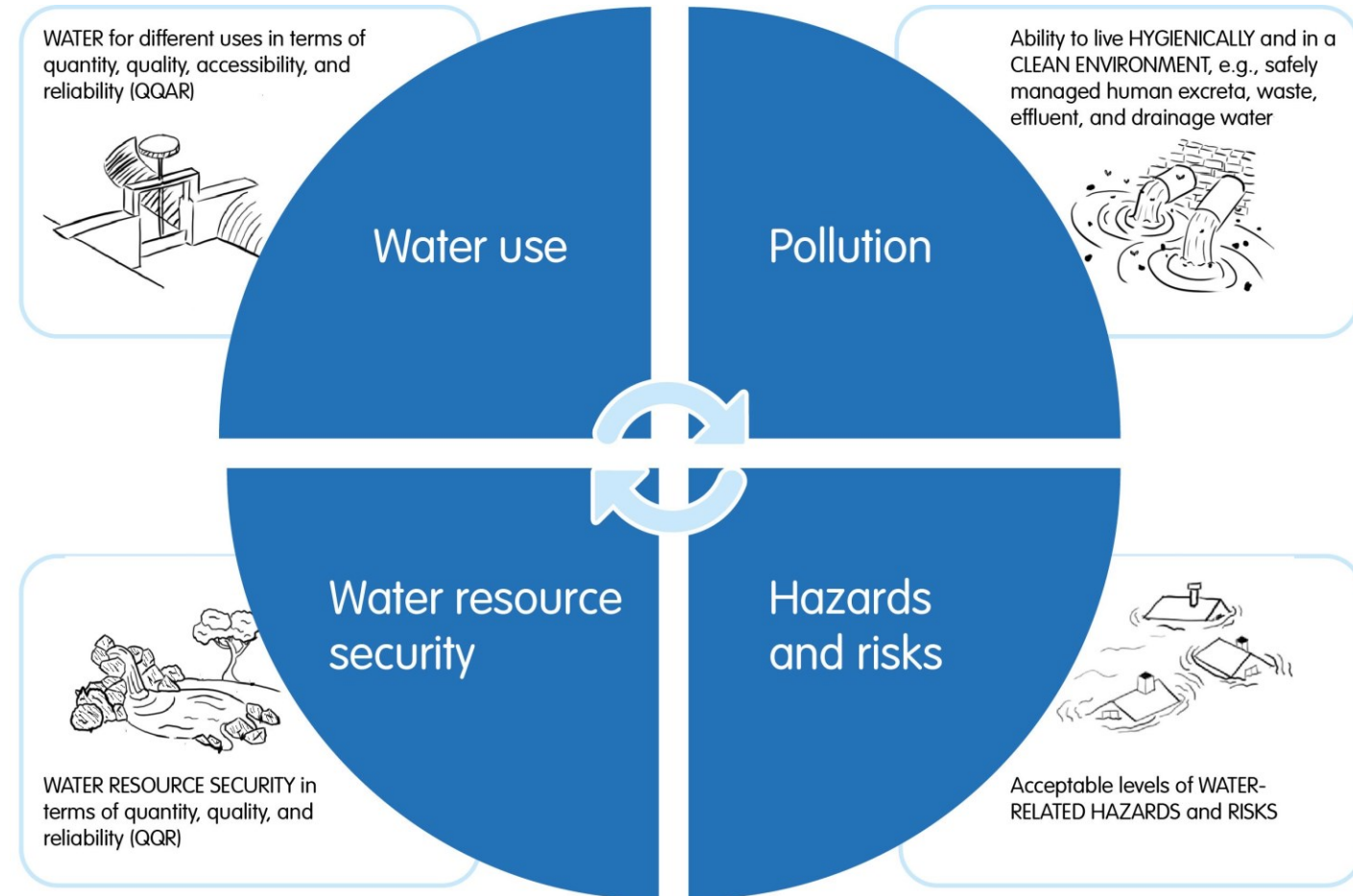## Water security for all

- the reliable availability of an acceptable quantity and quality of water for health, livelihoods, ecosystems and production, coupled with an acceptable level of water-related risks

WATER for different uses in terms of quantity, quality, accessibility, and reliability (QQAR)

Ability to live HYGIENICALLY and in a CLEAN ENVIRONMENT, e.g., safely managed human excreta, waste, effluent, and drainage water

Water use

Pollution

Water resource security

Hazards and risks

WATER RESOURCE SECURITY in terms of quantity, quality, and reliability (QQR)

Acceptable levels of WATER-RELATED HAZARDS and RISKS

Can we apply one water security concept across all main (sub-)sectors?

What do these dimensions mean in different sub-sectors?

	Rural WASH	Urban WASH (and water cycle)	Irrigation	Water resource management
Quantity, quality, accessibility, reliability of water use	Improved access and use of water supply	Improved access and use of water supply	Improved access and use of irrigation water	Compliant and responsible raw water withdrawal
Pollution	Basic and safely managed sanitation Basic and safely managed solid waste (Safely managed grey water) Hand washing with soap	Basic and safely managed sanitation Basic and safely managed solid waste Safely managed storm water and grey water Hand washing with soap	Safely managed irrigation drainage water	Compliant and responsible discharge into water bodies
Water-related risks and hazards	Acceptable level of risk for people living the area			
Water resource security (QQR)	Improved quantity, quality, reliability of water bodies on which people rely for water supply	reliability of water bodies… on which people rely for water supply	on which people rely for irrigation	for all uses and the natural environment

How are we going to measure that?

Water use | Pollution

Water resource security | Hazards and risks

A Hard Nut to Crack!

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Objectives of the training

1. Initiate a discussion about measurement of water security across different sub-sectors of water.

2. Co-develop metrics for all 4 dimensions of water security for different sub-sectors

3. Ground equity into the discussion about water security

Logic of the workshop

1. • Round of presentations and introductory presentation
2. • **Exploring** dimensions in micro-groups
3. • **Clashing** dimensions of different sub-sectors
4. • **Integrating** dimensions within one sub-sector
5. • Circling around water security
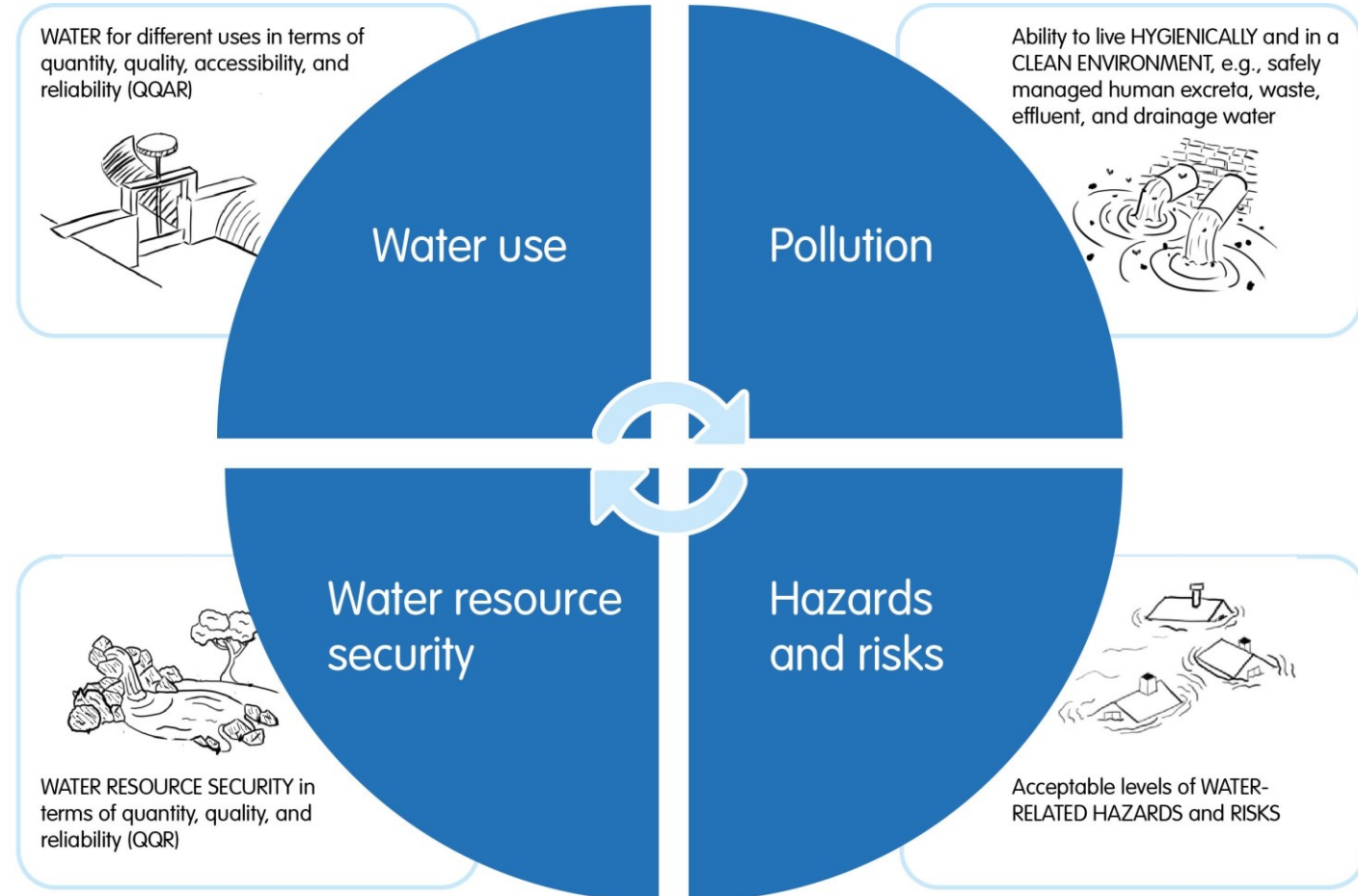6. • Remaining big questions
7. • Evaluation and closure

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Exploring, clashing, integrating water security dimensions

Water use

Pollution

Water resource security

Hazards and risks

FSTP built on solid waste dump in Khulna

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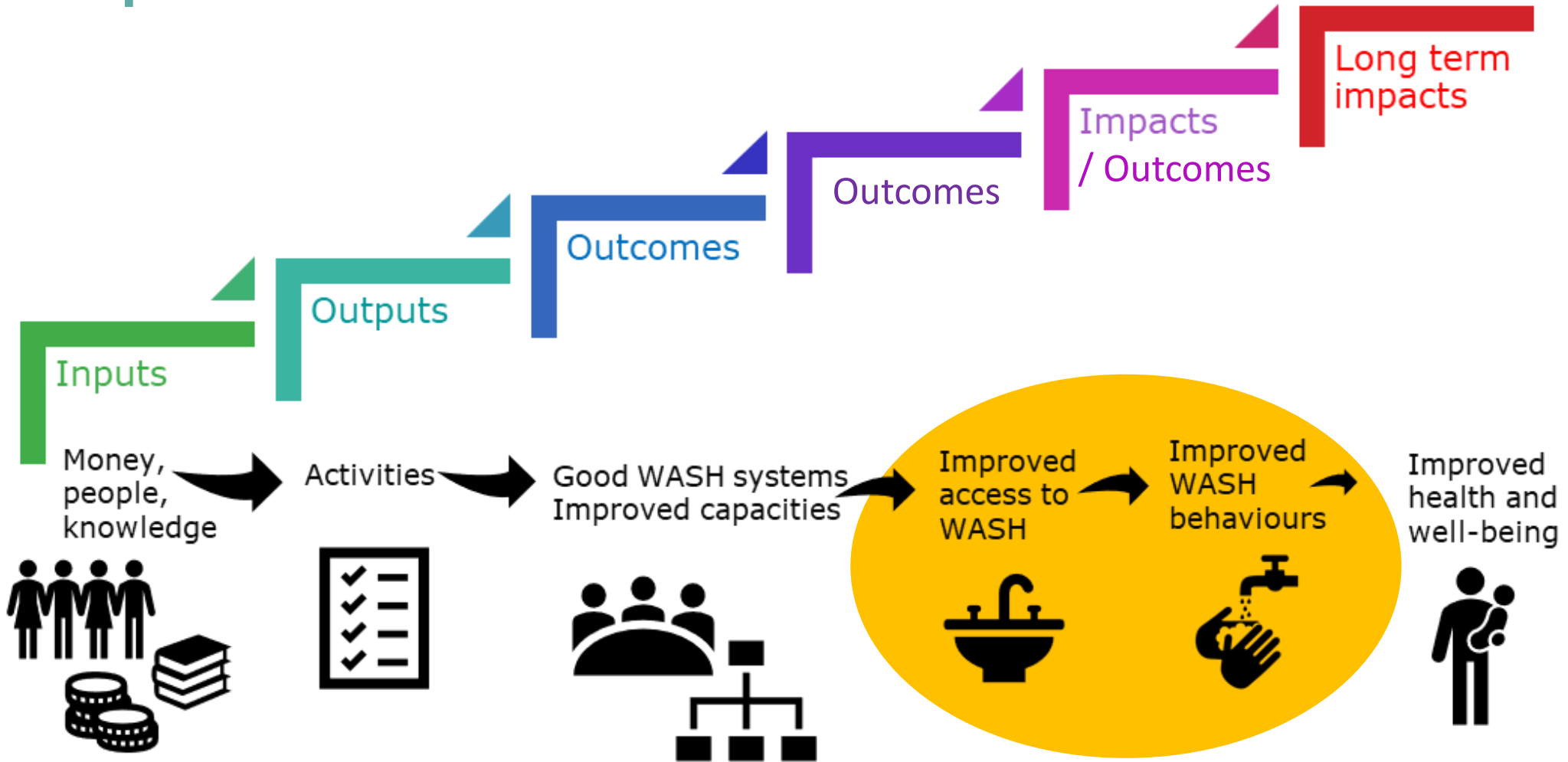# How to measure across different sub-sectors?

Water security for all

- the reliable availability of an acceptable quantity and quality of water for health, livelihoods, ecosystems and production, coupled with an acceptable level of water-related risks

WATER for different uses in terms of quantity, quality, accessibility, and reliability (QQAR)

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What can we learn from the WASH Sector?

Simplified WASH results chain…

What can we learn from the WASH sector?

- Ladder concept
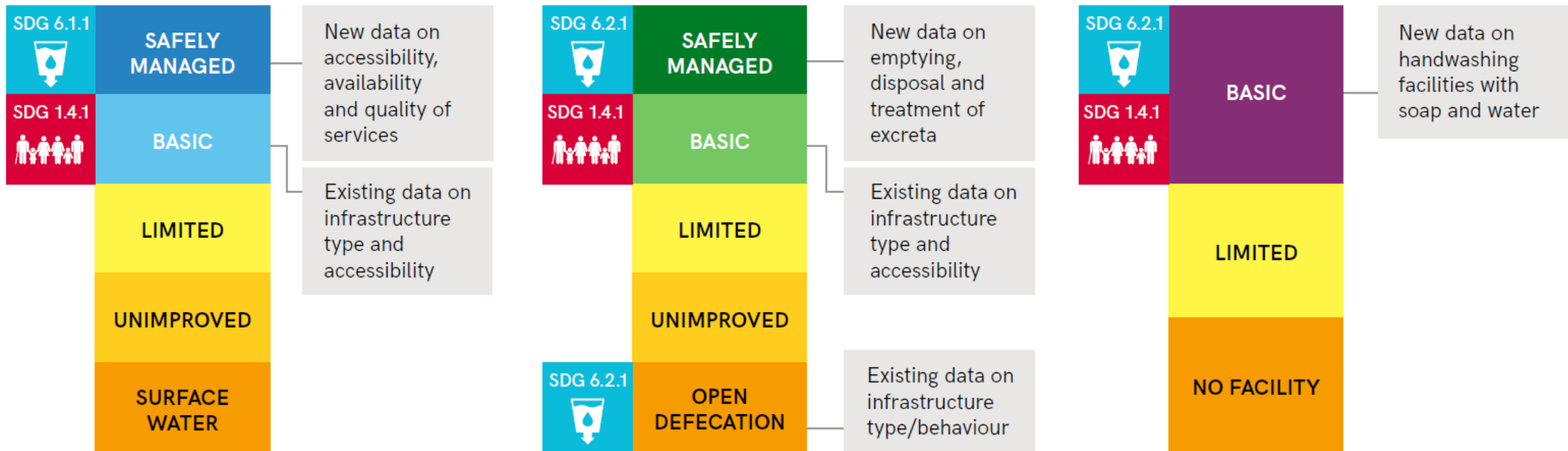- Measurement in numbers of people allows for analysis of disparities

Fig. 1 Updated JMP service ladders

What's different now?

- No norm per capita for water security

- More is not always better

- About fairness and sustainability, and relative to the context and type of use.

"Water security for all equally"

- Linked to WASH norms for domestic use

- Linked to agreed abstraction and pollution levels

- Linked to environmental standards

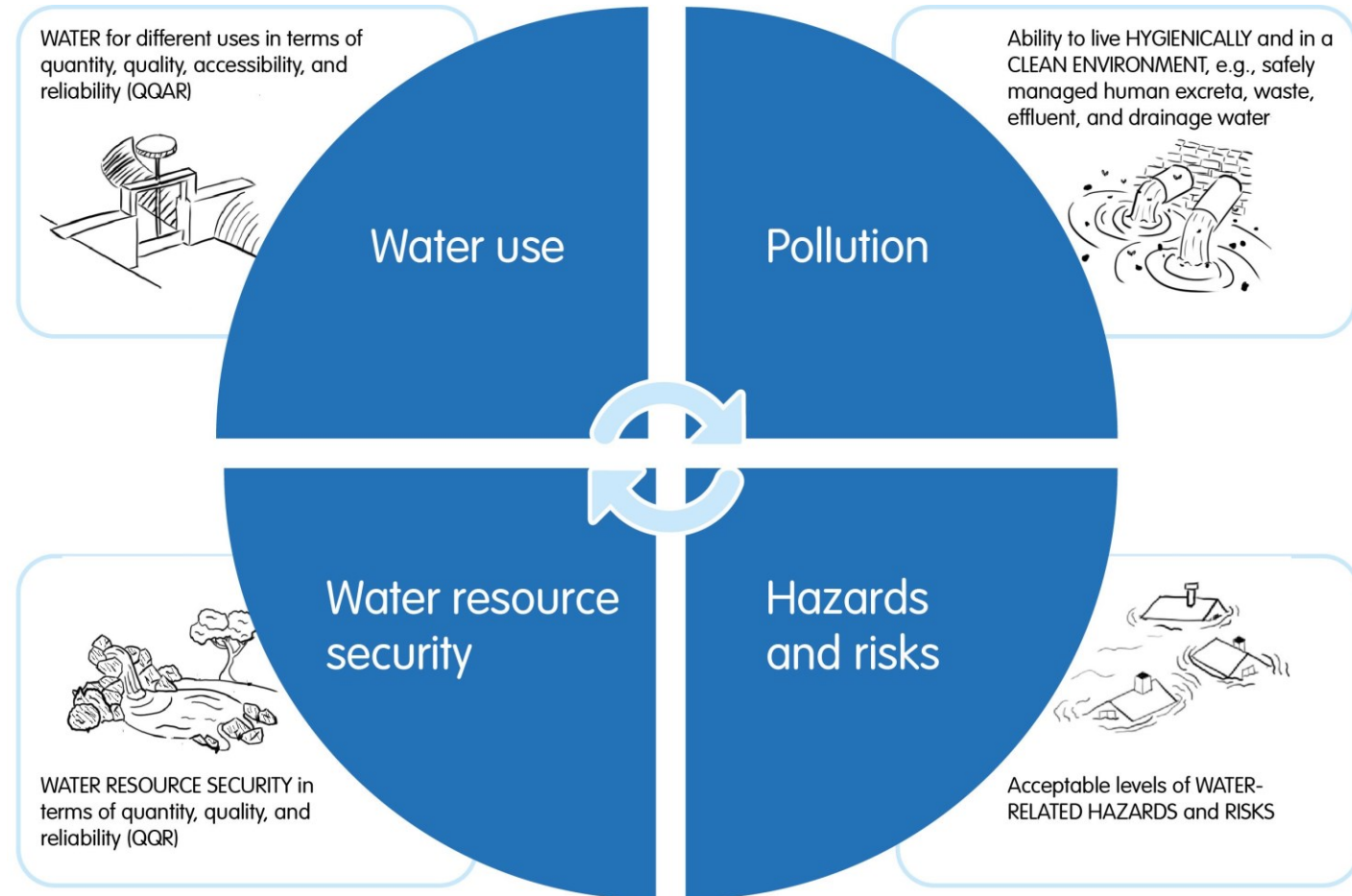- Link to what is acceptable and/or needed or agreed

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In summary, how are we going to measure that?

Ideally we measure:

- Actual dimensions, not practices leading towards...

- Situation today, not plans for the future

- Compliance with agreed levels

Ideally also:

- Expressing water security dimensions in "numbers of people"

- Methods scalable in resource poor context

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Assignment

Develop indicator definitions and indicative measurement methods per sub-sector for all 4 dimensions:

- **What** should we measure?

- **How** can we measure this?

- Would it allow to **analyse** inequalities in water security?
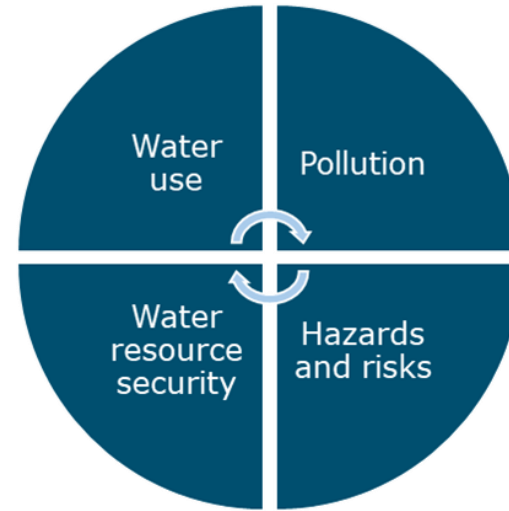
Recap of co-creation process

Developing all 4 dimensions of water security for 4 sub-sectors

Water resource management	Irrigation	Rural WASH	Urban WASH (and water cycle)

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Micro teams

Groups per dimension
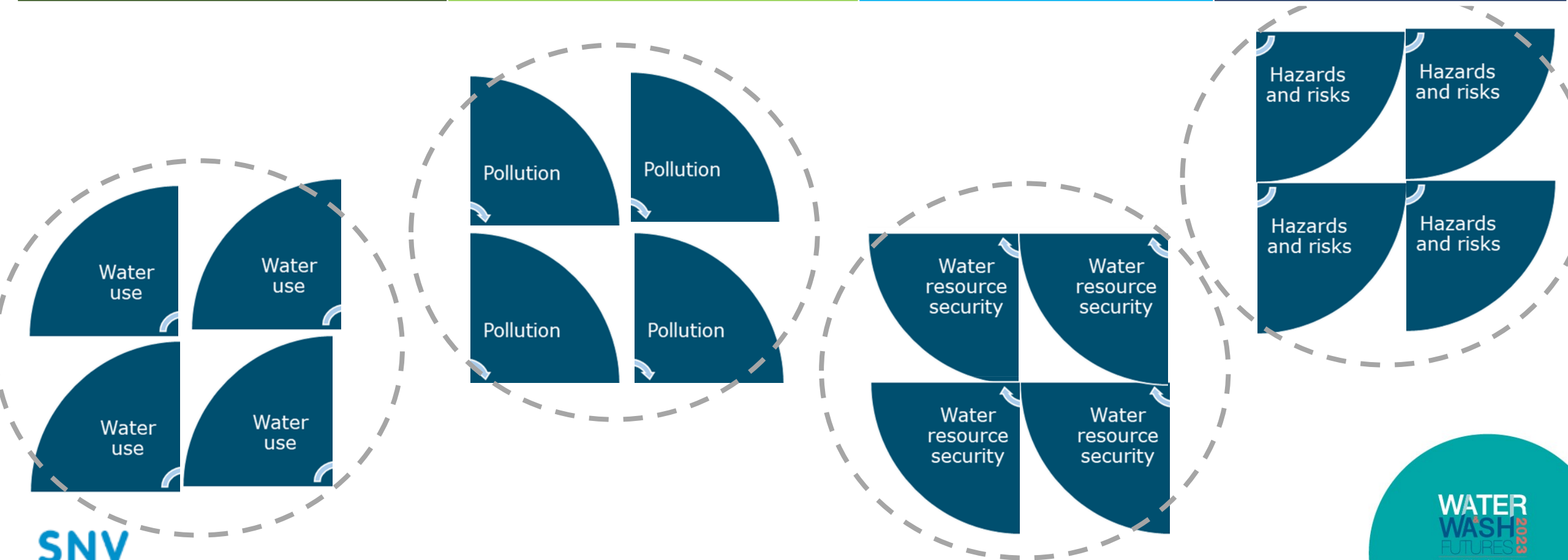
Sub-sector groups => Make flip chart!

Water resource management	Irrigation	Rural WASH	Urban WASH (and water cycle)

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