

# Circular Economy Principles Applied to WASH Service Systems

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# Why should we integrate circular economy into the way we think about WASH services?



For WASH, circular economy concepts can drive a focus on efficiency, optimisation, resource recovery and regeneration of nature.



Circular economy practices can directly contribute to achieving multiple **SDGs**

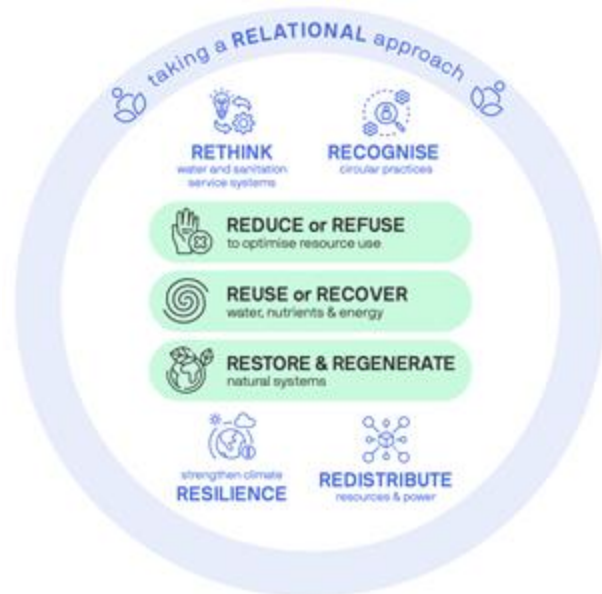
*Progressive realisation of climate resilient, inclusive, safely managed water and sanitation services that **align with, and contribute to**, broader sustainable development ambitions.*

# Who are we? This work builds on an international collaboration



# CIRCLE WASH Water for Women Research

## Concepts



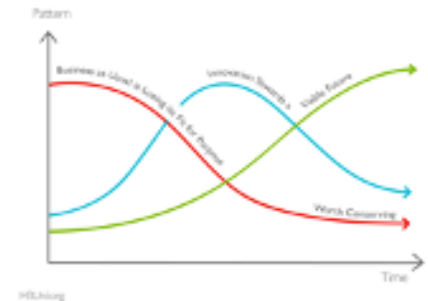
## Case studies

Ha Tinh, Vietnam  
Kiritimati Island, Kiribati



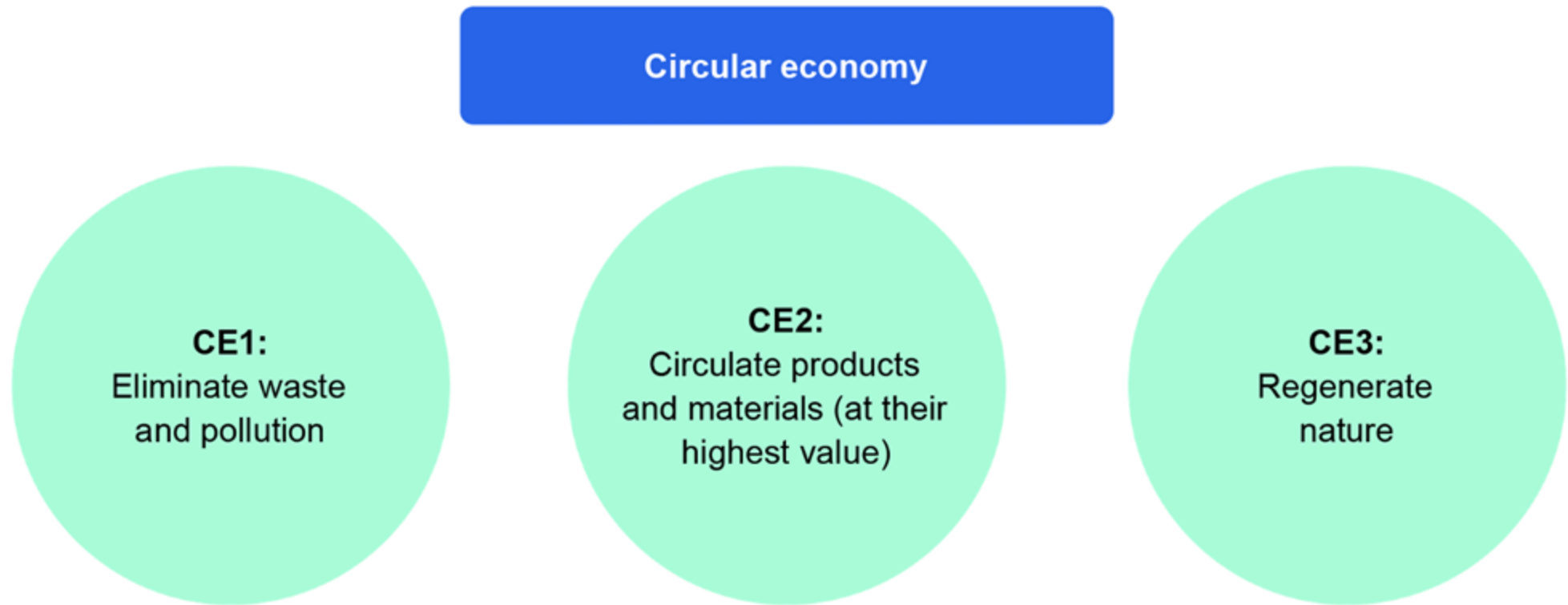
## Pathways

Collaborative visioning and knowledge co-production



# What is circular economy?

Circular economy is about **systems change** to decouple economic growth from the consumption of finite resources.





# Where to start? Systems change must be driven by principles

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To drive transformation, we must define the key **principles** underpinning our **ideal system**.

What principles help us think about how to harness circular economy in ways that achieve safe management, inclusion and climate resilience?

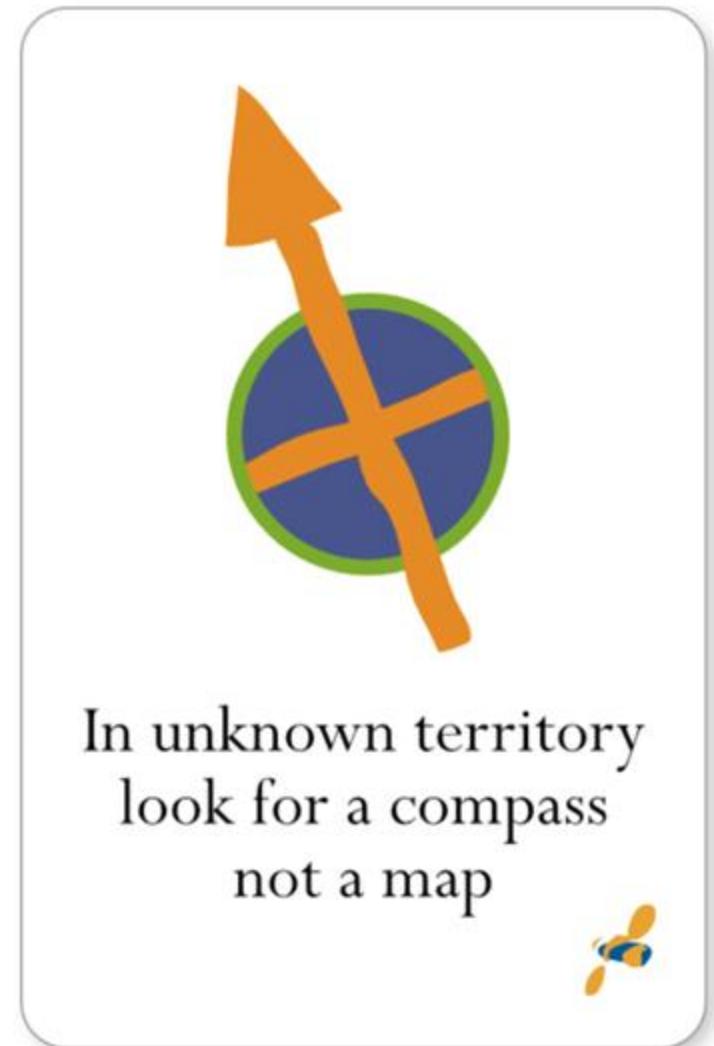
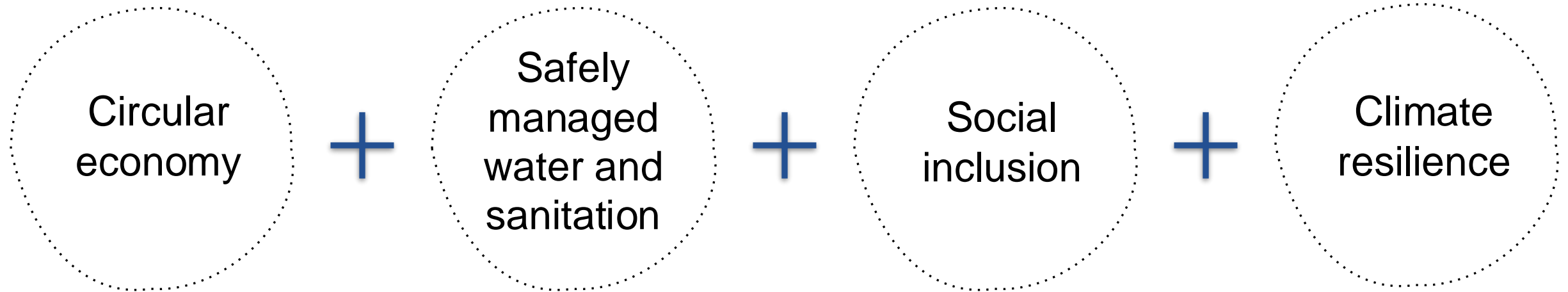


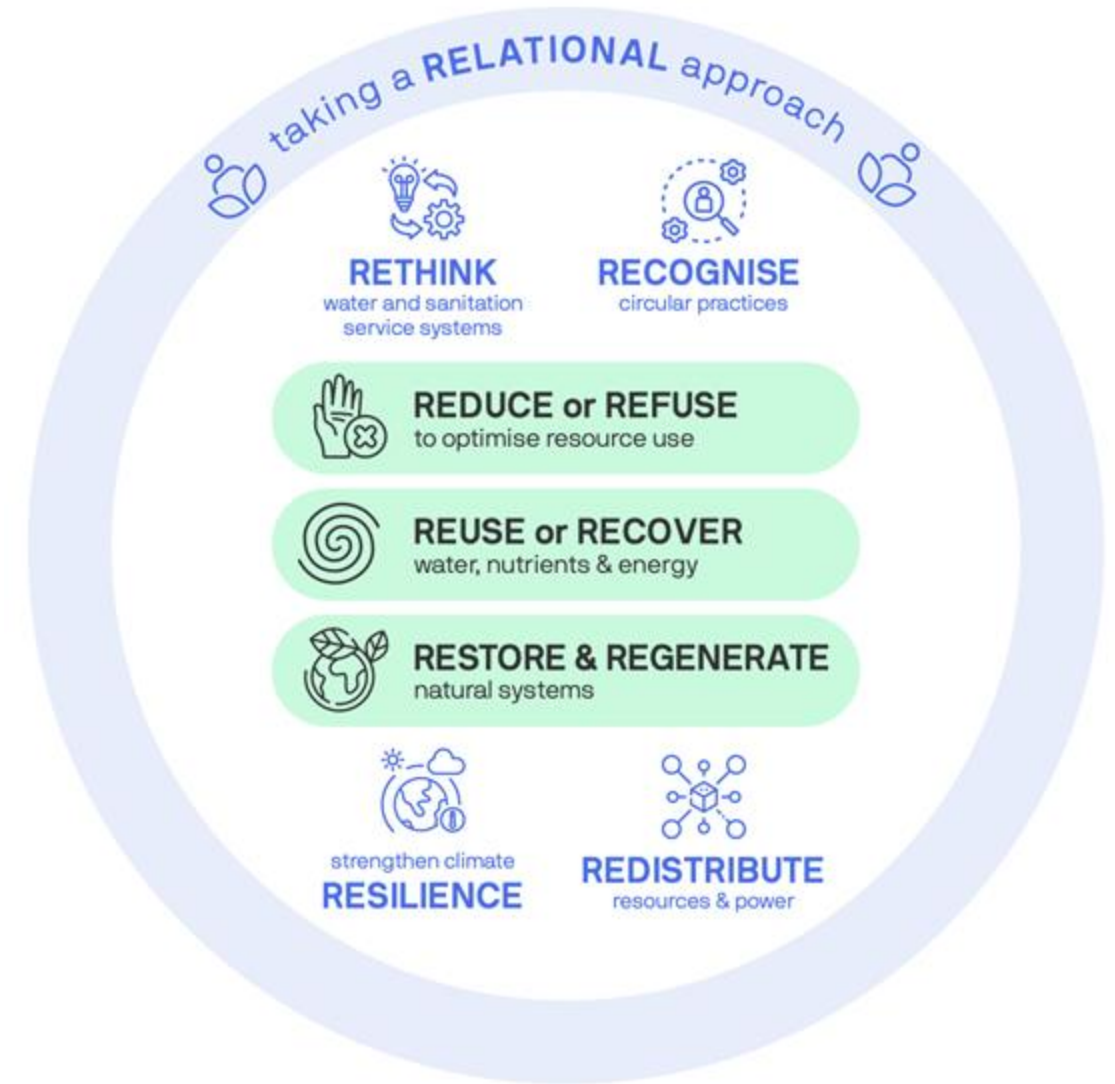
Image: IFF KitBag

# Where to start? Systems change must be driven by principles



# How can we move from principles to practice? The 8Rs framework

- A theory-based ‘thinking tool’ that everyone can use
- 8 R strategies that reflects the principles
- Supports locally-led application of circular economy strategies





# How can we move from principles to practice? The 8Rs framework

## Practical strategies



**REDUCE** or **REFUSE** is about eliminating waste and pollution.



**REUSE** or **RECOVER** is about circulating products and materials at their highest value.



**RESTORE & REGENERATE** speaks to the principle of regenerating nature.

## Purpose and process



**RETHINK** water and sanitation service systems



**RECOGNISE** circular practices



Strengthen climate **RESILIENCE**



**REDISTRIBUTE** resources and power

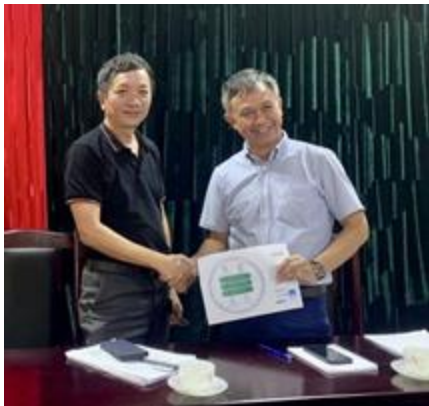


Take a **RELATIONAL** approach

# Using the 8Rs framework

What do the 8Rs bring up?

What principles do we need to think about?



Ideation about locally-relevant circular economy opportunities



Investigating promising opportunities



Planning and implementing opportunities

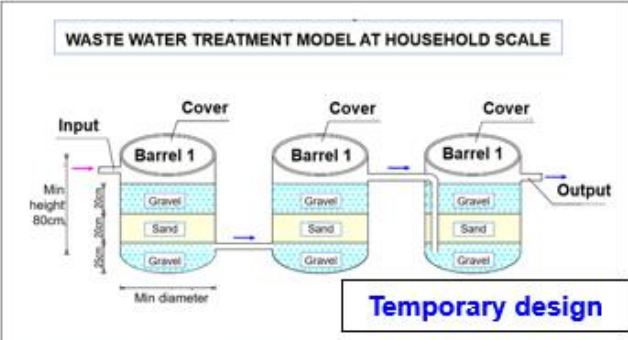


Evaluating activities against circular economy, inclusion and climate resilience principles



# Ha Tinh, Viet Nam

## Three-tank system for greywater treatment and reuse at household scale



**New rural development target  
2021-2025**  
**Grey water of 35% of HH treated**



8Rs



Negative impacts

Overflowing greywater causing pollution in flooding and bad smell in drought time



Positive impacts

Sludge and greywater treated for reusing as fertilizer and watering in gardening



8Rs





# Kiritimati Island, Kiribati





# Find out more



**UTS** **unicef**  
for every child

Learning Brief

## Circular Economy for WASH

Circular economy principles, when appropriately applied, can strengthen water, sanitation and hygiene (WASH) service systems. Increasingly seen as a way to achieve sustainable development, circular economy ideas encourage a focus on efficient resource use, recovery of valuable substances and regeneration of nature. How can circular economy ideas be applied to WASH in ways that drive multiple critical outcomes of sustainability, safe management, inclusion and climate resilience?

**Key messages**

- Circular economy is based on three principles: eliminate waste and pollution, circulate products and materials, and regenerate nature.
- For WASH, circular economy concepts can drive a focus on efficiency, optimisation, resource recovery and regeneration of nature.
- To achieve optimal outcomes, we need to align circular economy approaches with principles of safe management, inclusion and climate resilience.
- This learning brief shares key principles and strategies for driving circular, safe, inclusive and resilient services and introduces a new framework: 'The 8Rs Framework for Circular Economy Water and Sanitation'.

CIRCULAR ECONOMY FOR WASH

## Journal article (in press)

The 8Rs framework for circular water and sanitation systems: leveraging circular economy thinking for safe, resilient and inclusive services



<https://www.uts.edu.au/isf/explore-research/international-development/water-sanitation-and-hygiene-wash/circle-wash>

## Get in touch



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