



the international
water association

Water Security: Governance, Economic Development and Finance

04 DECEMBER 2024

inspiring change

WELCOME



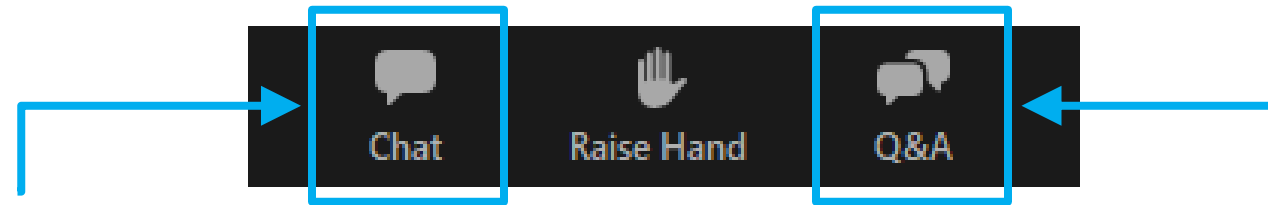
ERIN JORDAN (IWA) - Strategic Programmes Officer - Strategic Programmes & Engagement

WEBINAR INFORMATION



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WEBINAR INFORMATION



- **‘Chat’ box:** please use this for general requests and for interactive activities.
- **‘Q&A’ box:** please use this to send questions to the panelists. (We will answer these during the discussions)

Please Note: Attendees’ microphones are muted. We cannot respond to ‘Raise Hand’.

AGENDA AND CONTEXT



JAN HOFMAN (UNIVERSITY OF BATH) – WATER INNOVATION AND RESEARCH CENTRE

WATER SECURITY: GOVERNANCE, ECONOMIC DEVELOPMENT AND FINANCE | Webinar 2

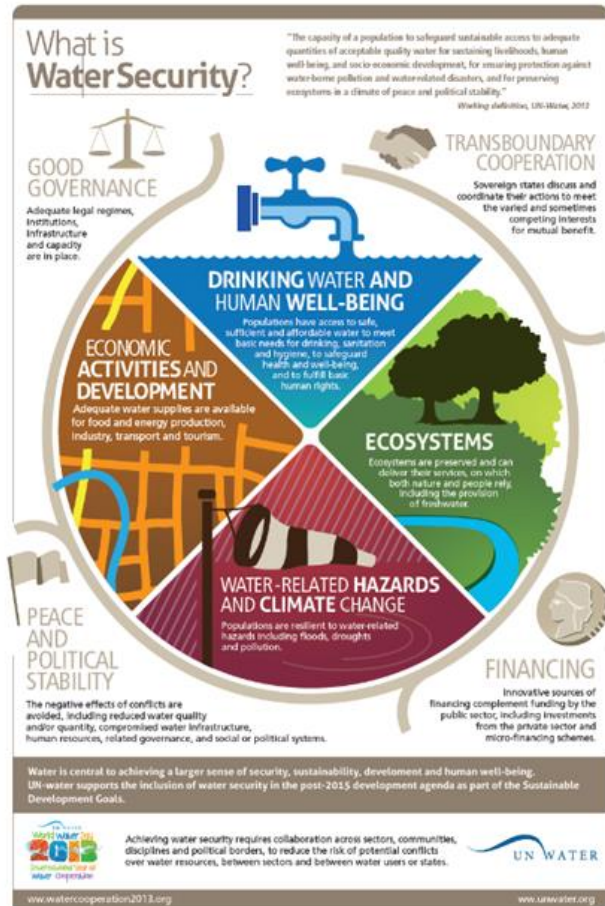


- Agenda

Topic	Speaker	Time
Welcome	Erin Jordan (IWA)	13:00-13:05
Introduction	Jan Hofman (University of Bath)	13:05-13:10
Presentation 1	Amgad Elmahdi (Green Climate Fund)	13:10-13:20
Presentation 2	Oriana Romano (OECD)	13:20-13:30
Presentation 3	Noor van Dooren (KWR Water Research Institute)	13:30-13:40
Question and Answers	Jan Hofman (University of Bath)	13:40-13:55
Closing	Erin Jordan (IWA)	13:55-14:00

WATER SECURITY: GOVERNANCE, ECONOMIC DEVELOPMENT AND FINANCE | Webinar 2

What is water security



Definition

Ensuring sustainable access to adequate quantities of water of acceptable quality to support livelihoods, human well-being, and socio-economic development.

Challenges

Impacts of climate change (droughts, floods) – Pollution – Excessive extraction of water resources

Importance

Essential for health and hygiene – Supports agriculture and food security – Vital for industrial processes and energy production.

WATER SECURITY: GOVERNANCE, ECONOMIC DEVELOPMENT AND FINANCE | Webinar 2

GOVERNANCE

Key elements

- Policies and regulatory frameworks
- Institutional arrangements and stakeholder participation
- Integrated Water Resources Management



Best practices

- Transparent decision-making
- Community engagement and empowerment
- Intersectoral collaboration and coordination



Challenges

- Fragmented governance structures
- Lack of enforcement and compliance
- Political and economic constraints



WATER SECURITY: GOVERNANCE, ECONOMIC DEVELOPMENT AND FINANCE | Webinar 2

ECONOMIC DEVELOPMENT

Role of water in the economy

- Agriculture: irrigation and crop production.
- Industry: Manufacturing & Processing
- Energy: Hydropower and cooling for thermal power plants



Economic Benefits

- Job creation and livelihoods
- Increased productivity and competitiveness.
- Attracting investment and tourism



Challenges

- Balancing water use across sectors
- Addressing water scarcity and allocation conflicts
- Ensuring sustainable and equitable access



WATER SECURITY: GOVERNANCE, ECONOMIC DEVELOPMENT AND FINANCE | Webinar 2

FINANCE

Sources of funding

- Government budgets and public financing
- International aid and development grants.
- Private sector investments and public-private partnerships (PPPs)

Source

Financial mechanisms

- Water prices and tariffs
- Conservation subsidies and incentives
- Innovative financing (e.g., green bonds, water funds)

Source

Challenges

- Ensuring affordability and equity
- Mobilizing sufficient and sustainable financing
- Manage financial risks and uncertainties

Source

WATER SECURITY: GOVERNANCE, ECONOMIC DEVELOPMENT AND FINANCE | Webinar 2

PANEL

PRESENTATION



Amgad Elmahdi

Dr Amgad Elmahdi is a senior executive manager for water and natural Resources management and climate Finance at the UNFCCC's Green Climate Fund. In his over 25 years' experience in the sector, he had several roles in research, development, operations and finance. Dr Elmahdi is also chair of the IWRA task force on Water Security.

(Finance for Water Security)

Oriana Romano

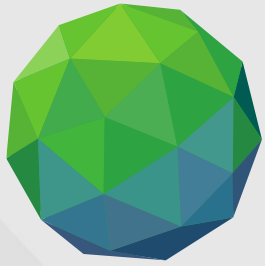
Dr Oriana Romano is the Head of Unit in the OECD-OCDE where she is responsible for the development of the Water Governance, Blue Economy and Circular Economy programmes.

(Governance and Water Security)

Noor van Dooren

Ms Noor van Dooren is a researcher at KWR Water Research Institute. Her research focuses on the social environment of water, particularly the perception of water in the circular economy. She also uses the City Blueprint approach to map water urban water management and governance.

(Governance capacity assessment for Water Security)



GREEN
CLIMATE
FUND

Mobilizing Climate Finance Challenges and Opportunities

Dr Amgad Elmahdi

Aelmahdi@gcfund.org

MENA-Regional Manager
Chair of Water Security -IWRA

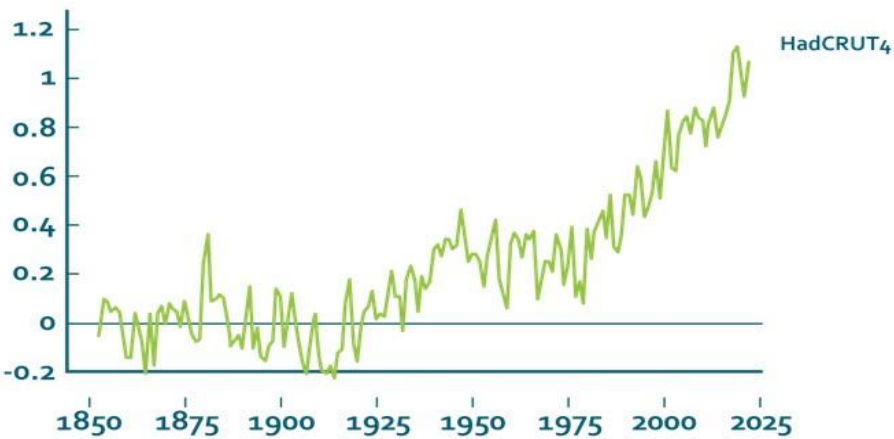
Why we need Finance



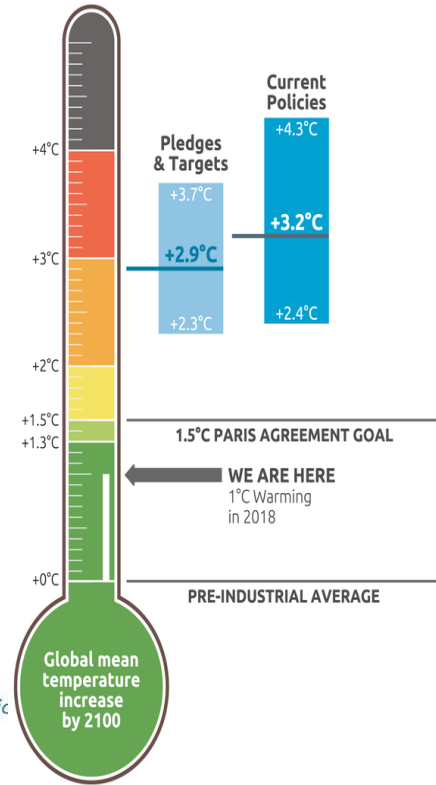
The Climate crisis: Where we are

Temperature rise since 1850

Global mean temperature change from pre industrial levels, °C



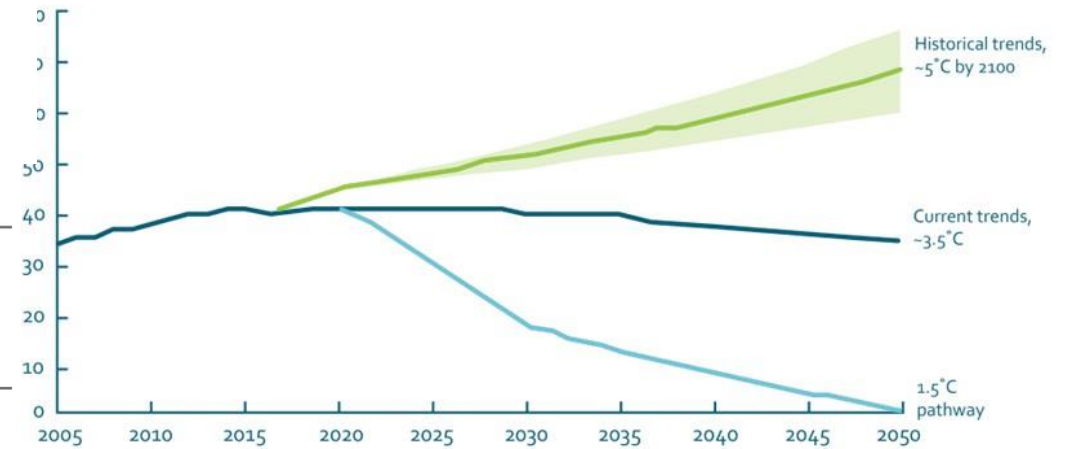
Source: UK Met Office



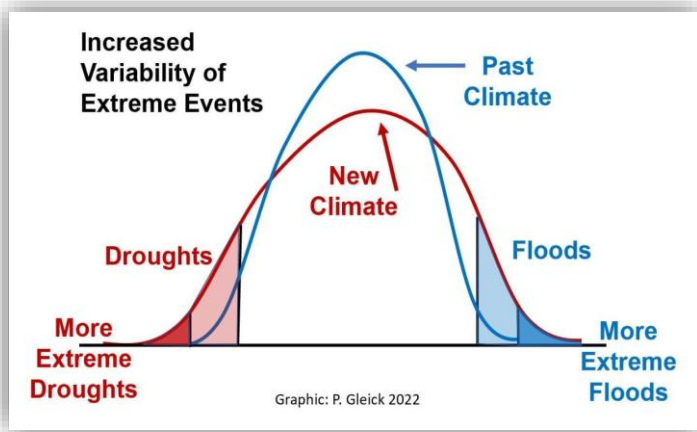
Global mean temperature increase by 2100

What needs to be done

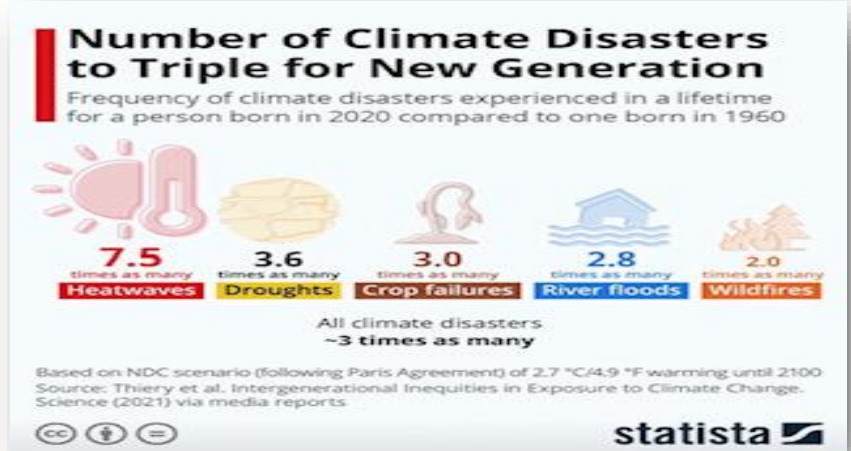
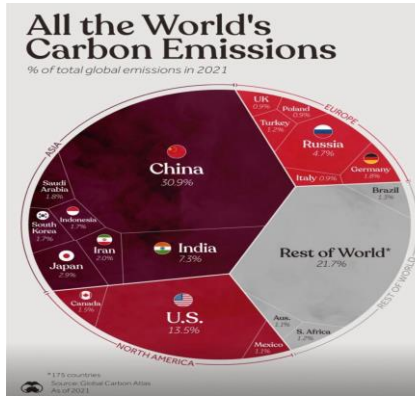
Projected global CO₂ emissions, billion metric tons of carbon dioxide (GtCO₂) per year



Source: UNFCCC



Graphic: P. Gleick 2022

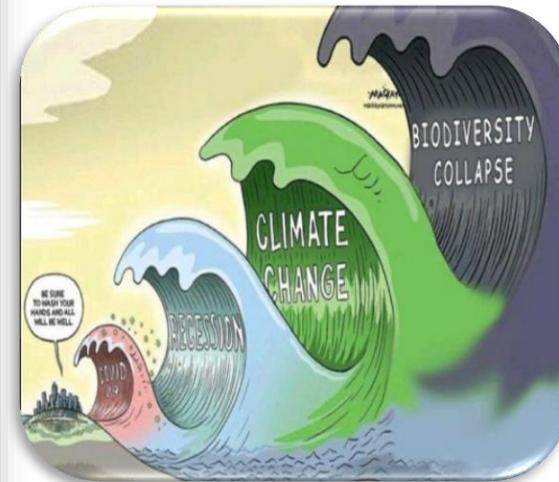
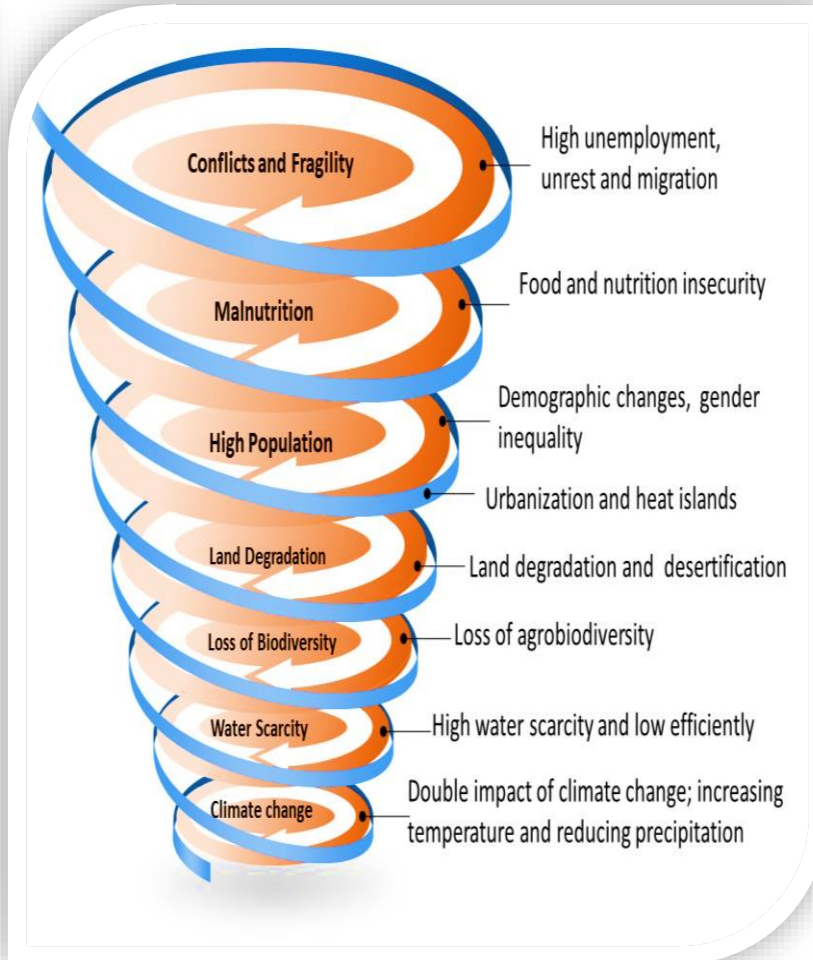
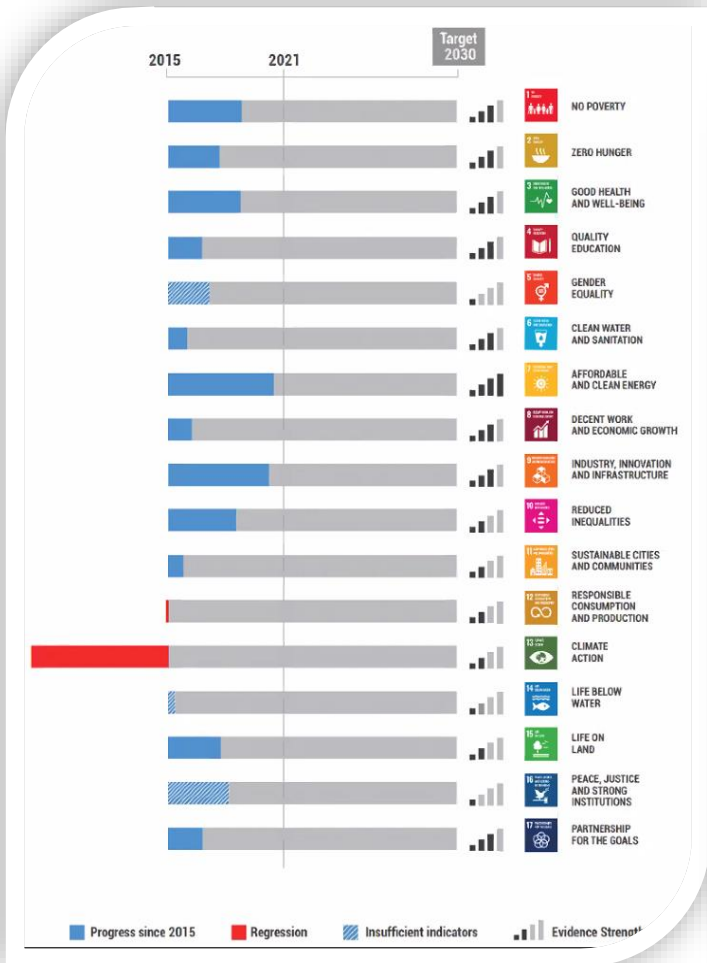


Based on NDC scenario (following Paris Agreement) of 2.7 °C/4.9 °F warming until 2100
Source: Thierry et al. Intergenerational Inequities in Exposure to Climate Change. Science (2021) via media reports



We need to Act Fast :Financial Need!

A Systemic Crisis Requires a Systemic Approach!!!



We only have 6 Years to harvest



Barriers to Financing Water Security Projects

Identifying the 'True Cost' of Water

Even though groundwater is FREE, there are hidden costs...

- Pumping Cost
- Chemical Costs
- Water/Wastewater Treatment
- Product Wastage
- Heating Costs
- Steam Losses Cost

Under-pricing of water: Water is a **public good** and generally an under-valued resource, **not properly accounted** for by the government and the investors that depend on or affect its availability in other sectors such as urban development, agriculture, and energy.

Water services are often under-priced, resulting in low cost-recovery for water investments.

Capital-intensive Water resources, irrigation, water supply, and wastewater **infrastructures** are generally **capital intensive**, with **high sunk costs** and **long pay-back periods**.

Difficulty of monetising benefits: Water management **provides both public and private co-benefits**, many of which cannot be easily monetised. This reduces potential revenue flows.

Context-specific projects: Water projects are often **too small or too context-specific**, raising transaction costs and making innovative financing models difficult to scale-up.

Poor business models: Business models often fail to support **O&M efficiency**, hampering the ability to sustain service at least cost over time.

Who we are and How we drive change



01

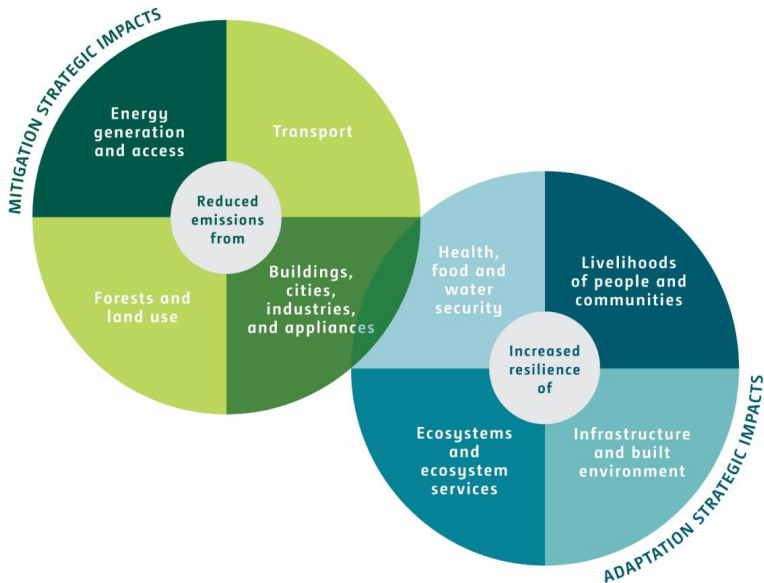
The world's largest climate fund

02

Set up by the UNFCCC, and serving the Paris Agreement

03

Supporting developing countries to transition to low-emission, climate-resilient societies



01

Transformational planning



02

Catalyzing innovation



03

Mobilizing finance



04

Coalition and Knowledge to Scale-up Success



Integrated climate development policies promoting climate finance coherence.

Technology development and transfer with enabling institutional environments, including conservation, preservation, sanitation asset class, EbM, and smart utilities

scaling-up successful climate investments to de-risk investments through strengthening domestic capital markets and climate financing institutions

creating and sharing knowledge to harmonise valuation methodologies with climate risks built into financial decisions for sustainable development.

GCF Focus and Investment Criteria



Climate Rationale and Additionality

Additionality of GCF Funding

- Why GCF?
- Projects must crowd-in additional financing on top of GCF

Strong Climate Rationale

- Climate Impact of investment is key
- Scientific evidence to provided

8 Results Areas



Energy

Transport



Buildings, Cities, Industries

Ecosystems



Livelihoods of people & comm

Health, food and water security



Forests and land use

Infrastructure

Compliance with GCF Policies

- Fiduciary standards
- Risk Management
- ESS
- M&E Criteria
- Gender Policy
- Legal Standards

Completeness of documentation

- Feasibility study
- Financial Model
- Project Timetable
- Gender Analysis
- Environmental studies
- No-objection letter

Country Driven Approach

- Alignment with NDCs
- Early country (NDA) engagement
- No-objection letter

Six Investment Criteria

1. Impact Potential
2. Paradigm Shift Potential
3. Sustainable development potential
4. Recipient needs
5. Country ownership
6. Efficiency & effectiveness



GCF Overview Financial Instruments and Programming



A FLEXIBLE RANGE OF INSTRUMENTS



Loans



Guarantees

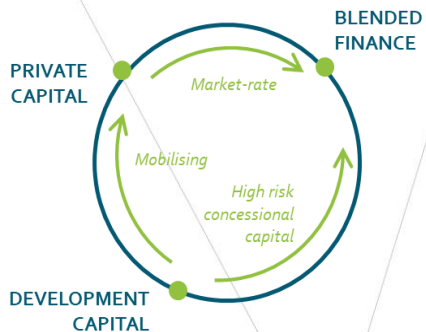


Equity



Grants

TO MAKE BLENDED FINANCE WORK



National Adaptation Plan: One-Off \$3 M / country

Country Readiness: \$4M/4 yrs

Project Preparation Fund: \$1.5 million / Proposal

Micro: < USD 10 million
Small: USD 10-50 million
Medium: USD 50-250 million
Large: > USD 250 million

SAP Project : \$25 million

NDCs
NAPs

LEDs
TNA

Country and Entity Programmes

READINESS

PPF

FP

GCF pipelines

Sector Guides

Project Concept Notes

What sectors, what projects are a priority for the country?

Are there any gaps for identifying or strengthening entities?

Which entity(ies) is the most suitable to deliver the pipeline?

Paradigm Shifting Pathways WATER SECURITY: SDG6 meets SDG 13



Pathway 1: Enhance water conservation, water efficiency and water reuse (Mostly Mitigation)

Pathway 2: Strengthen integrated water resources management – protection from water-related disasters, preserve water resources and enhanced resilient water supply and sanitation (Mostly Adaptation)



Demand Management

- Reduces energy & emissions from treating less water and developing alternative water supplies,
- Reducing non-revenue water losses
- Promoting water saving fixtures
- Water re-use systems for irrigation



Smart-Digital water Management

- Enhances efficiency of water management,
- Smart water meters for monitoring daily water consumption and real-time leak detection
- Automated irrigation



Ecosystem-based Management (EbM)

- Reduce flooding impacts
- Mitigate droughts
- Improve water quality



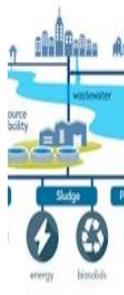
Alternative water sources

- Water re-use systems can utilize greywater, blackwater, rainwater harvesting, and stormwater harvesting for **non-potable uses**, including Cooling buildings, irrigating landscapes, and flushing toilets



Decentralized models

- Large-scale water re-use / water recycling models can be tailored to meet the water quality requirements of a planned use:
- Agricultural irrigation
- Replenishing groundwater basins (MAR)



Resource Recovery

- From wastewater: Biogas from anaerobic digestion and thermal conversion of biosolids
- Treatment plants also provide opportunities for solar PV, floating solar, wind etc.

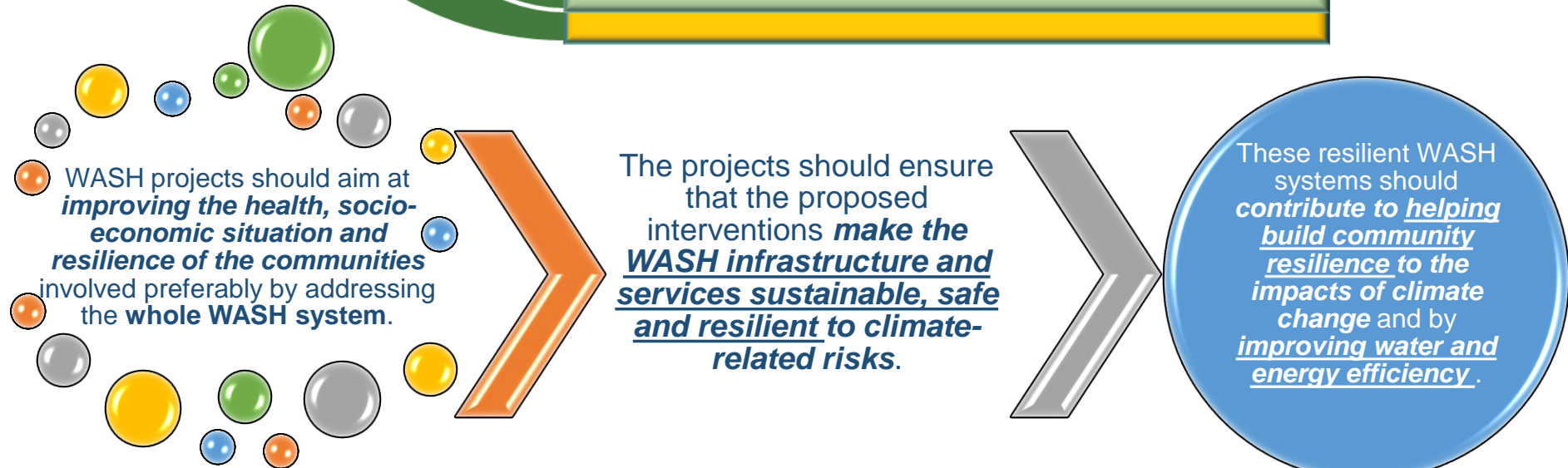
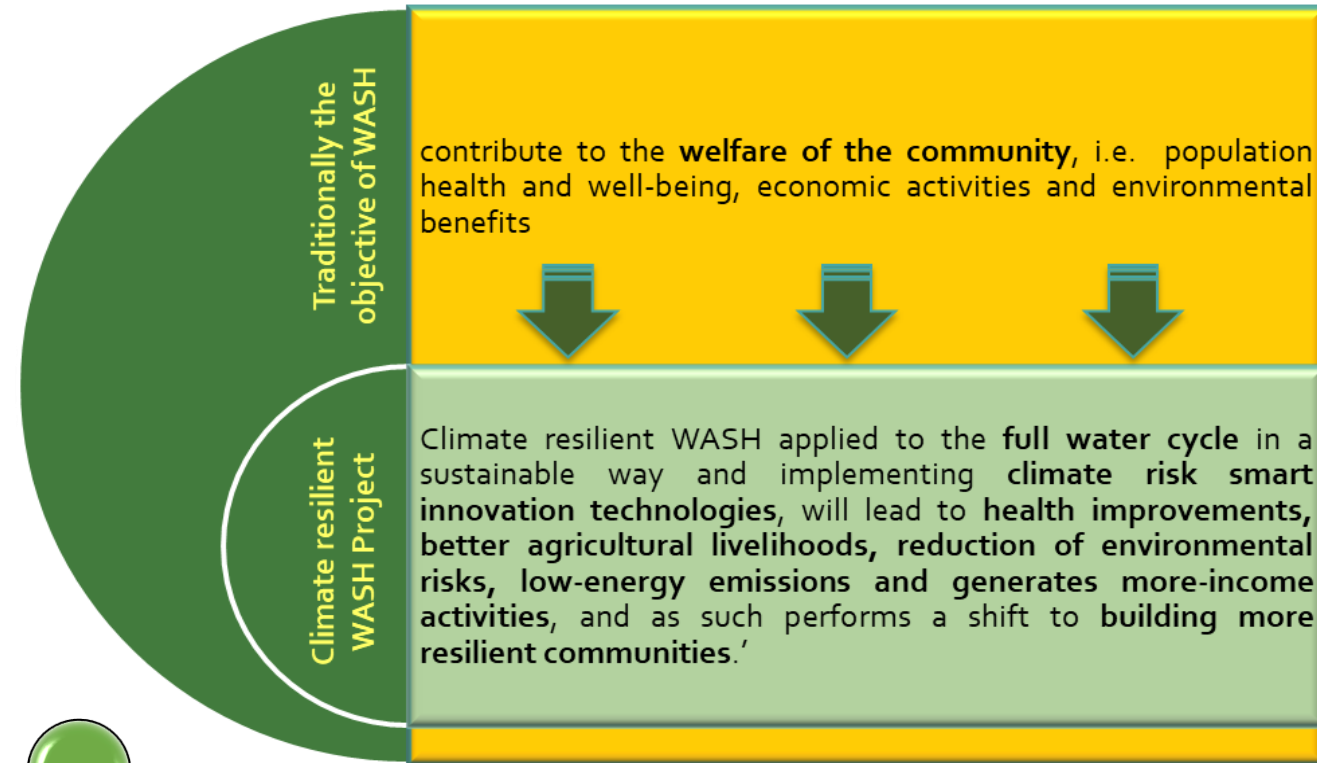


Integrated Water Resources Management (IWRM)

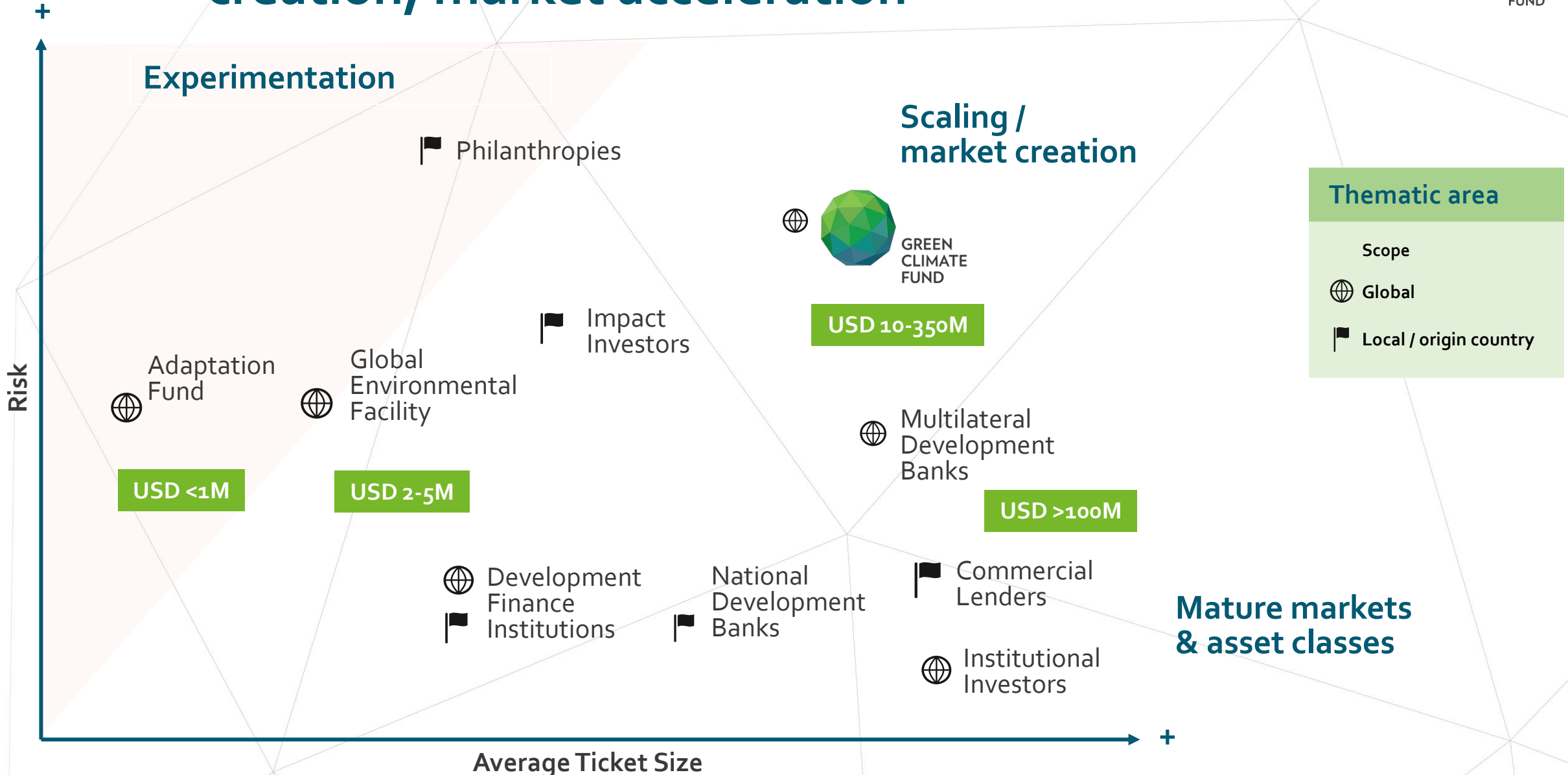
- coordinated development and management of water, land and related resources to **maximize sustainable development**
- involves **preserving** water in the water cycle using circular economy-thinking, e.g., water efficiency in agriculture
- Involves **adaptive planning** across land and water to ensure water security for both humans and nature in a changing climate



Climate Resilient WASH projects: for GCF Funding



GCF's size and risk appetite enables market creation, market acceleration



Thematic area

Scope

- Global
- Local / origin country

Co-Investment Platform-Water

South Africa- Water Resources Program-WRP USD 1.5 B Project



Co-Investment Platform by the **GCF**, and **DBSA** (As Imp Entity) and **donors with others as EE** to enable coordination, develop pipeline and identify pilots for Water Asset Transitions for water reuse

Transformational Water Asset Program Coordination

Sources (USD mil)	
GCF (Grant)	35
GCF subordinated loan	200
National Treasury, Municipalities and SA (Grant)	187
Infrastructure Fund (subordinated Loans)	150
DBAS, DFIs (senior Loans)	650
Senior investors* (Equity)	200
Guarantee*	50
Total	1,472

Co Finance
USD 1:5.6

TA Facility: Pipeline development
(funded via GCF/donor co financing)
GRANT (30+30 M)

Project preparation support to progress municipal reuse projects to bankable stage

Coordination & Capacity Building Facility
GRANT (5+5M)

Capacity Development and Information Communication Education Program

Blended Finance Facility
LOAN (200M +1.2B)

Blended finance solution to address market constraints and play a catalytic role to increase climate related water reuse investments and create a new financial asset class around reuse infrastructure in SA

Key Outputs

Enabling environment, policies, frameworks

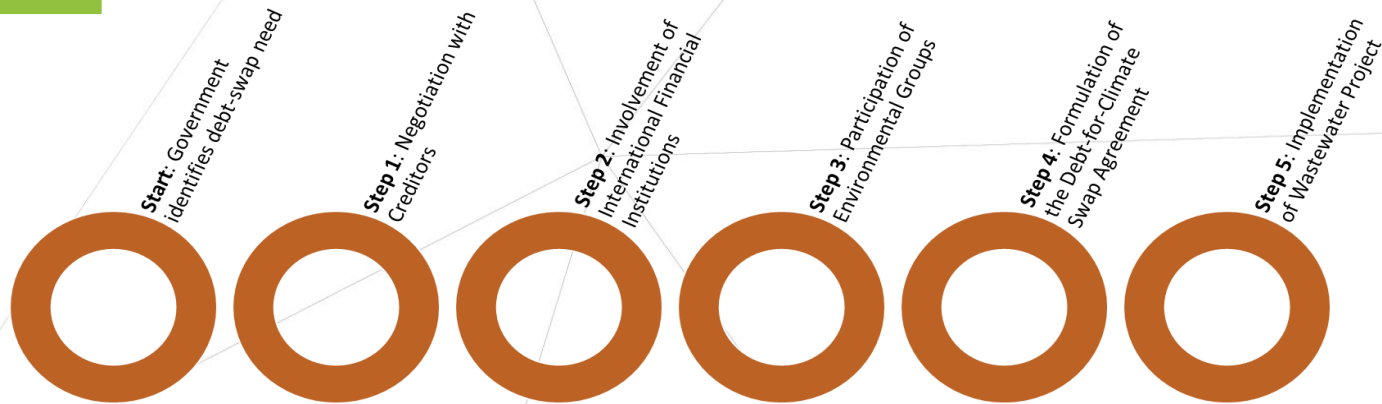
Pipeline development and maturation with DAE

Innovative approaches development for Water Reuse and scaling up

Investments-Scaled up Finance for Water Sector

Coordination, learning and knowledge

Structural Framework and Stakeholder Roles in Debt-for-Climate Swap Agreements for Wastewater Projects - **Without GCF**



- **Governments:** typically taking on project implementation,
- **Financial institutions:** providing oversight and funding,
- **Environmental groups:** offering technical expertise and monitoring



PROPOSED ROLE OF **GCF** IN STRUCTURING DEBT SWAPS IN UPSCALING WASTEWATER PROJECTS

Innovative Finance



Technical Assistance for Designing Projects and Enhancing Institutional Capacity: GCF provides TA to strengthen local institutions, enhancing their ability to manage swap agreements and environmental project

Financial Support (Grants/Concessional Loans): GCF offers financial support for the project, including upfront construction cost

Monitoring & Evaluation: GCF conducts oversight to ensure the project's objectives are met with transparency and efficiency.

Take home Messages



GCF supporting the countries to meet the Paris Agreement through:

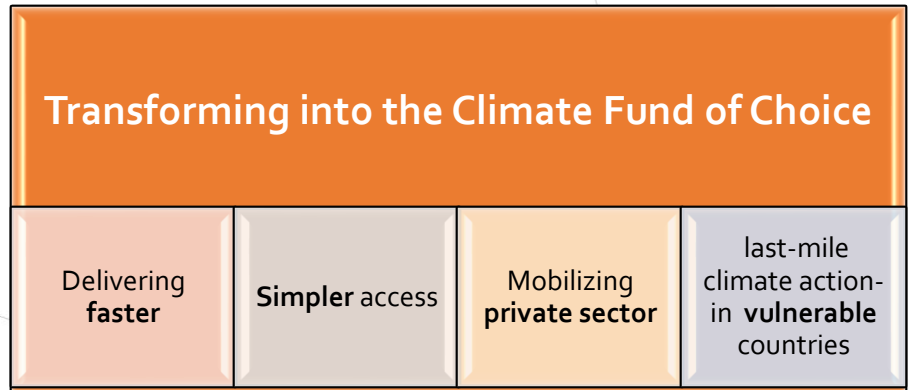
- No of mechanisms (*NAP, Readiness program, PPF, FP*)
- Several financial instruments (*Grant, Loans, Equity, Guarantees*) and *blended finance*

The Sector Guides, layouts the strategy for GCF investment in the sector

- *Water, Food security, Health, Transport, Cities, Energy, Education, etc*

GCF can *de-risk investments and mobilize the private sector, improve security and community resilient while help reduce the GHG emissions and support carbon market* by:

- *Support countries develop, adapt policies and legislation* to creates an *enabling investment environment* to identify, design, and implement public and private *funded transformational water security interventions as a new asset class*
- *Finance the transition* and *de-risk private* investment in *address financial market barriers and ensure affordability and bankability* to unlock water reuse and desalination investment,
- Supporting *new financial models accompanied with acceptable revenue* in line with Paris agreement targets and SDG



Thank You



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the 2023 Annual
Report*

Dr Amgad Elmahdi
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Water governance: an OECD perspective

ORIANA ROMANO
HEAD OF UNIT
WATER GOVERNANCE, BLUE AND CIRCULAR ECONOMY
CENTER FOR ENTREPREURSHIP, SMES, REGIONS AND CITIES
OECD

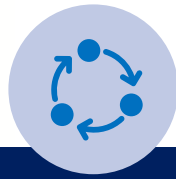


The OECD Water Governance Programme

OBJECTIVES



Providing policy advice



Exchanging knowledge



Implementing policy standards



Raising the profile of water governance in the global agenda

A DECADE OF WORK



GLOBAL NETWORK





CHANGES IN THE GLOBAL LANDSCAPE AFFECTING WATER MANAGEMENT



Water challenges for the future

Megatrends

- Demographic growth
- Urbanisation
- Economic trend
- Pollution
- Climate change



9.7 billion
global
population by
2050 (UN,
2022)



68% of the world
population will be urban
by 2050 (UN, 2018)



80% of global GDP
generated in cities
(World Bank, 2023)



70% of global CO2
emissions are from urban
areas (IPCC, 2022)



Billions of people living in
cities will be at risk from
climate-related events
(C40 Cities)

Impacts on water security

Global issues,
local impacts



Increasing demand

- **30%** increase in global water demand by 2050
- **80%** increase in urban water demand by 2050



Lack of water and sanitation

- **2.2 billion** people lacking safely managed drinking water
- **3.5 billion** people lacking safely managed sanitation
- **2.2 billion** people lacking basic hand-washing facilities



Urban and rural divide

- **86%** of urban and **60%** of rural areas had access to safely managed drinking water
- **62%** of urban and **44%** in rural areas had safely managed sanitation services



Climate change exacerbate water risks

- **+90%** of "natural" disasters are water-related
- **57%** of the global population will be living in water-stressed areas by 2050

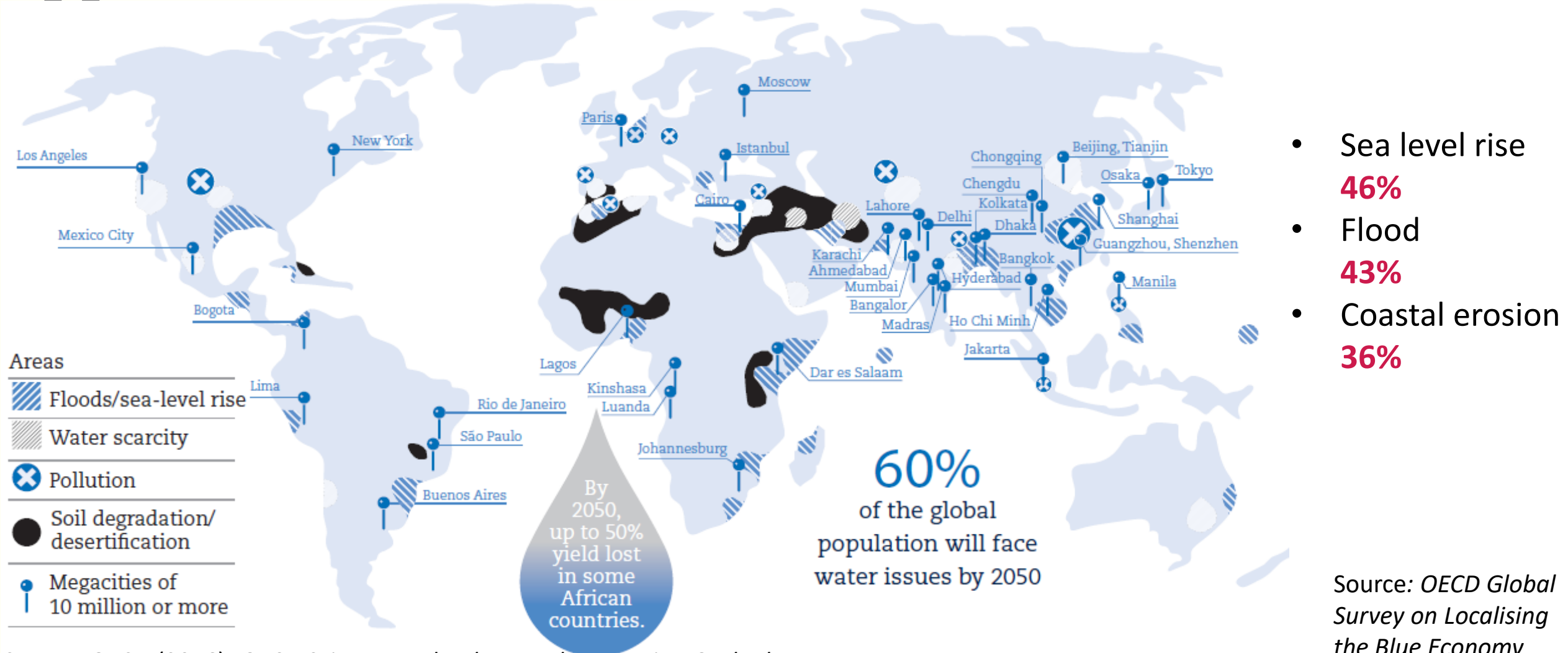


Urban water-related risks

- Urban zones exposed to flooding will increase **2.7 times** by 2030
- **50%** of the world's largest cities will face high water stress by 2040
- **80%** of urban population is expected to live in sub-basins facing moderate to high levels of water pollution by 2050



Cities are increasingly exposed to water risks



Source: OECD (2016), *OECD Science, Technology and Innovation Outlook*



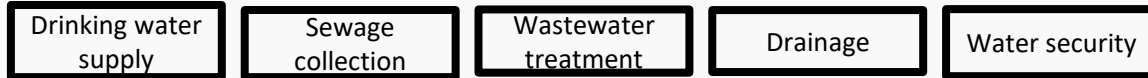
WATER GOVERNANCE IS ABOUT MANAGING COMPLEXITY



Water Governance

Key messages

- 1 Water crises are often water governance crises
- 2 Need to fit policies to places and people
- 3 Water governance is a means to an end



Current levels of service delivery and water security in the OECD and emerging economies should not be taken for granted



Simultaneous action is needed on :
Infrastructure, investments, institutions and information

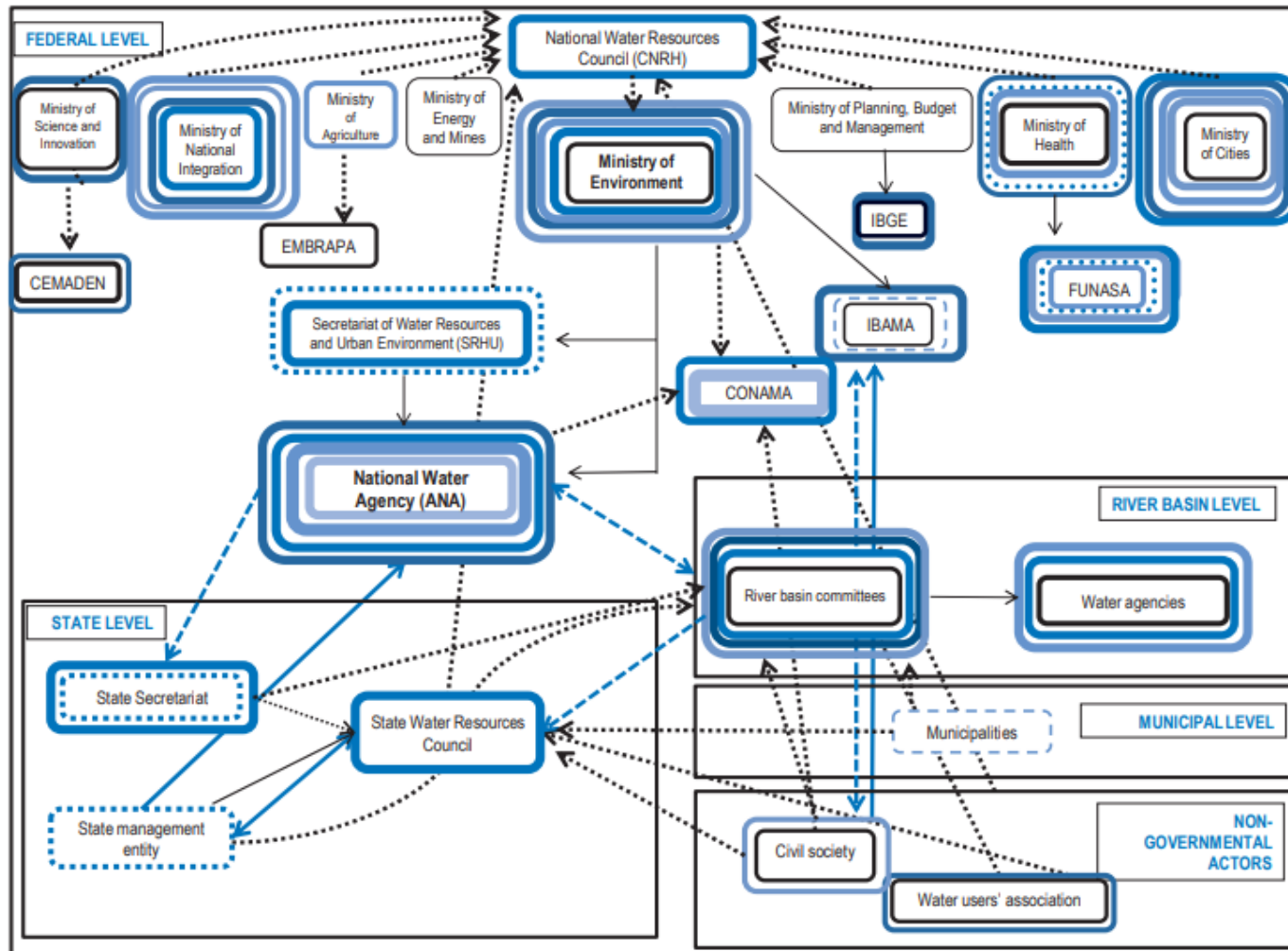


USD 22.6 trillion in water security investments will be necessary to tackle the climate crisis by 2050 (WEF, 2022)

Water governance is the set of rules of the game and mechanisms to ensure that everyone, everywhere, at all times has access to the water they need and to protect people from the growing **water risks**.



Institutional map of WRM in Brazil



Notes:

CEMADEN: National Centre for Monitoring and Alert of Natural Disasters

CONAMA: National Council of Environment

EMBRAPA: Brazilian Company for Agriculture and Livestock Research

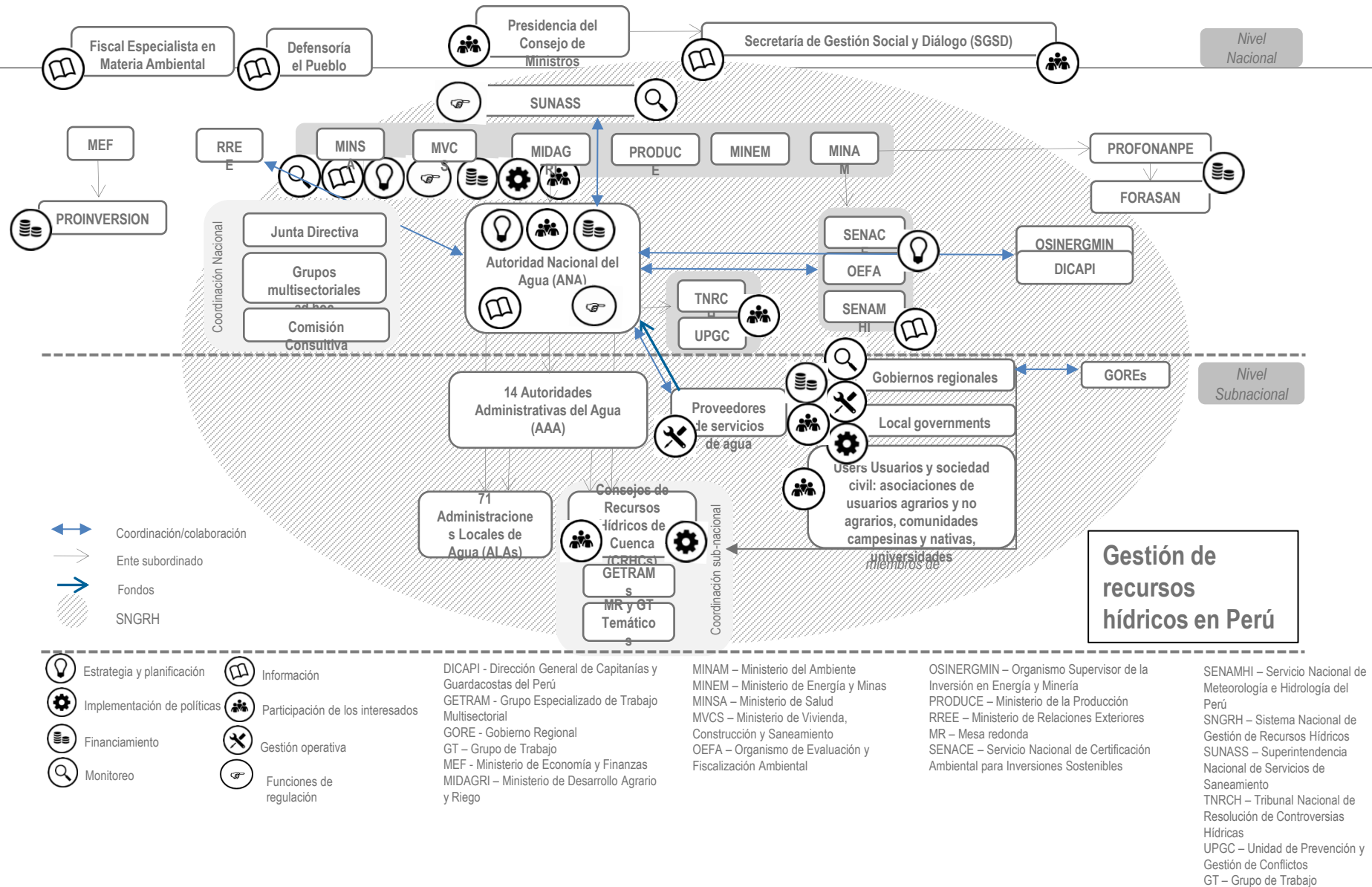
FUNASA: National Health Foundation

IBGE: Brazilian Institute of Geography and Statistics

IBAMA: Brazilian Institute of Environment and Renewable Natural Resources

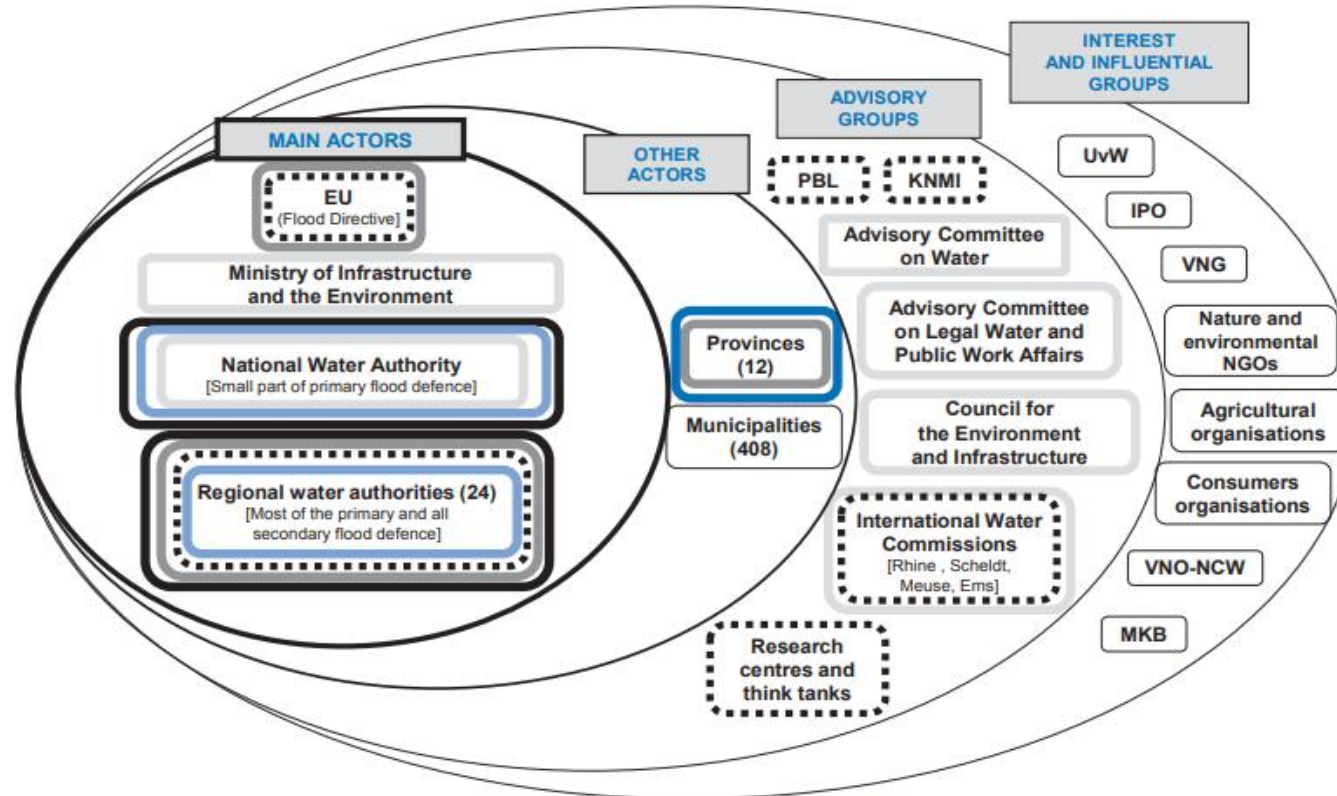


Institutional map of WRM in Peru





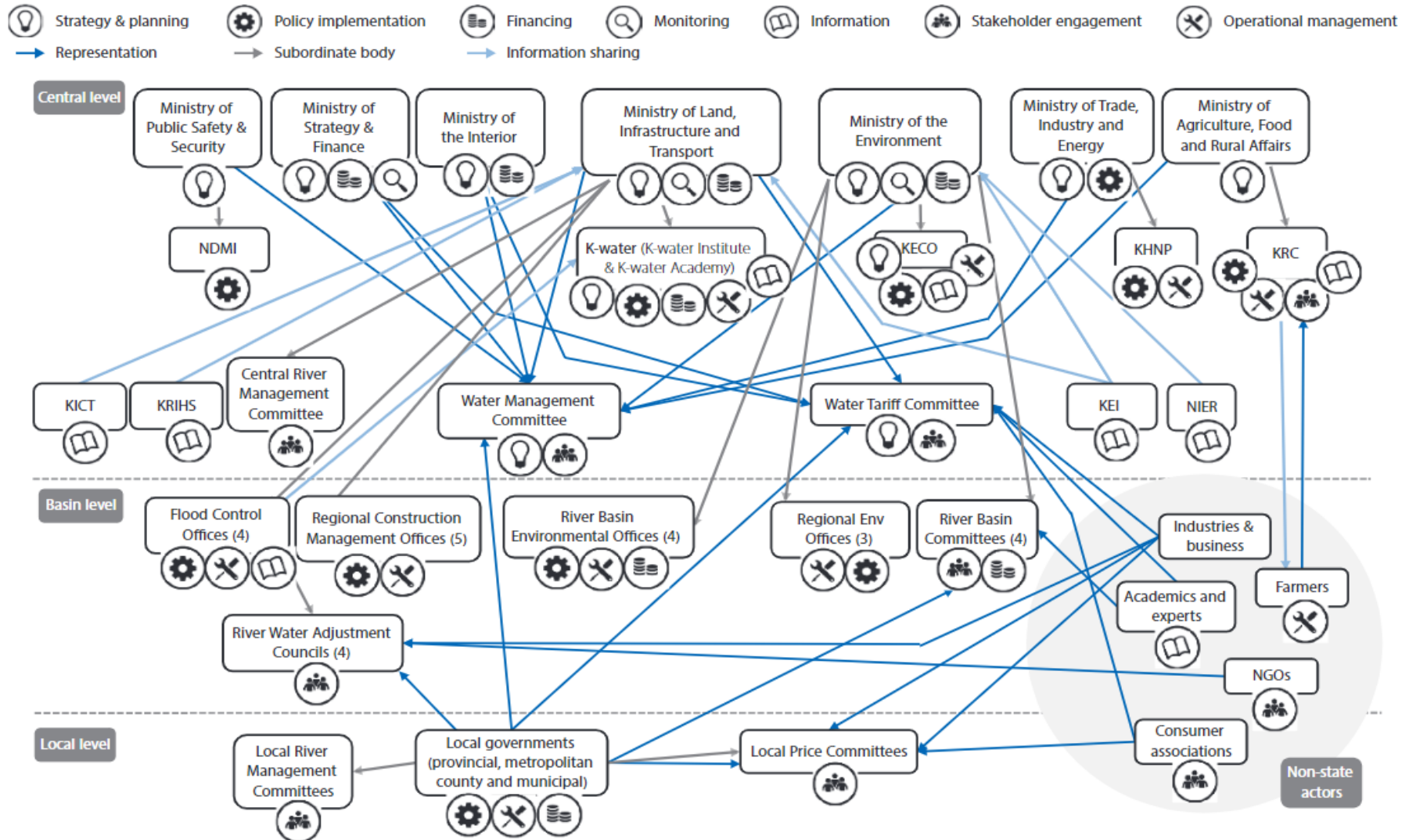
Institutional map of WRM in the Netherlands



- | | | |
|--|--|--|
| Management of flood defence structures (dikes, dunes, muskrats and coypus control) | Supervision of flood defence structures | Financing of flood defence structures |
| Regulation (safety standards) | Strategic planning and advice | Data gathering and sharing |
| EU European Union | MKB Organisation of Entrepreneurs | VNG Association of Netherlands Municipalities |
| IPO Association of Dutch Provinces | PBL Environmental Assessment Agency | Vewin Association of Dutch Water Companies |
| KNMI Royal Netherlands Meteorological Institute | UvW Association of Regional Water Authorities | VNO-NCW Confederation of Netherlands Industry and Employers |

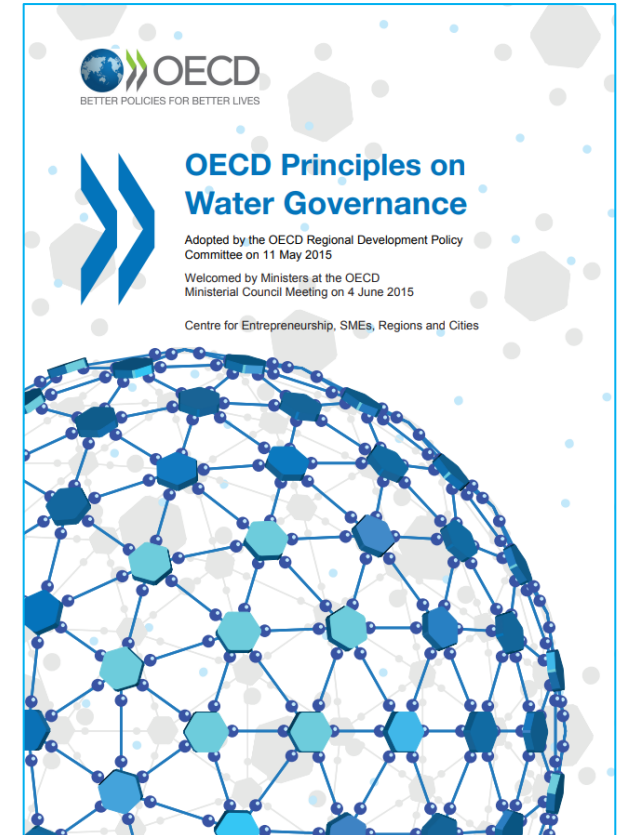
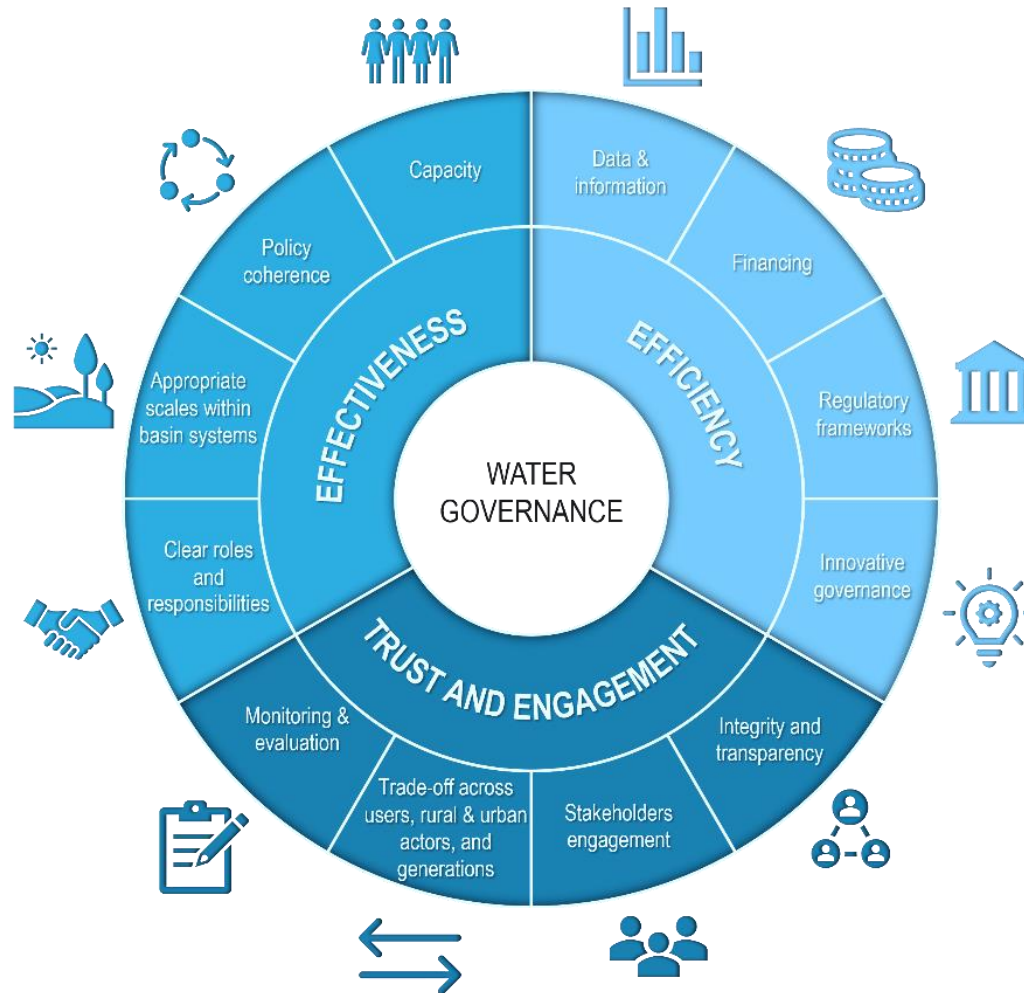


Institutional map of WRM in Korea





The OECD Principles on Water Governance



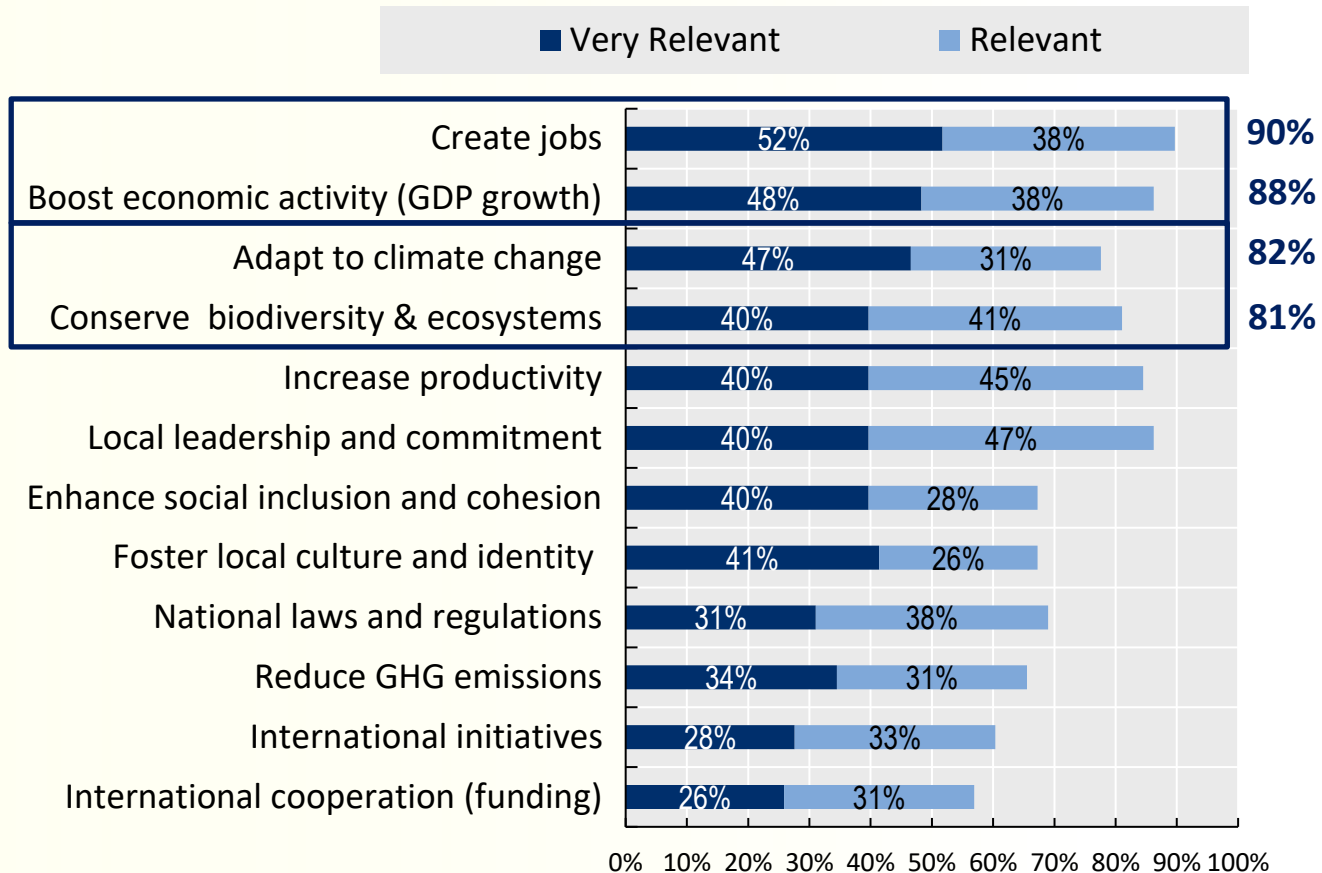


CONNECTING DOTS: NO ECONOMIC RESILIENCE WITHOUT WATER RESILIENCE



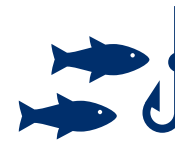
The blue economy is a major driver of prosperity and sustainability at the local level

Drivers for the blue economy at subnational level



The value of the blue economy

Ocean-based industries



- USD 1.5 trillion/y in global economic value (e.g. fisheries, shipping)



- In the state of California (US), one in nine jobs connect to port-related activity

Coastal ecosystems



- USD 20.4 trillion/y in global economic value (e.g. mangroves, coral reefs, salt marshes)



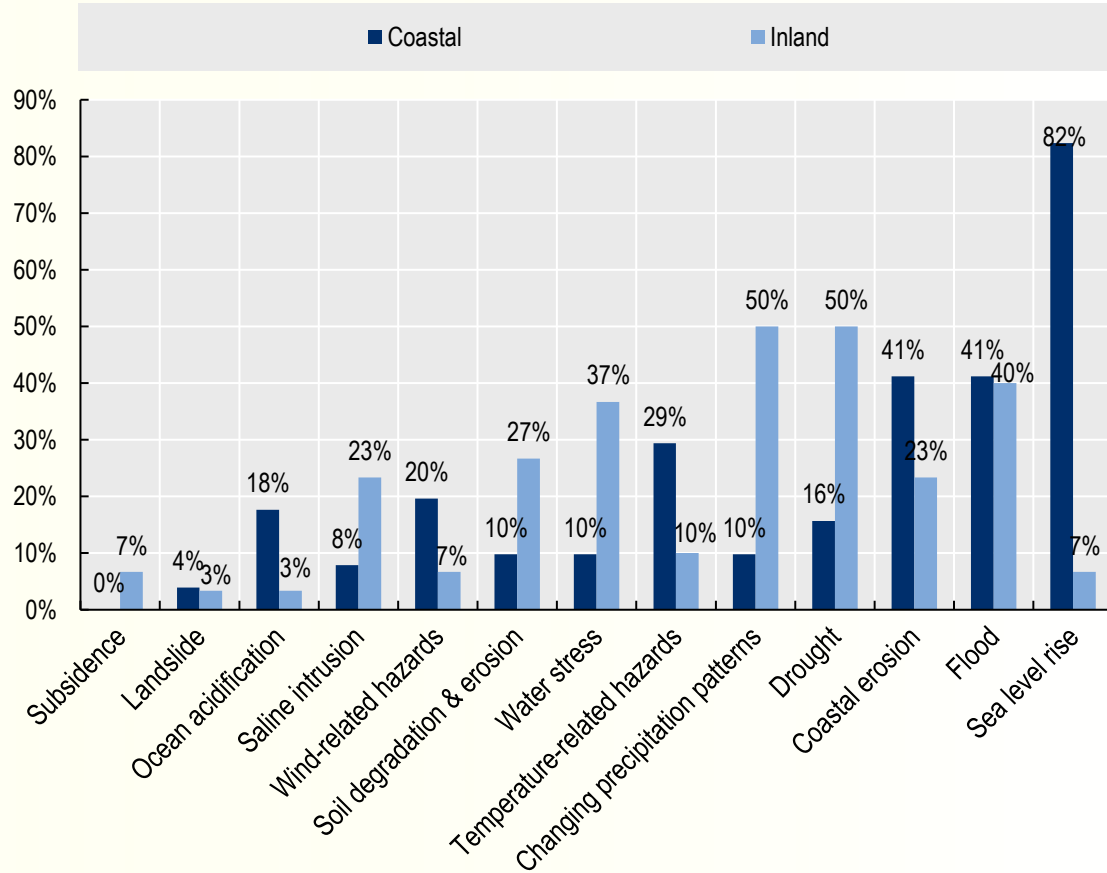
- EUR 400 billion worth of ecosystem services generated on a 10-km coastal zone in the European Union, on average

Source: OECD (2024), *The Blue Economy in Cities and Regions*

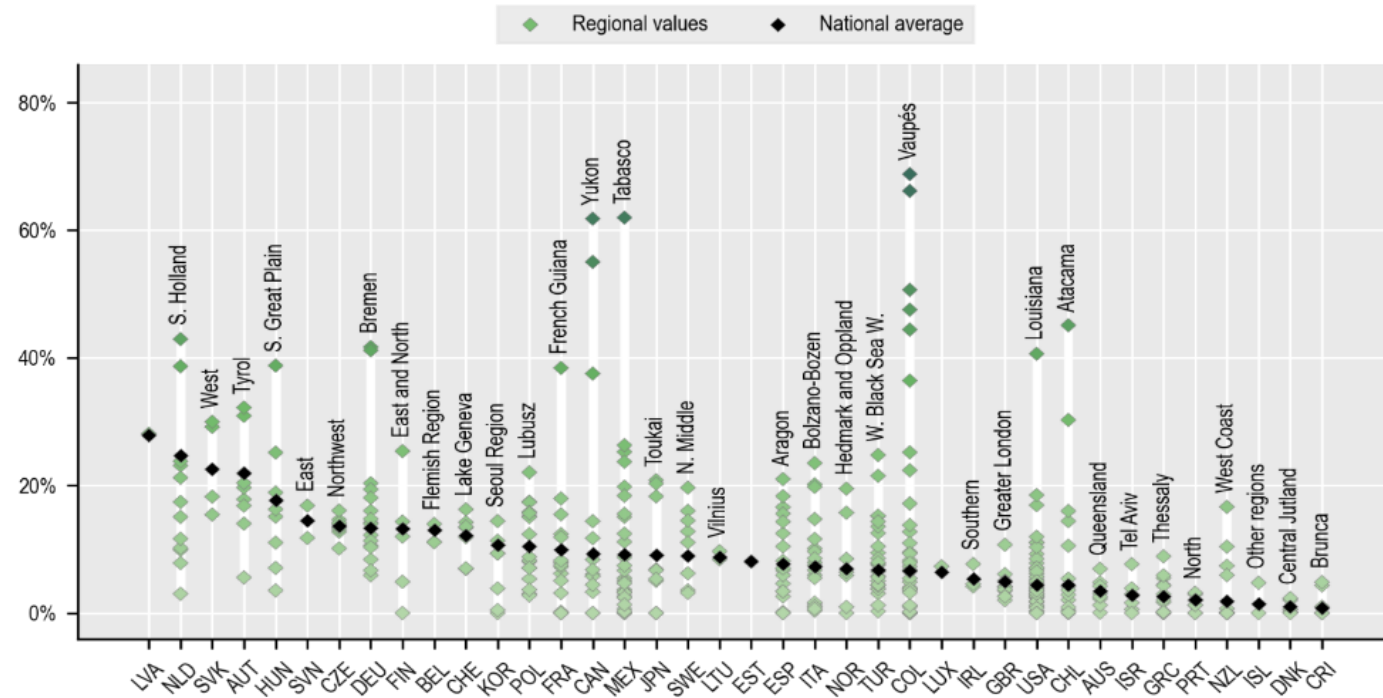


But it faces a diversity of place-based challenges

Threats to the blue economy at subnational level



Subnational disparities in exposure to river flooding

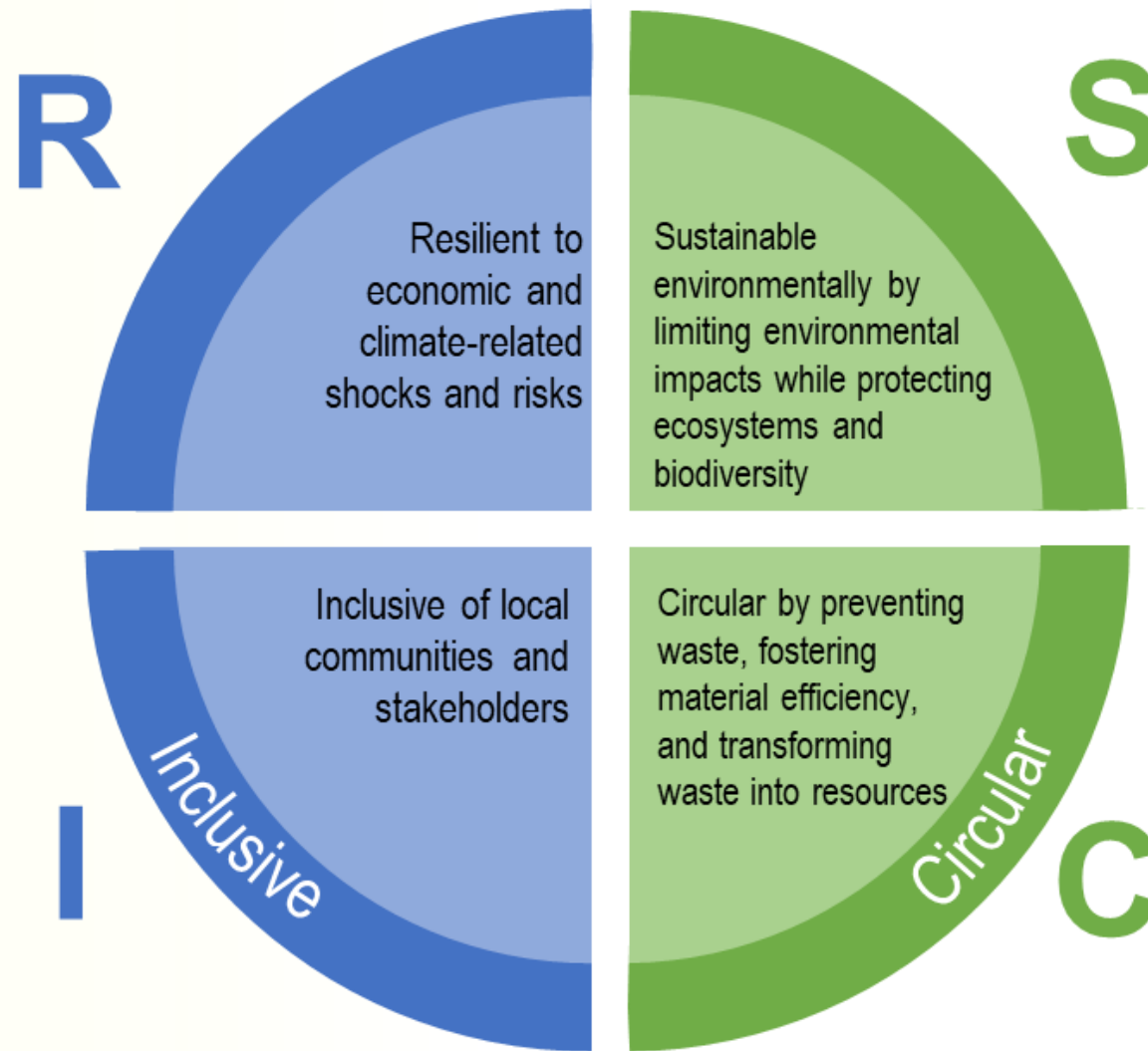


Source: OECD (2024), *The Blue Economy in Cities and Regions*

OECD (2022), *Regions and Cities at a Glance*



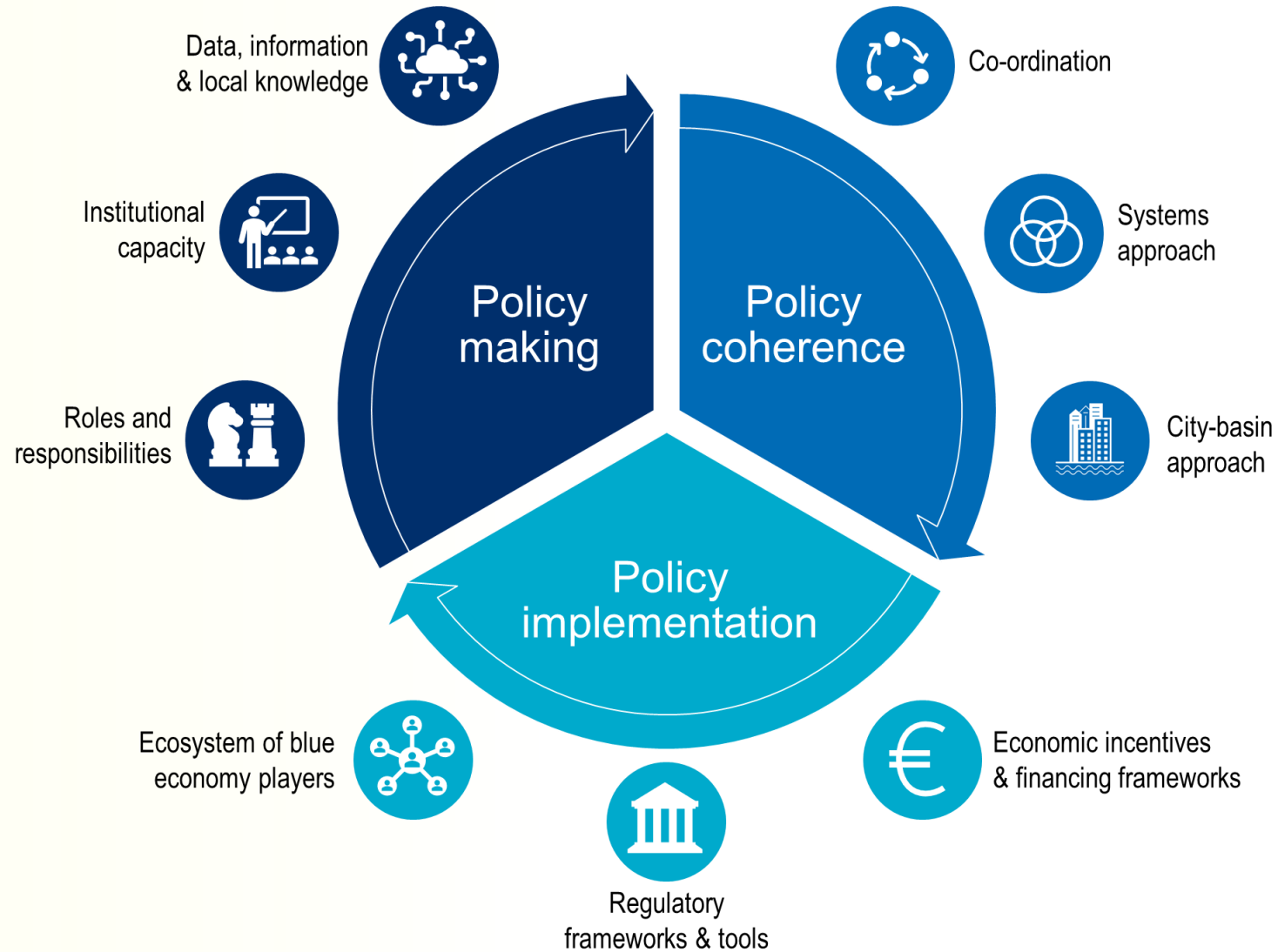
Enhance RISC-proof blue economies in cities & regions...



Source: OECD (2024), *The Blue Economy in Cities and Regions: A Territorial Approach*



... By implementing the right enabling conditions



Source: OECD (2024), *The Blue Economy in Cities and Regions: A Territorial Approach*



Thank you!



Contact:

Oriana.romano@oecd.org

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Governance Programme here:**

Website: <https://oe.cd/5Ji>



The Governance Capacity Framework: Applied in 30 cities and to 58 water-related challenges

NOOR VAN DOOREN

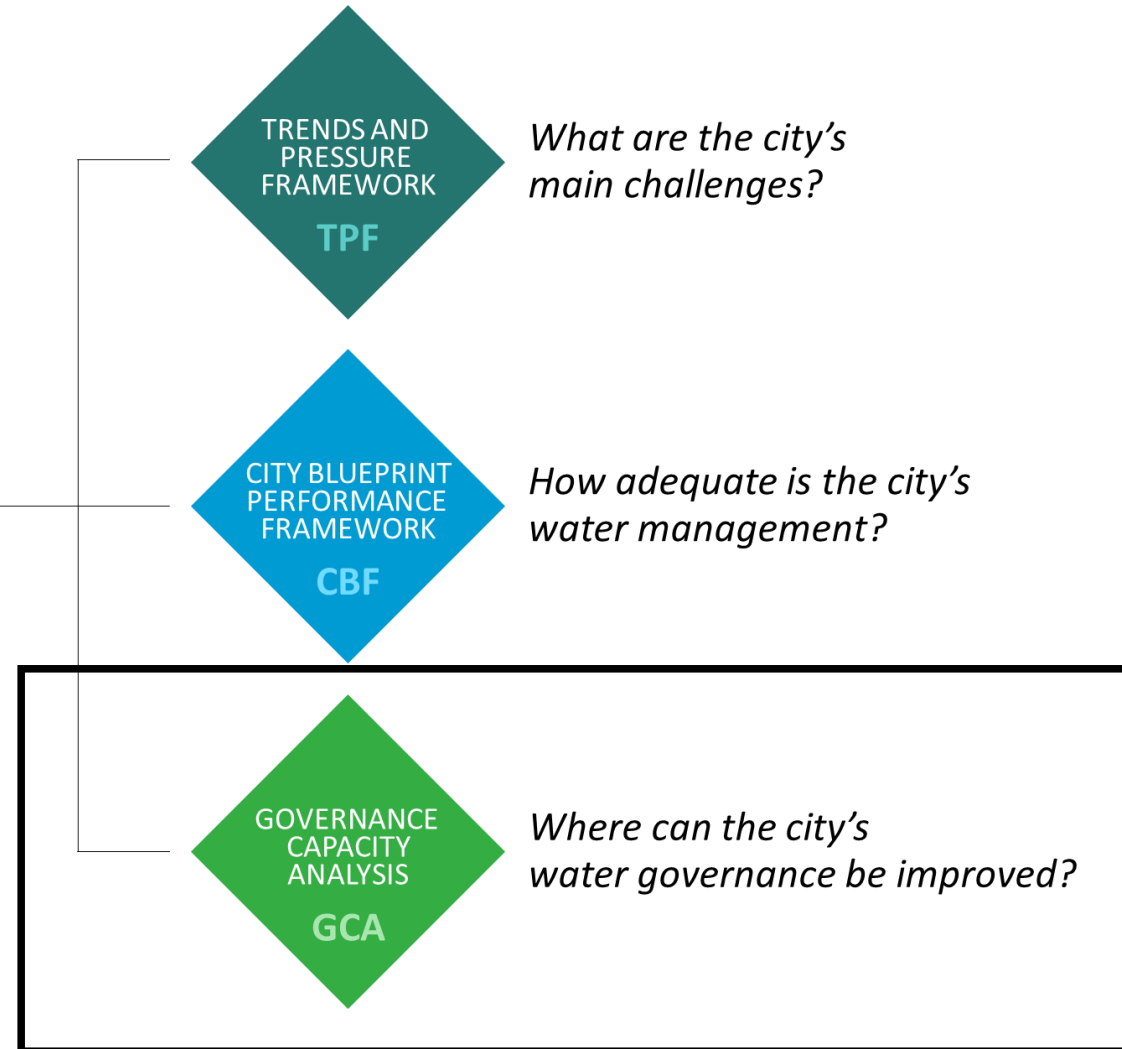
KWR

CITY BLUEPRINT APPROACH: THREE FRAMEWORKS

KWR



CITY BLUEPRINT APPROACH

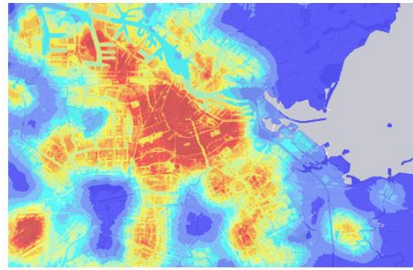


GOVERNANCE CAPACITY FRAMEWORK

Centered around 5 water challenges:



FLOOD RISK



URBAN HEAT ISLAND



WATER SCARCITY



WASTEWATER TREATMENT



SOLID WASTE PROCESSING

Can be applied to any water-related challenge that requires collaboration and coordination

GOVERNANCE CAPACITY FRAMEWORK

Dimensions	Conditions
Knowing	1 Awareness 2 Useful knowledge 3 Continuous learning
Wanting	4 Stakeholder engagement process 5 Policy ambition 6 Agents of change
Enabling	7 Multi-level network potential 8 Financial viability 9 Implementing capacity

GOVERNANCE CAPACITY FRAMEWORK

KNOWING	1 Awareness	1.1. Community knowledge 1.2. Local sense of urgency 1.3. Behavioural internalisation
	2 Useful knowledge	2.1. Information availability 2.2. Information transparency 2.3. Knowledge cohesion
	3 Continuous learning	3.1. Smart monitoring 3.2. Evaluation 3.3. Cross-stakeholder learning

WANTING	4 Stakeholder engagement process	<ul style="list-style-type: none"> 4.1. Stakeholder inclusiveness 4.2. Protection of core values 4.3. Progress and variety of options
	5 Management ambition	<ul style="list-style-type: none"> 5.1. Ambitious and realistic management 5.2. Discourse embedding 5.3. Management cohesion
	6 Agents of change	<ul style="list-style-type: none"> 6.1. Entrepreneurial agents 6.2. Collaborative agents 6.3. Visionary agents

GOVERNANCE CAPACITY FRAMEWORK

ENABLING	7 Multi-level network potential	7.1. Room to manoeuvre 7.2. Clear division of responsibilities 7.3. Authority
	8 Financial viability	8.1. Affordability 8.2. Consumer willingness to pay 8.3. Financial continuation
	9 Implementing capacity	9.1. Policy instruments 9.2. Statutory compliance 9.3. Preparedness

EXAMPLE OF SCORING SHEET: 4.2. PROTECTION OF CORE VALUES

The extent to which stakeholders feel confident that their core values are not harmed in order to create a safe environment for building trust relationships.

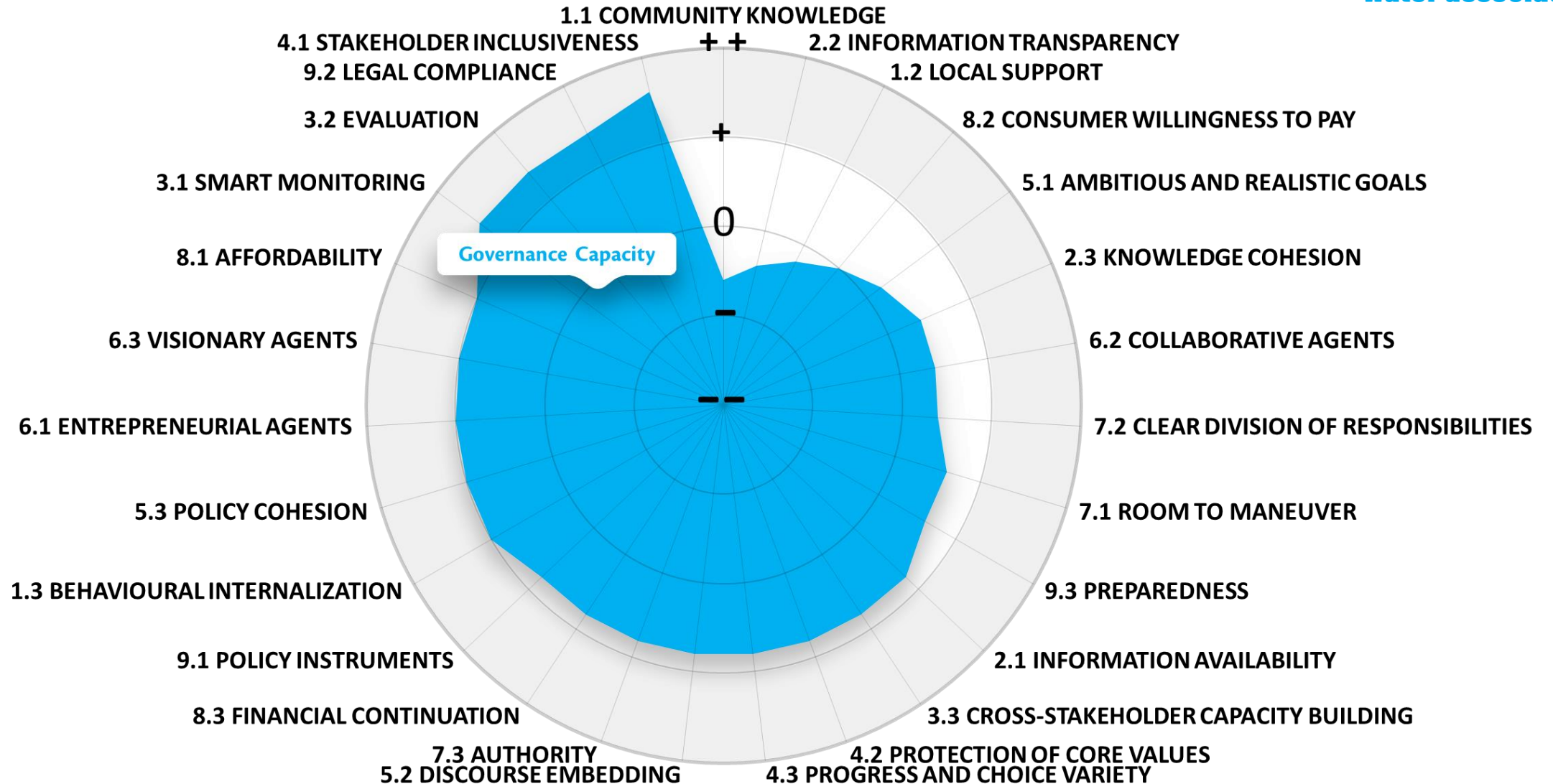
++	Maximal protection of core values	Stakeholders are actively involved and co-creators of the end-result. There are clear exit possibilities and clear process procedures. All relevant stakeholders are engaged and a variety of options are assessed. The final choices are selected at the end of the engagement process.
+	Demand for commitment to early output	Stakeholders are actively involved and expected to commit to early outcomes. Hence some relevant stakeholders are discouraged to commit as not all options are being assessed and their contribution might be low at this stage. The stakeholders have influence on the end result.
0	Suboptimal protection of core values	Stakeholders are consulted or actively engaged for short periods. The number of options considered and influence on the end result are limited. Exit rules are vague. Decisions mainly comply with the interest of the initiating party.
-	Low influence on end-result	Stakeholders are being informed or consultation meetings take place for already (fully) elaborated plans. The influence on the end-result is low and resistance may be invoked.
--	Ignorance of core values	Stakeholders are hardly engaged, not informed or only informed after decisions have already been made. There is often resistance for the implementation, distrust and lack of stakeholder participation and no clear communication.

APPROACH

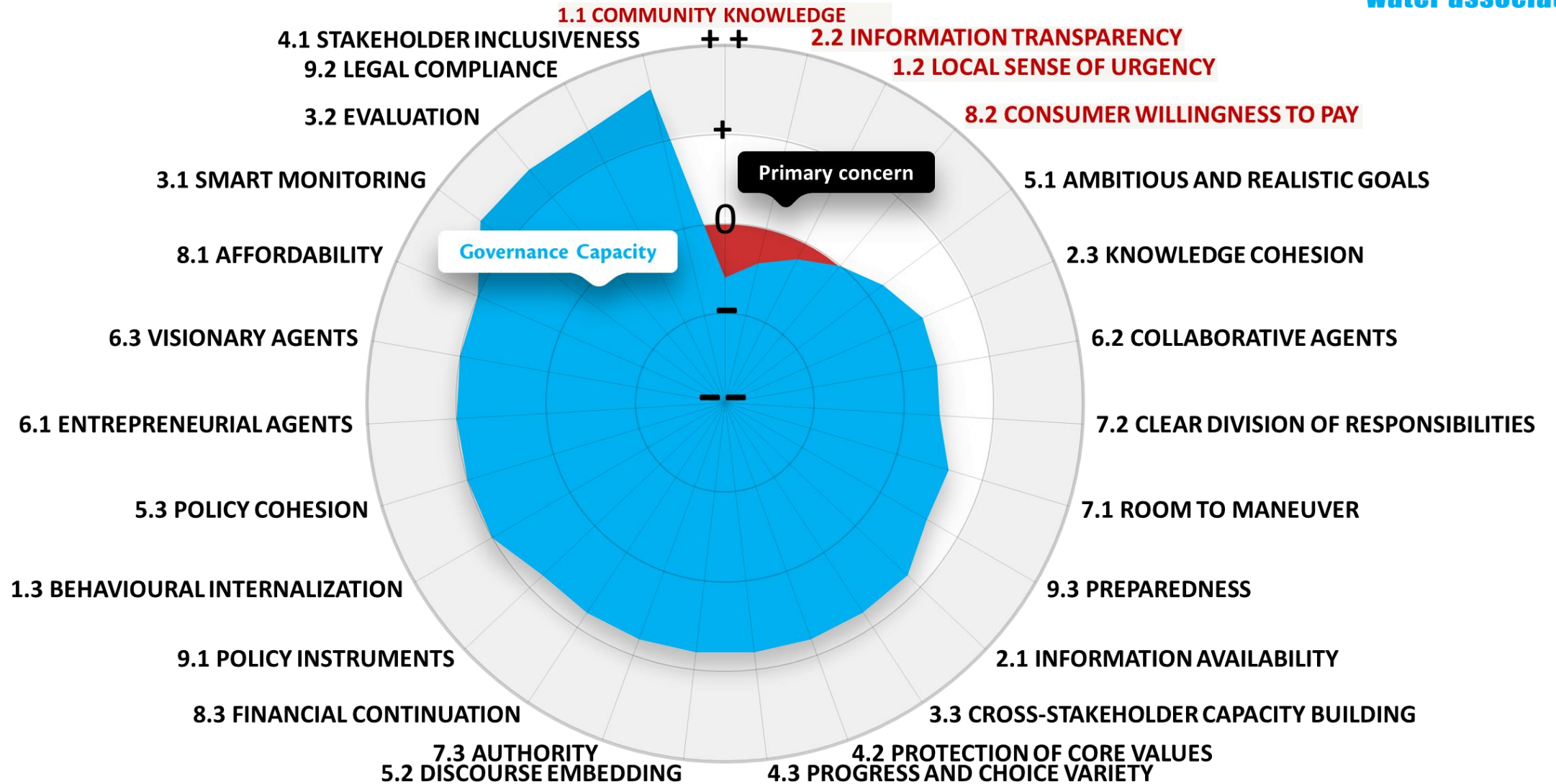
1. Stakeholder analysis
2. Literature study for each of the 27 indicators
3. +- Fifteen in depth interviews
4. Scoring and justification of scoring
5. After the interviews, participants can give feedback with respect to preliminary results
6. Review feedback of participants



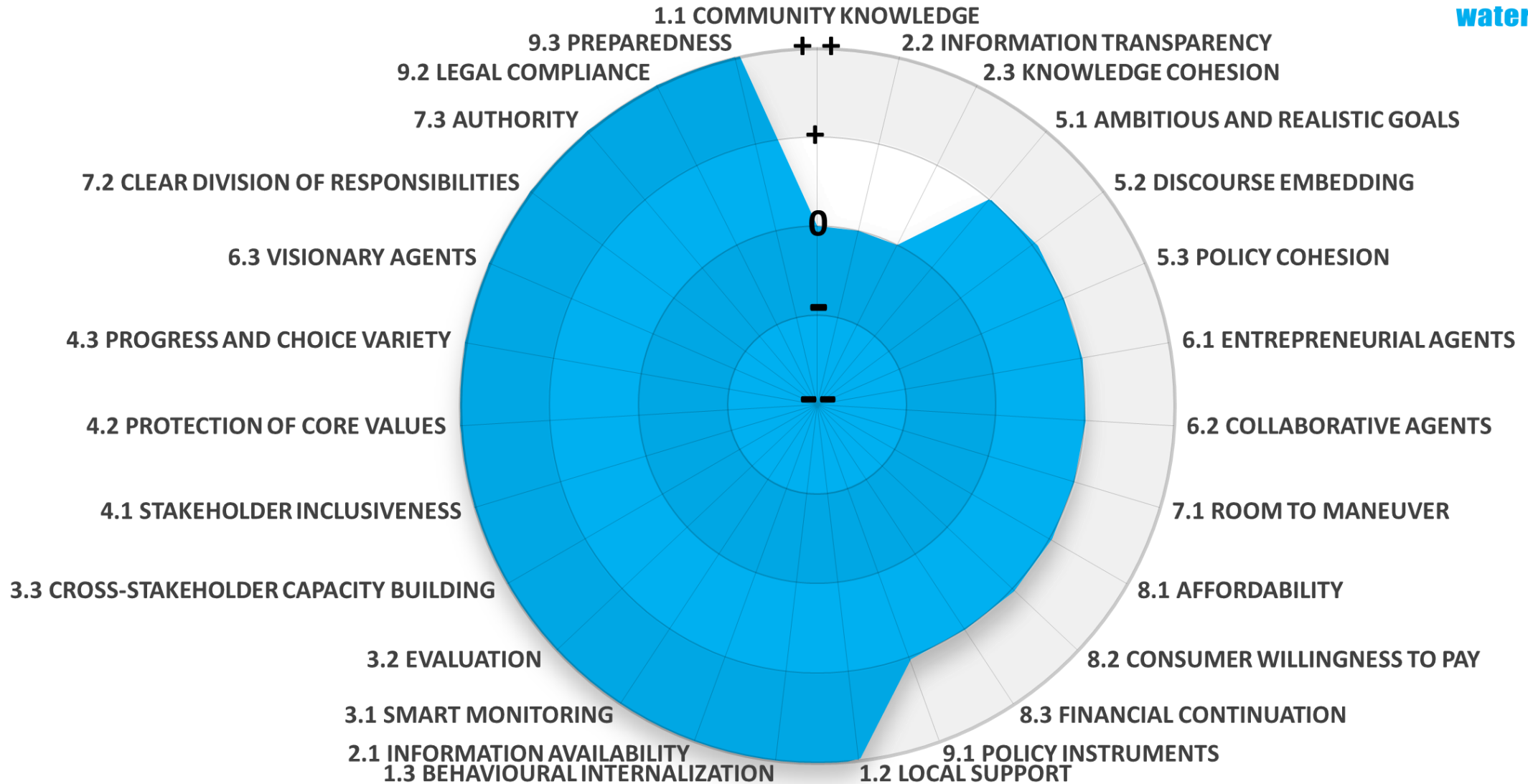
EXAMPLE: AMSTERDAM



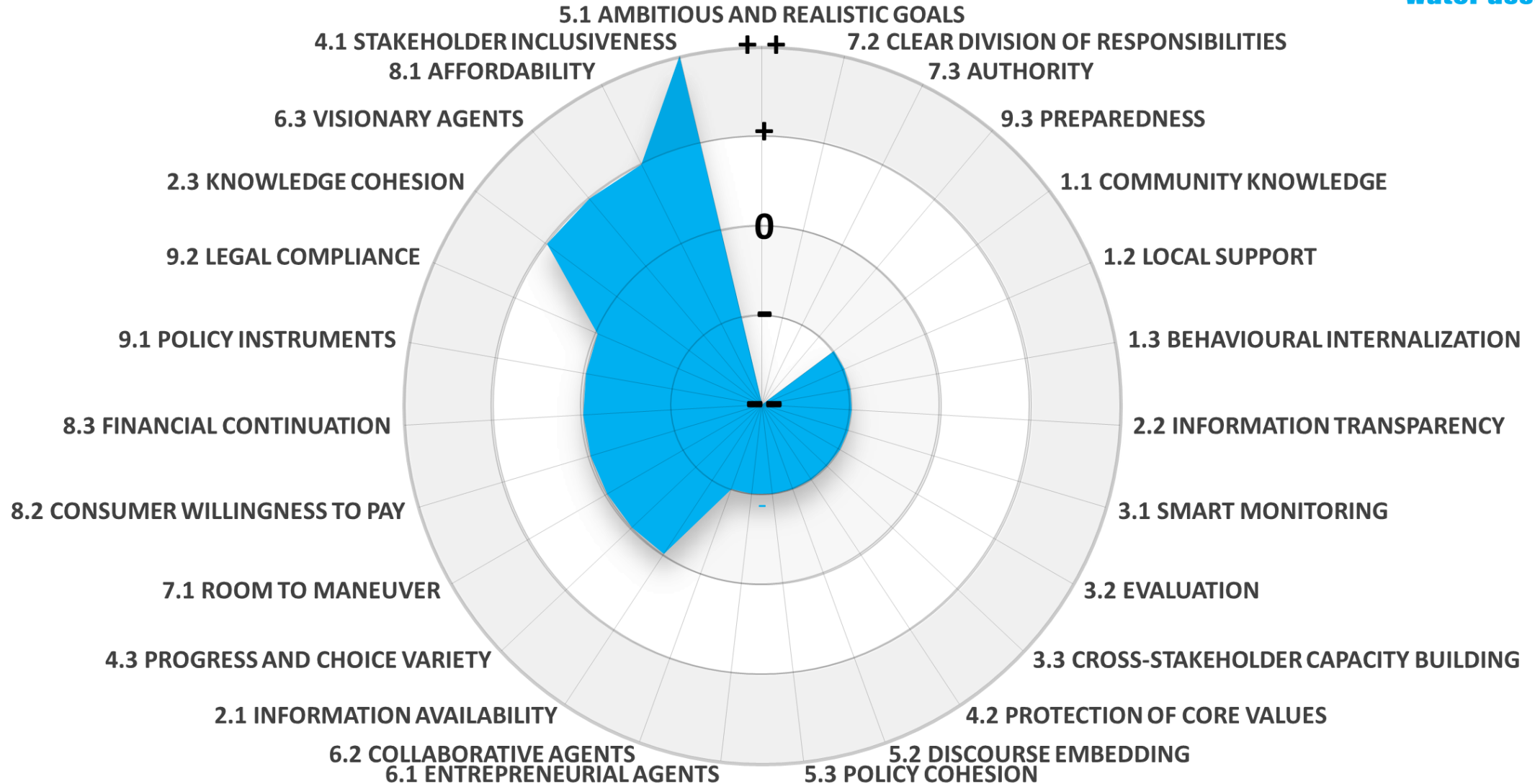
EXAMPLE: AMSTERDAM



EXAMPLE: AMSTERDAM FLOOD RISK

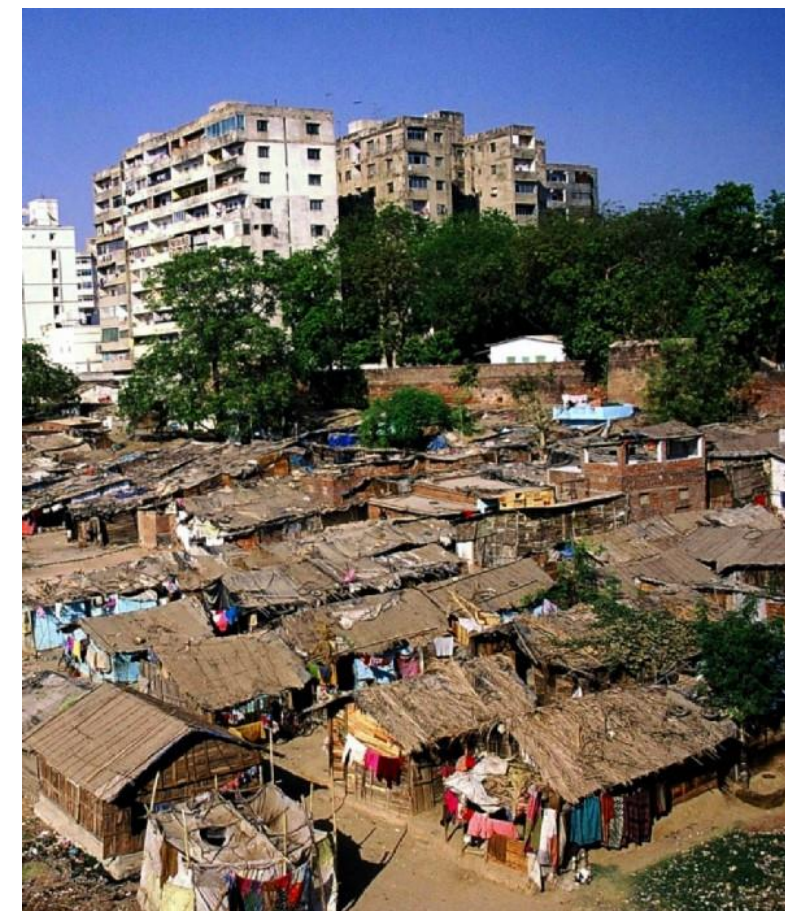


EXAMPLE: AMSTERDAM URBAN HEAT ISLAND

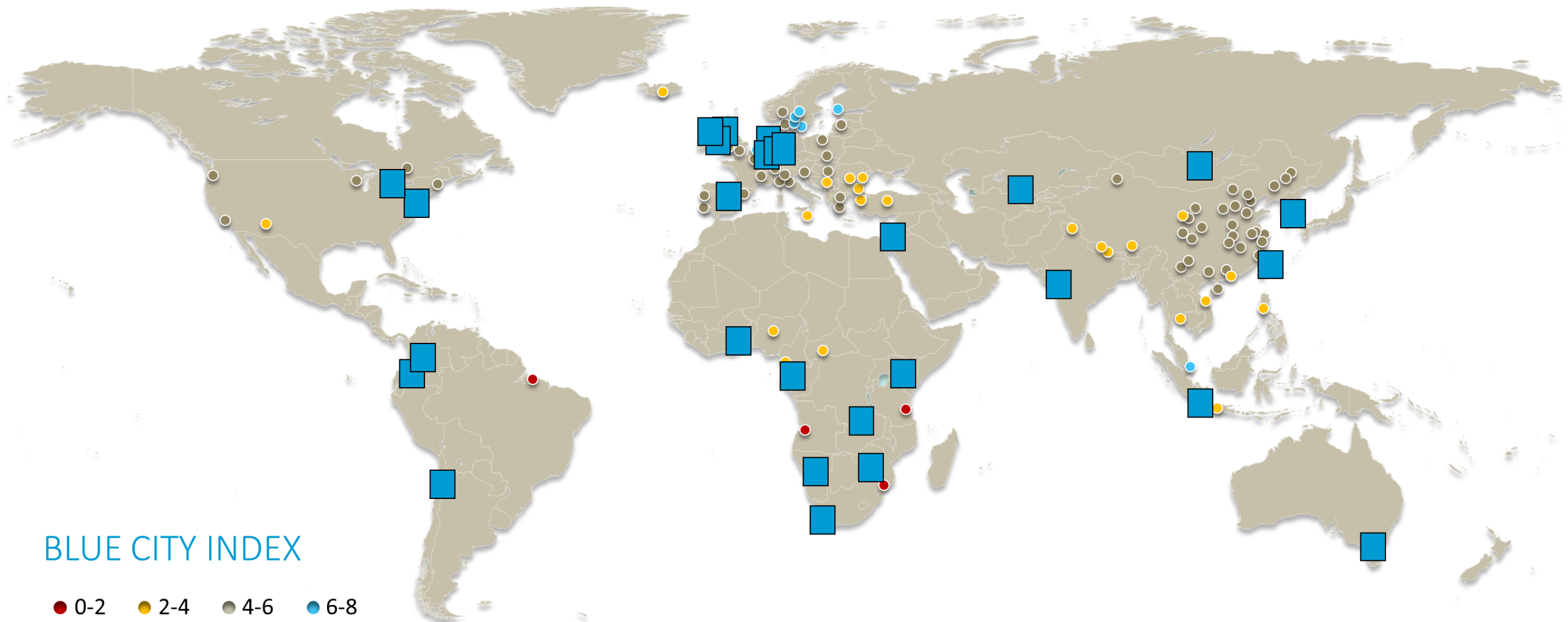


EXAMPLE: AHMEDABAD

Indicators	Water scarcity	Flood risk	Waste water treatment	Solid waste treatment	Urban heat islands
1.1 Community knowledge	+	+	0	0	+
1.2 Local sense of urgency	-	+	-	-	+
1.3 Behavioral internalisation	-	0	0	0	+
2.1 Information availability	0	0	0	-	+
2.2 Information transparency	-	0	-	+	0
2.3 Knowledge cohesion	-	0	0	0	0
3.1 Smart monitoring	-	-	0	-	+
3.2 Evaluation	-	-	-	-	+
3.3 Cross-stakeholder learning	0	0	-	0	0
4.1 Stakeholder inclusiveness	-	0	-	0	+
4.2 Protection of core values	0	0	-	0	+
4.3 Progress and variety of options	0	-	-	0	0
5.1 Ambitious realistic management	0	+	+	+	+
5.2 Discourse embedding	-	-	0	-	++
5.3 Management cohesion	0	0	0	0	0
6.1 Entrepreneurial agents	-	-	-	0	+
6.2 Collaborative agents	0	0	0	-	+
6.3 Visionary agents	0	-	+	0	+
7.1 Room to maneuver	0	0	-	0	0
7.2 Clear division of responsibilities	0	0	0	0	+
7.3 Authority	0	0	+	0	+
8.1 Affordability	0	0	+	0	+
8.2 Consumer willingness to pay	+	+	0	0	+
8.3 Financial continuation	+	+	+	+	+
9.1 Policy instruments	-	-	-	0	0
9.2 Statutory compliance	-	-	-	-	+
9.3 Preparedness	-	+	-	-	++



APPLICATION AROUND THE WORLD



BLUE CITY INDEX

- 0-2
- 2-4
- 4-6
- 6-8

APPLICABILITY

- Methodology designed to be applicable as self-assessment: e.g. in workshops
- Can be useful as checklist for governance assessments
- Identify water management priorities to address water security
- Method has mainly been tested by students and young water professionals (20 in total!)

LIST OF PAPERS

Method governance capacity analysis: <https://link.springer.com/article/10.1007/s11269-017-1677-7>

Method City Blueprint Approach: <https://link.springer.com/article/10.1007/s11269-015-1139-z>

Cities

- Ahmedabad, India <https://link.springer.com/article/10.1007/s10113-018-1363-1>
- Sabadell, Spain <https://www.mdpi.com/2073-4441/10/6/739>
- Amsterdam, Rotterdam, Leicester & Milton Keynes <https://www.mdpi.com/2071-1050/10/8/2869>
- Cape Town, South Africa <https://www.mdpi.com/2073-4441/11/2/292>
- Taipei, Taiwan <https://link.springer.com/article/10.1007/s00267-019-01137-y>
- NYC, USA <https://link.springer.com/article/10.1007/s00267-017-0952-y>
- Quito, Ecuador <https://link.springer.com/article/10.1007/s10668-017-9916-x>
- Seoul, South Korea <https://www.mdpi.com/2073-4441/10/6/682>
- Utrecht, the Netherlands <https://www.mdpi.com/2073-4441/11/7/1501>
- Naivasha, Kenya <https://www.sciencedirect.com/science/article/pii/S2589811620300227>

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WATER SECURITY: GOVERNANCE, ECONOMIC DEVELOPMENT AND FINANCE | Webinar 2

PANEL

QUESTIONS AND ANSWERS



Jan Hofman

Water Security Research

MODERATOR



Amgad Elmahdi

(Finance and Water Security)



Oriana Romano

(Governance and Water Security)



Noor van Dooren

(Governance capacity assessment for Water Security)

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