Application of

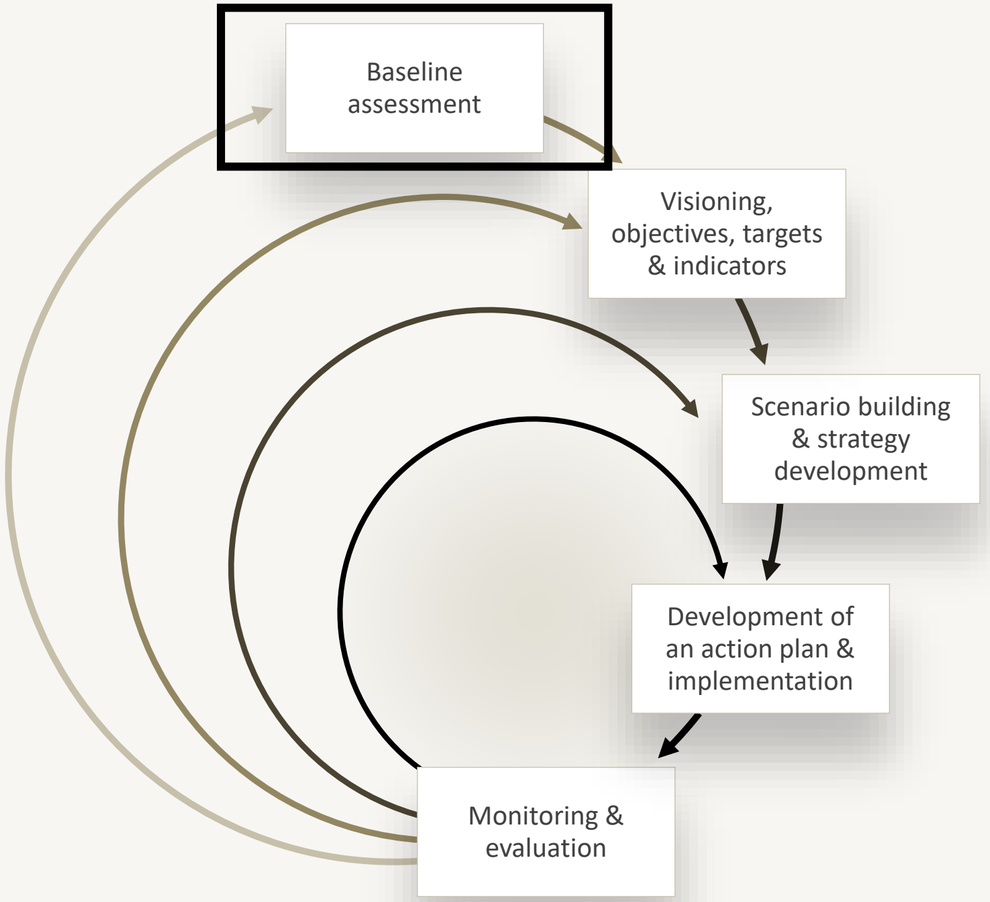
THE CITY BLUEPRINT FRAMEWORK

in 125 municipalities and regions

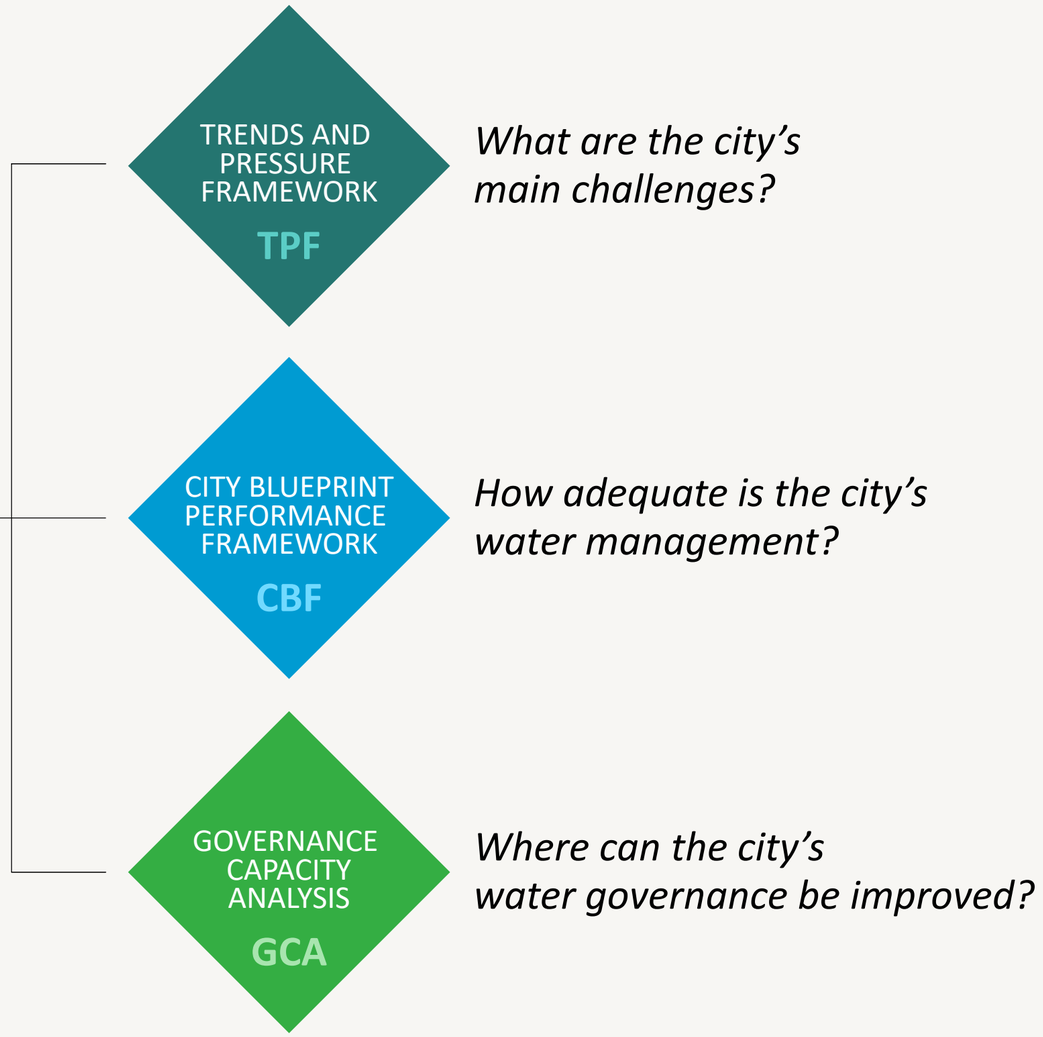
Blue: City Blueprint®


Stef Koop Kees van Leeuwen

KWR Water Research Institute



CITY BLUEPRINT APPROACH

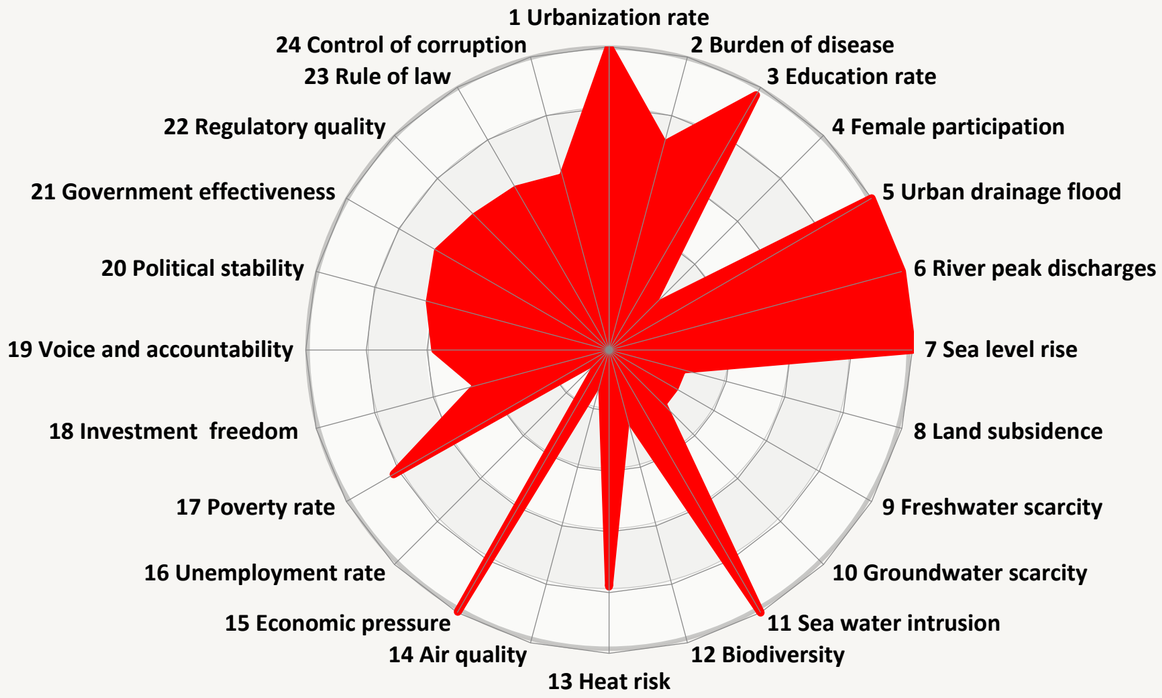


Trends and Pressures Framework

Goal	**Baseline assessment** of the sustainability of Urban Water Resources Management
Indicators	Twenty-four indicators divided over four categories: 1. Social 2. Environmental 3. Financial 4. Governance
Data	Public data or data provided by the (waste) water utilities and cities based on a questionnaire
Scores	0 (no concern) to 10 (serious concern)
TPI	Trends and Pressures Index, the mean of 24 indicators which varies from 0 to 10
Stakeholders	Water utility, water board, city council, companies, NGOs, etc.
Process	Interactive with all stakeholders involved early on in the process

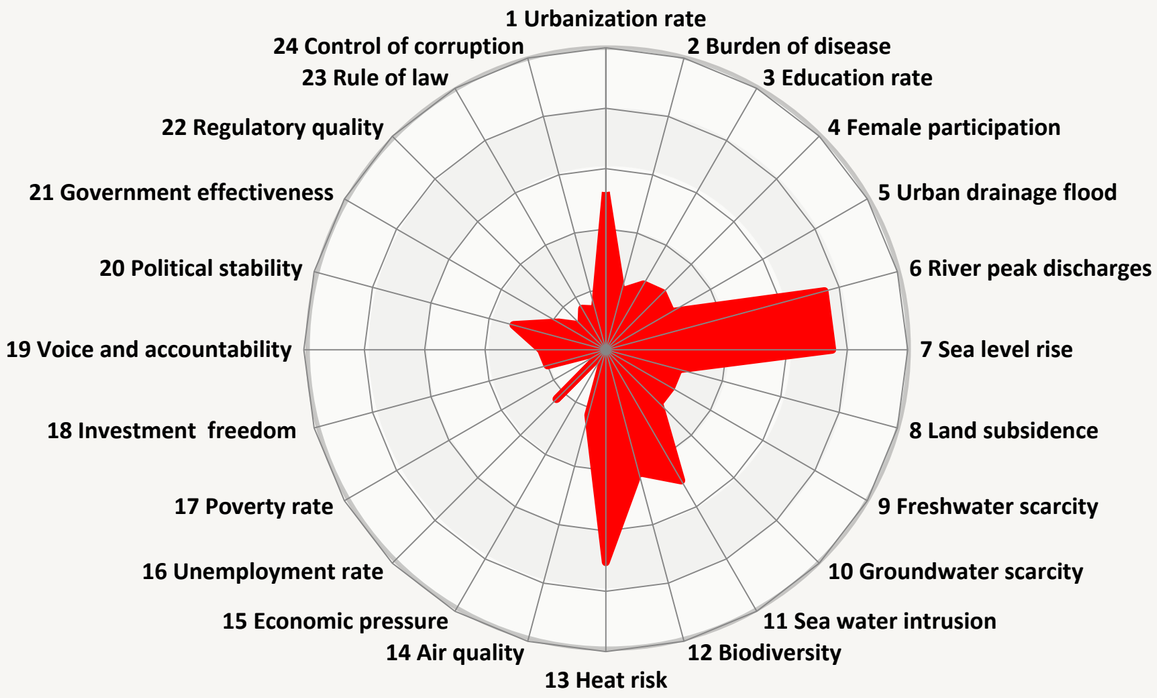
TPI 6.1

Dar es Salaam



BCI 3.0

Melbourne

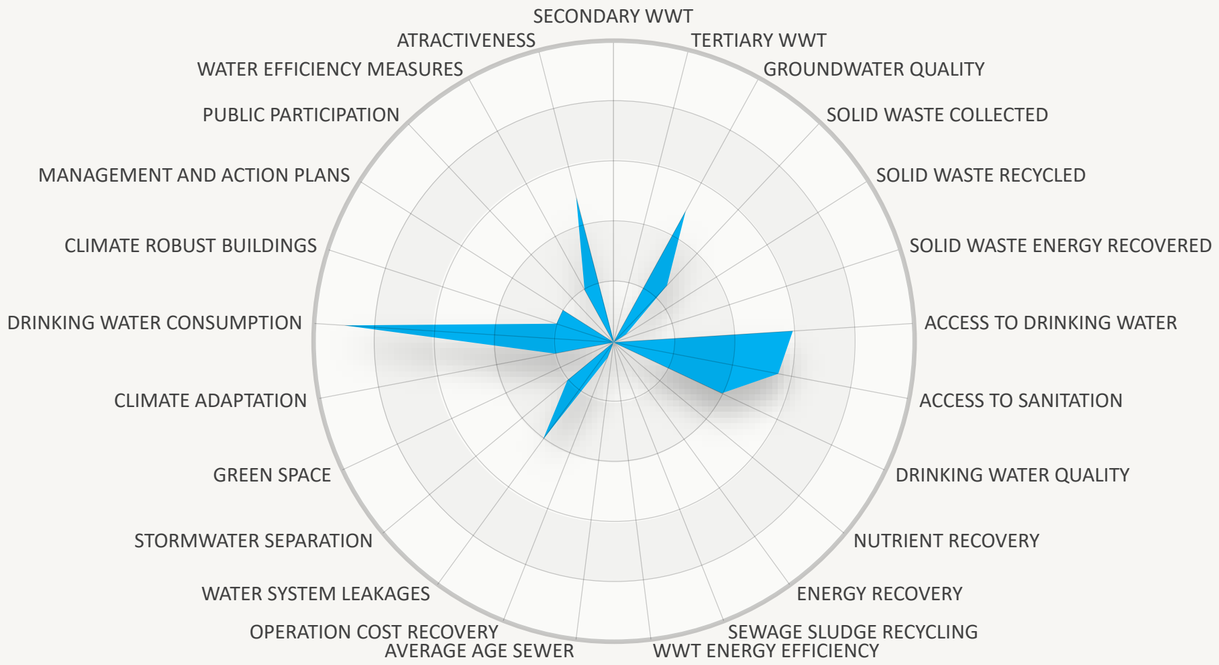


City Blueprint Performance Framework

Goal	**Baseline assessment** of the sustainability of Urban Water Resources Management
Indicators	Twenty-four indicators divided over seven categories: 1. Basic water services 2. Water quality 3. Wastewater treatment 4. Water infrastructure 5. Solid waste 6. Climate adaptation 7. Plans and actions
Data	Public data or data provided by the (waste) water utilities and cities based on a questionnaire
Scores	0 (concern) to 10 (no concern)
BCI	Blue City Index, the geometric mean of 24 indicators which varies from 0 to 10
Stakeholders	Water utility, water board, city council, companies, NGOs, etc.
Process	Interactive with all stakeholders involved early on in the process

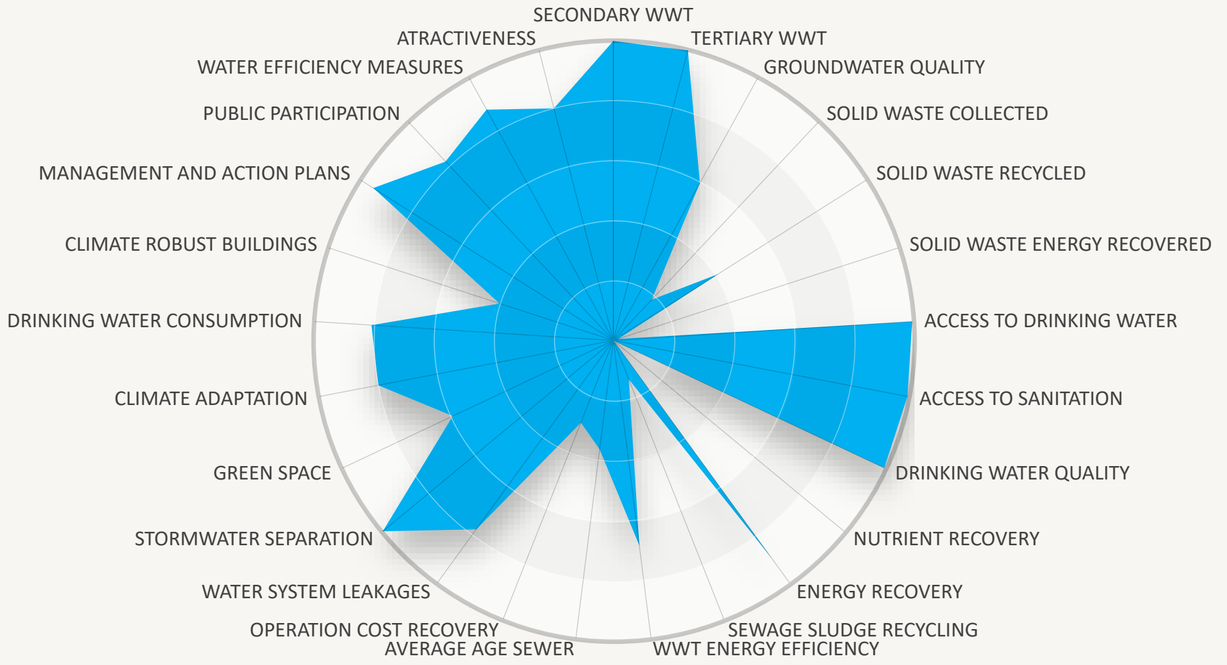
BCI 1.3

Dar es Salaam



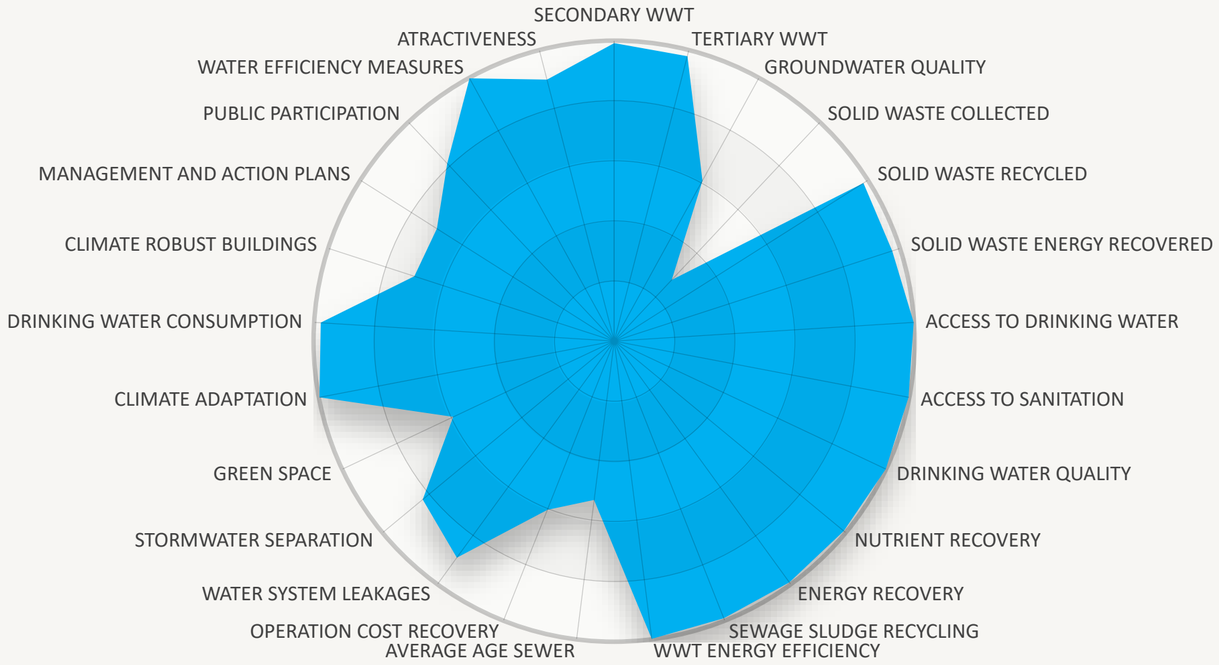
BCI 5.4

Melbourne

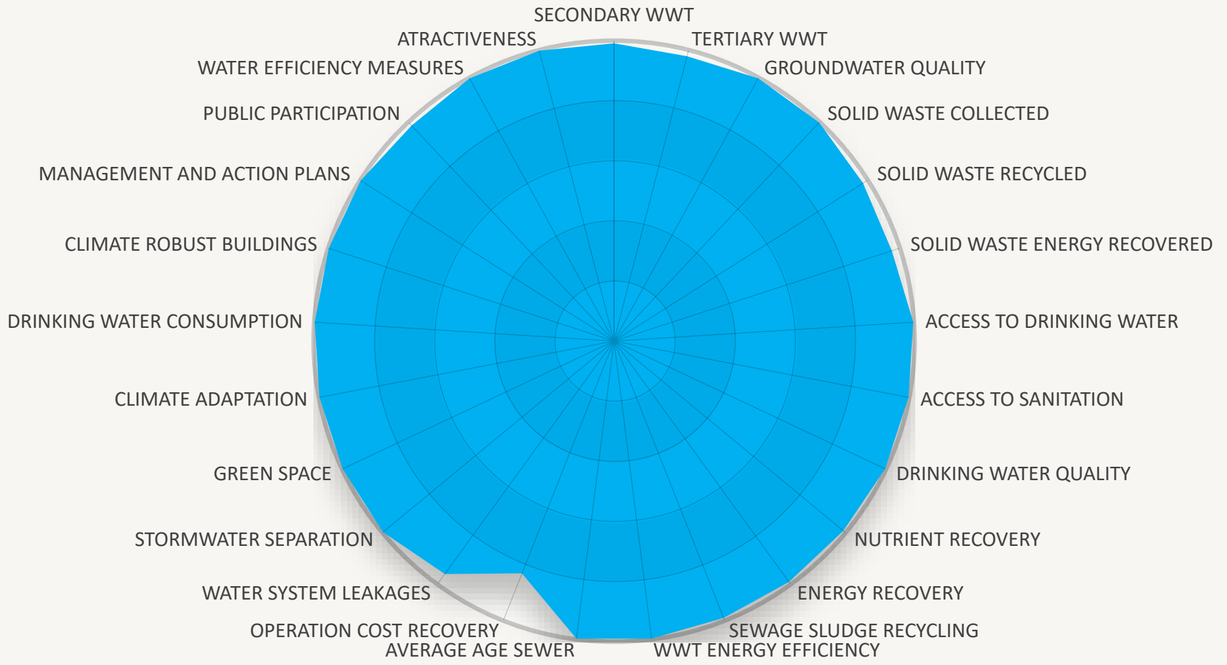


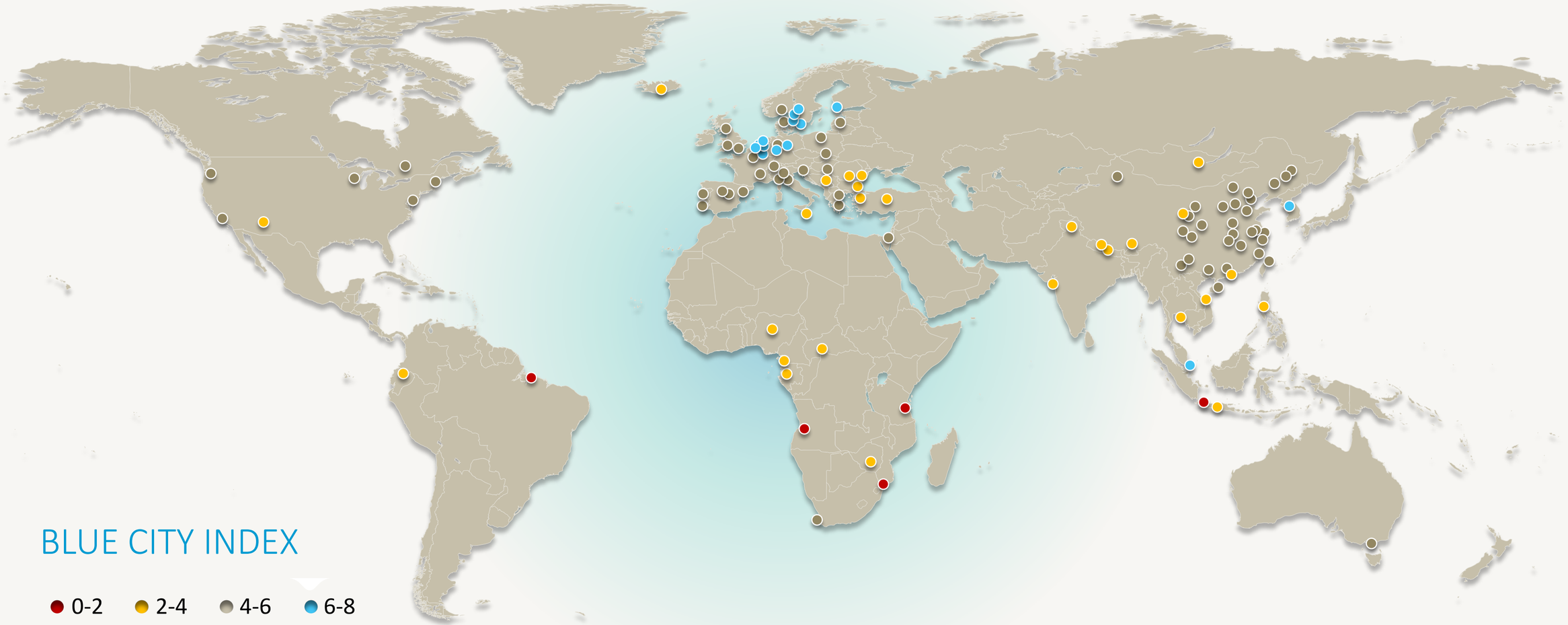
BCI 8.3

Amsterdam



THE BEST SCORES FOR EACH INDICATOR OF 125 CITIES

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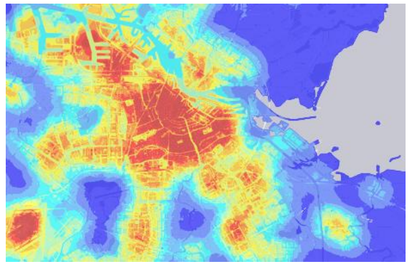
Step 2: What factors account for water wisdom?

Governance Capacity Analysis

Centered around 5 water challenges:

FLOOD RISK



URBAN HEAT ISLAND

WATER SCARCITY

WASTEWATER TREATMENT

SOLID WASTE PROCESSING

	DIMENSIONS	CONDITIONS
GOVERNANCE CAPACITY ANALYSIS 	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

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**	4.1. Stakeholder inclusiveness 4.2 Protection of core values 4.3 Progress and variety of options
	5 MANGAMENT AMBITION	5.1 Ambitious and realistic management 5.2 Discourse embedding 5.3 Management cohesion
	6 AGENTS OF CHANGE	6.1 Entrepreneurial agents 6.2 Collaborative agents 6.3 Visionary agents

Enabling	**7 MULTI-LEVEL NETWORK POTENTIAL**	7.1. Room to manoeuvre 7.2 Clear division of responsibilities 7.3Authority
	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

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 process 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 interests of the initiating party**
-	**Low influence on end-result**	**Stakeholders are by 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. Literature study for each of the 27 indicators and each challenge
2. Fiftheen in-depth interviewees
3. After the interviews the participants can give feedback with respect to preliminary results

Interview Petra in Melbourne

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watershare® **Governance Capacity Analysis** *beta*
version 1.0.1.562

Stef Koop
KWR Watercycle Research Institute
Administrator

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Show cities assessed for challenge:
All Challenges

Ahmedabad
India
5 water challenges

Bandung
Indonesia
2.4 million inhabitants. Situated on the island of Java
5 water challenges

Cape Town
South Africa
3 water challenges

Jerusalem

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Flood Risk in **Leicester**

Delete
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Publish

Researchers...

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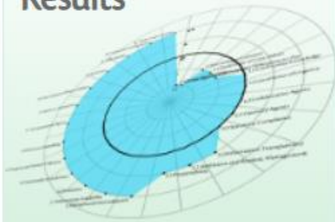
Step 1: Literature Survey

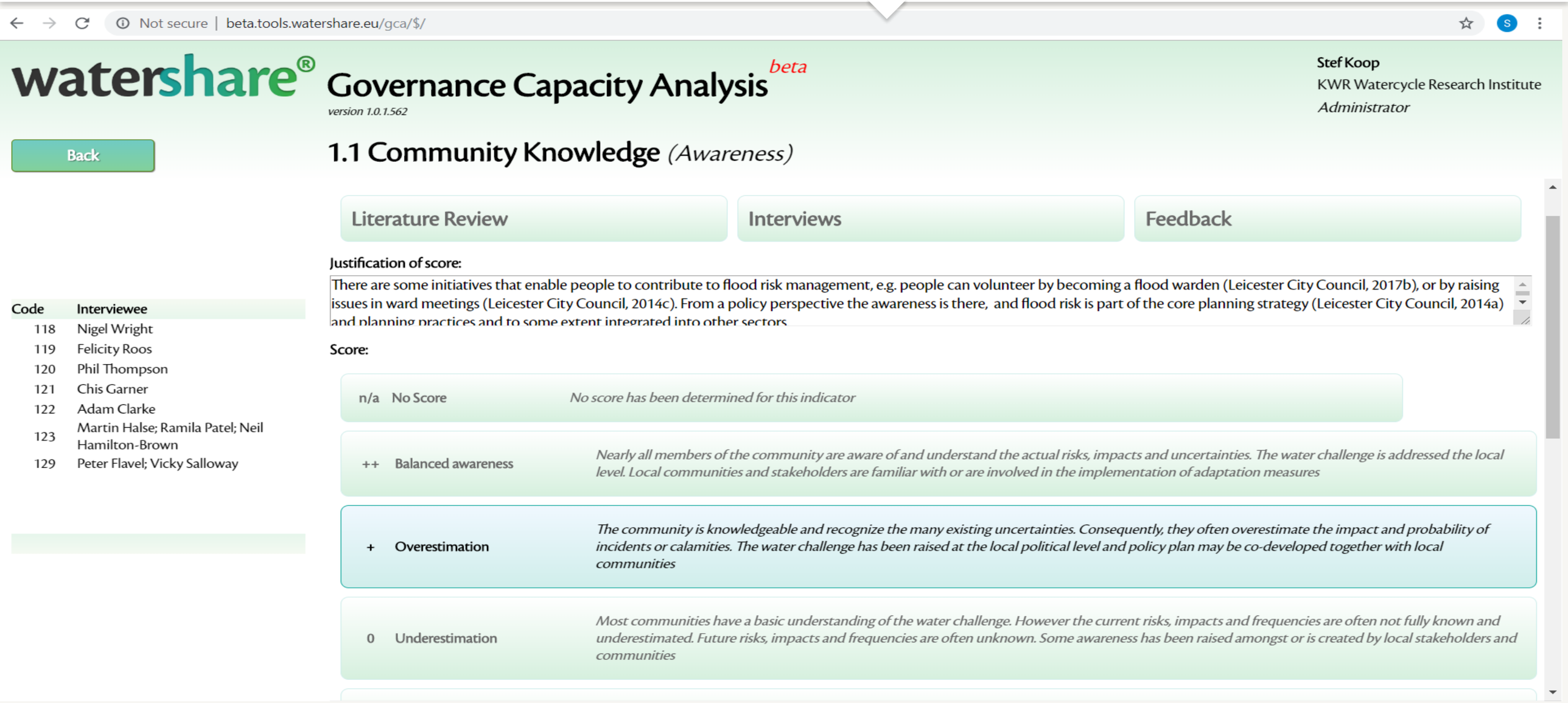
Step 2: Interviews

Step 3: Feedback

Step 4: Scoring

Step 5: Results

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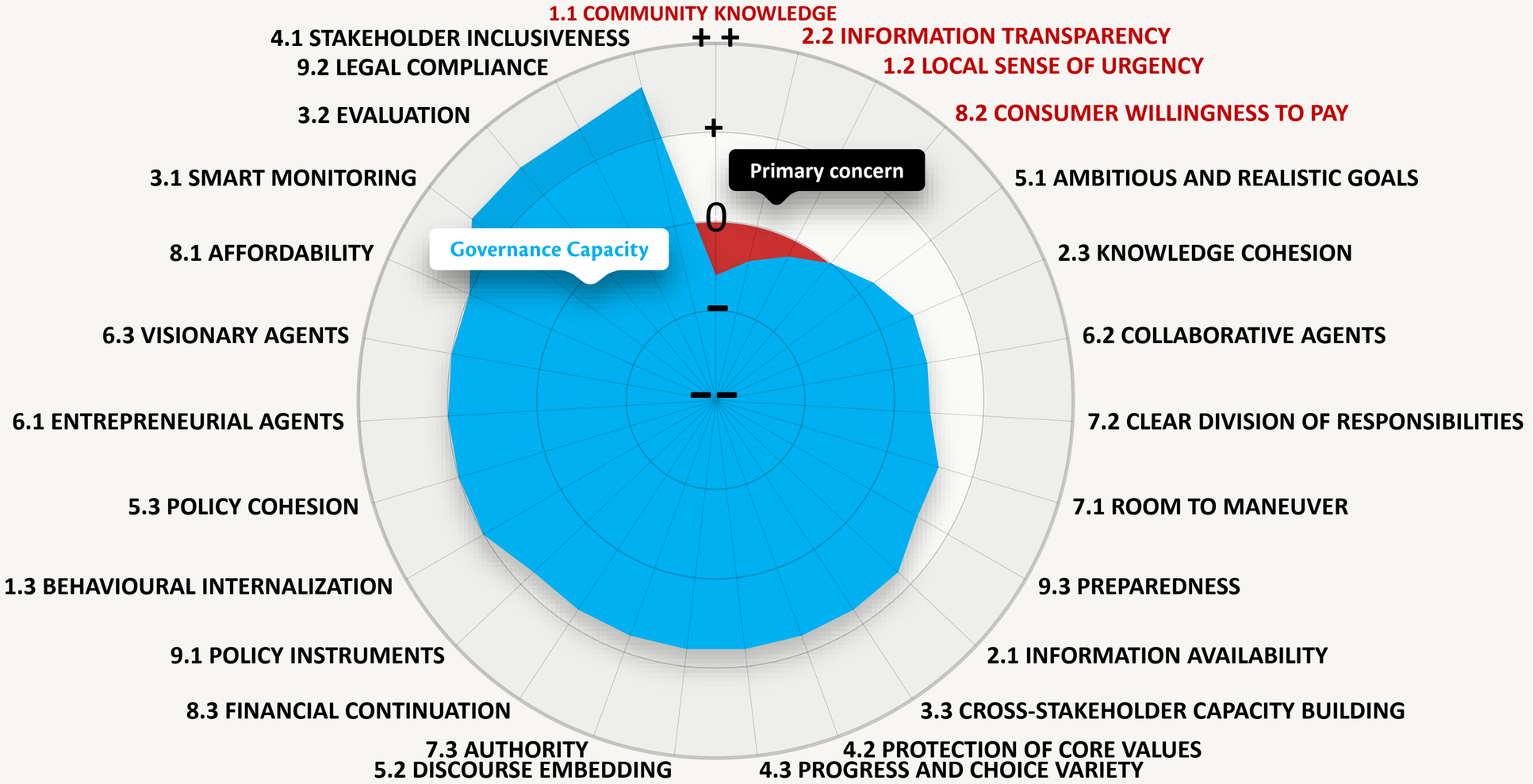
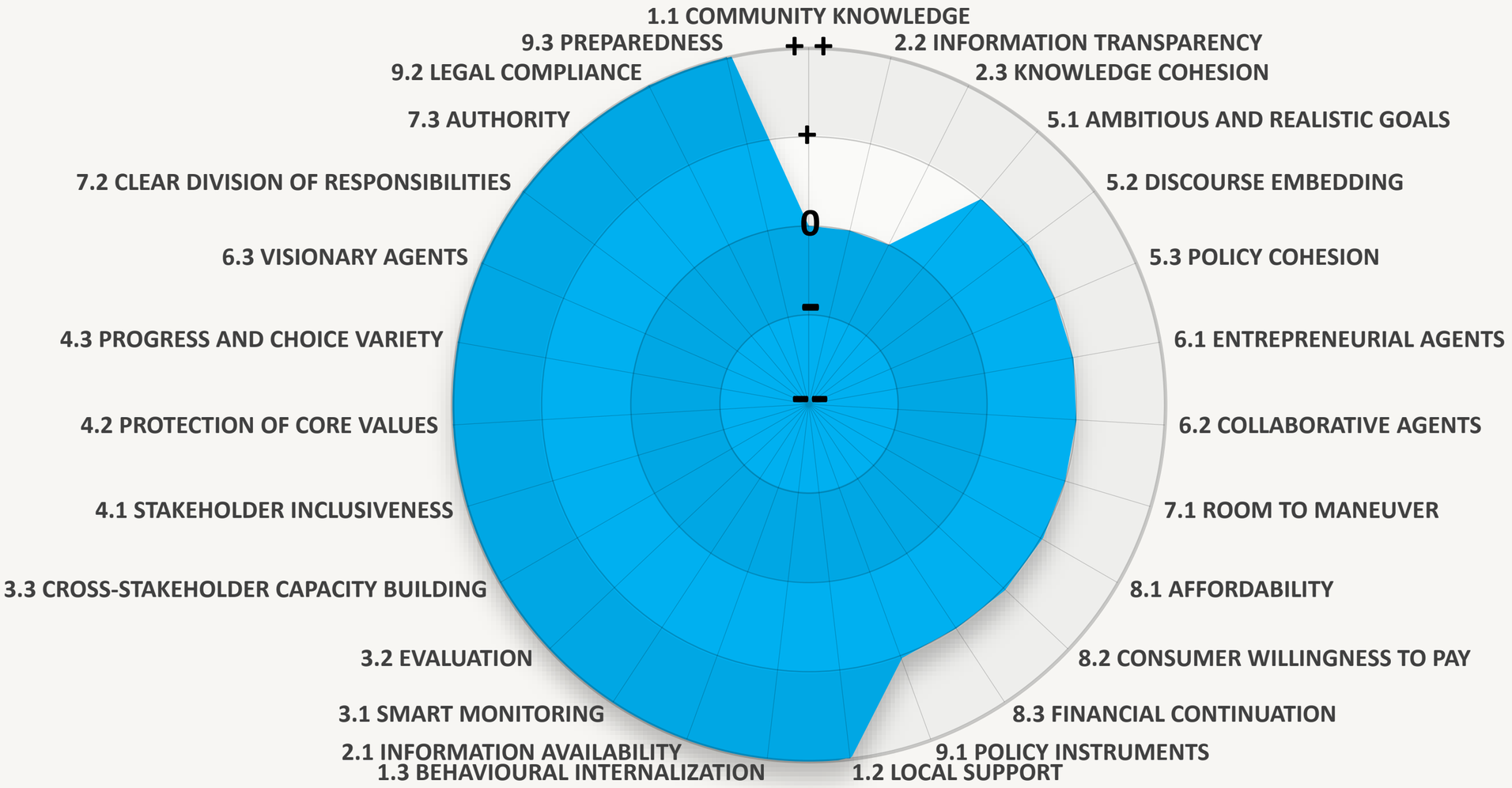
Back
1.1 Community Knowledge (Awareness)
Literature Review
Interviews
Feedback
Justification of score:
There are some initiatives that enable people to contribute to flood risk management, e.g. people can volunteer by becoming a flood warden (Leicester City Council, 2017b), or by raising issues in ward meetings (Leicester City Council, 2014c). From a policy perspective the awareness is there, and flood risk is part of the core planning strategy (Leicester City Council, 2014a) and planning practices and to some extent integrated into other sectors
Code Interviewee
118 Nigel Wright
119 Felicity Roos
120 Phil Thompson
121 Chis Garner
122 Adam Clarke
123 Martin Halse; Ramila Patel; Neil Hamilton-Brown
129 Peter Flavel; Vicky Salloway
Score:
n/a No Score No score has been determined for this indicator
++ Balanced awareness Nearly all members of the community are aware of and understand the actual risks, impacts and uncertainties. The water challenge is addressed the local level. Local communities and stakeholders are familiar with or are involved in the implementation of adaptation measures
+ Overestimation The community is knowledgeable and recognize the many existing uncertainties. Consequently, they often overestimate the impact and probability of incidents or calamities. The water challenge has been raised at the local political level and policy plan may be co-developed together with local communities
0 Underestimation Most communities have a basic understanding of the water challenge. However the current risks, impacts and frequencies are often not fully known and underestimated. Future risks, impacts and frequencies are often unknown. Some awareness has been raised amongst or is created by local stakeholders and communities

Results Amsterdam



FLOOD RISK


1.1 COMMUNITY KNOWLEDGE
2.2 INFORMATION TRANSPARENCY
2.3 KNOWLEDGE COHESION
5.1 AMBITIOUS AND REALISTIC GOALS
5.2 DISCOURSE EMBEDDING
5.3 POLICY COHESION
6.1 ENTREPRENEURIAL AGENTS
6.2 COLLABORATIVE AGENTS
7.1 ROOM TO MANEUVER
8.1 AFFORDABILITY
8.2 CONSUMER WILLINGNESS TO PAY
8.3 FINANCIAL CONTINUATION
9.1 POLICY INSTRUMENTS
1.2 LOCAL SUPPORT
1.3 BEHAVIOURAL INTERNALIZATION
2.1 INFORMATION AVAILABILITY
3.1 SMART MONITORING
3.2 EVALUATION
3.3 CROSS-STAKEHOLDER CAPACITY BUILDING
4.1 STAKEHOLDER INCLUSIVENESS
4.2 PROTECTION OF CORE VALUES
4.3 PROGRESS AND CHOICE VARIETY
6.3 VISIONARY AGENTS
7.2 CLEAR DIVISION OF RESPONSIBILITIES
7.3 AUTHORITY
9.2 LEGAL COMPLIANCE
9.3 PREPAREDNESS
++
+
0
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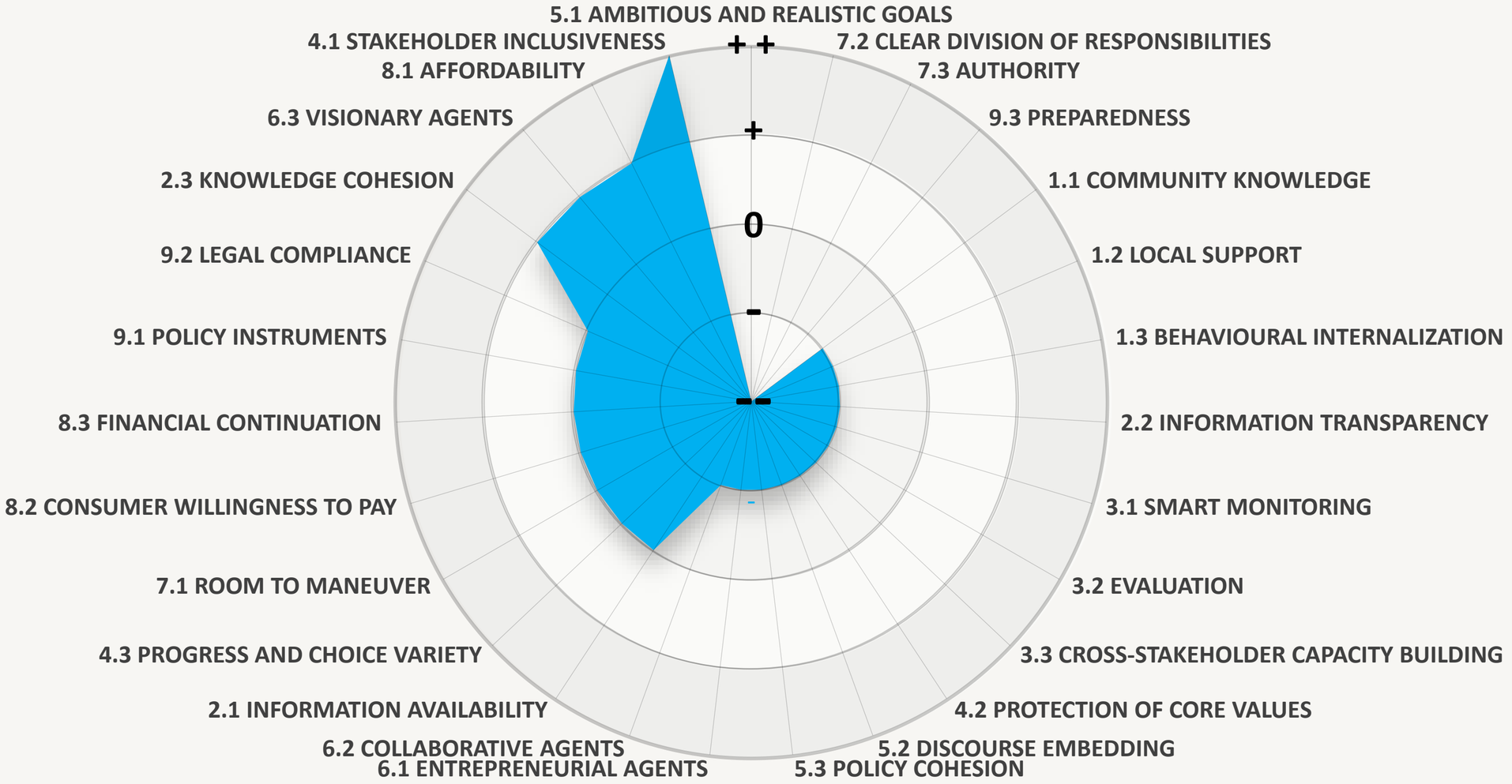
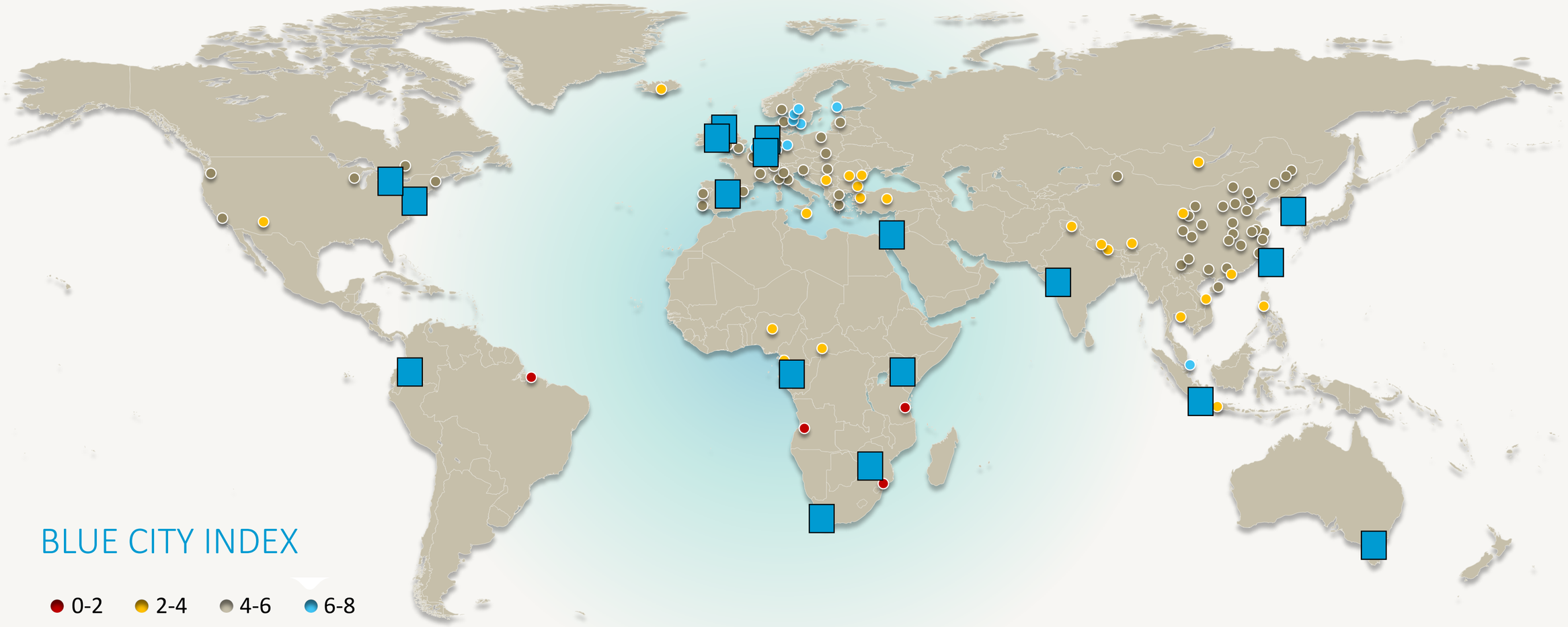
URBAN HEAT ISLANDS

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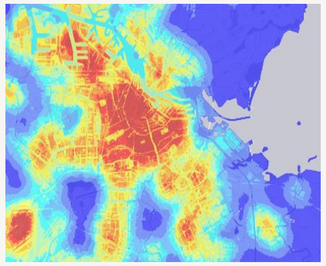
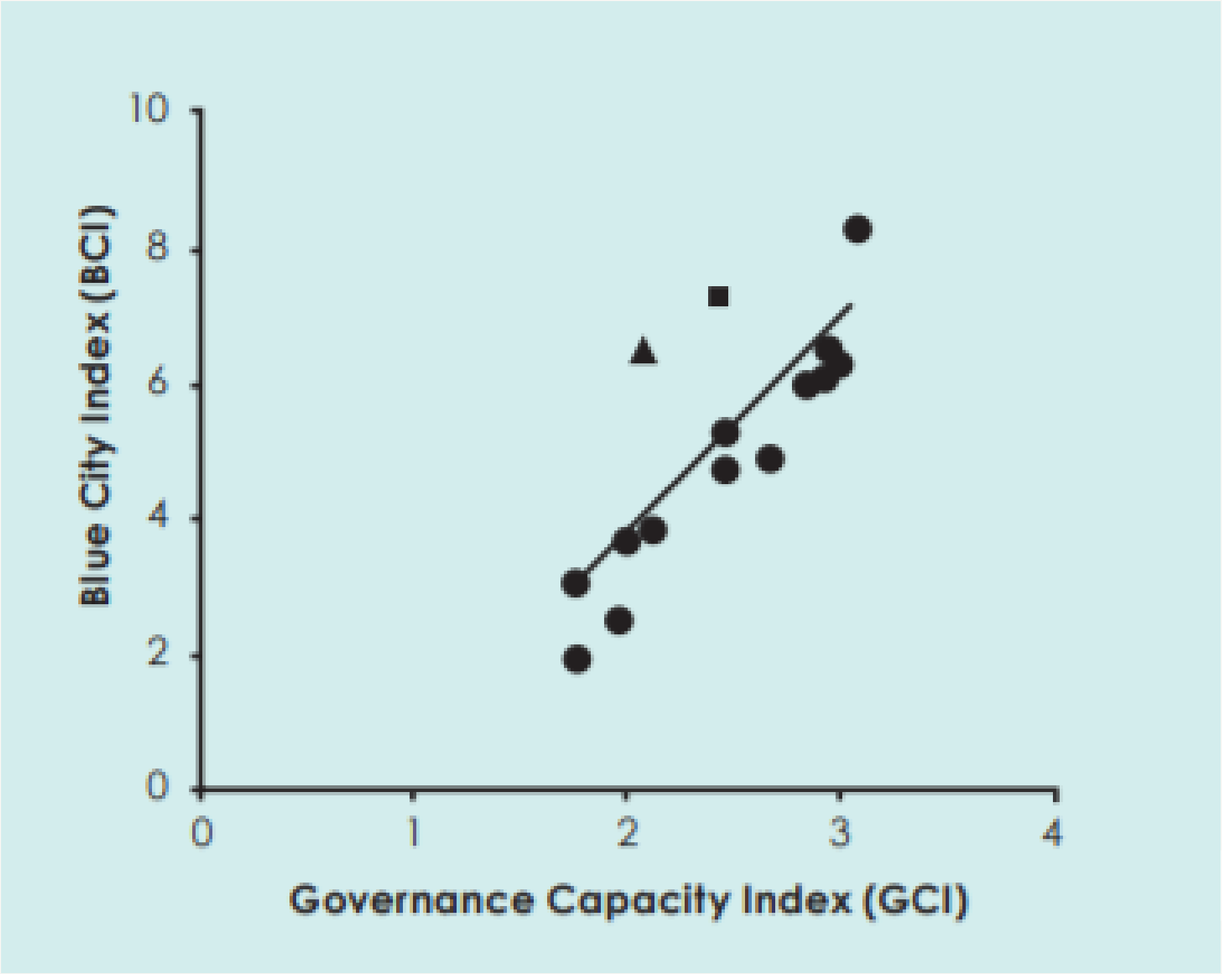


	Flood risk	Water scarcity	Wastewater treatment	Solid waste treatment	Urban heat islands	Water reuse
1. Amsterdam	■	■	■	■	■	
2. Melbourne	■	■	■	■	■	
3. Ahmedabad	■	■	■	■	■	
4. Quito		■				
5. Sabadell						■
6. Navaisha						■
7. New York City	■	■	■	■	■	
8. Bandung	■	■	■	■	■	
9. Leicester	■					
10. Milton Keynes		■				
11. Rotterdam	■					
12. Taipei	■					
13. Cape Town		■				
14. Jerusalem		■				
15. Seoul		■				
16. Utrecht		■				

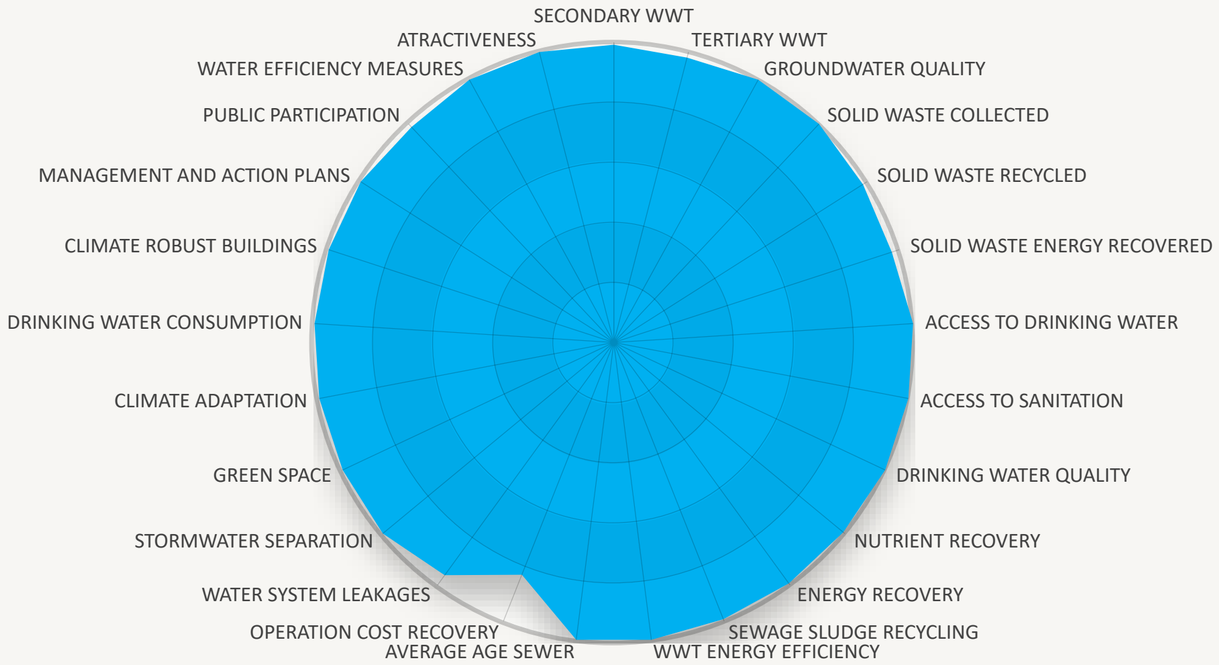
What is the relation between water management performances and governance capacity?



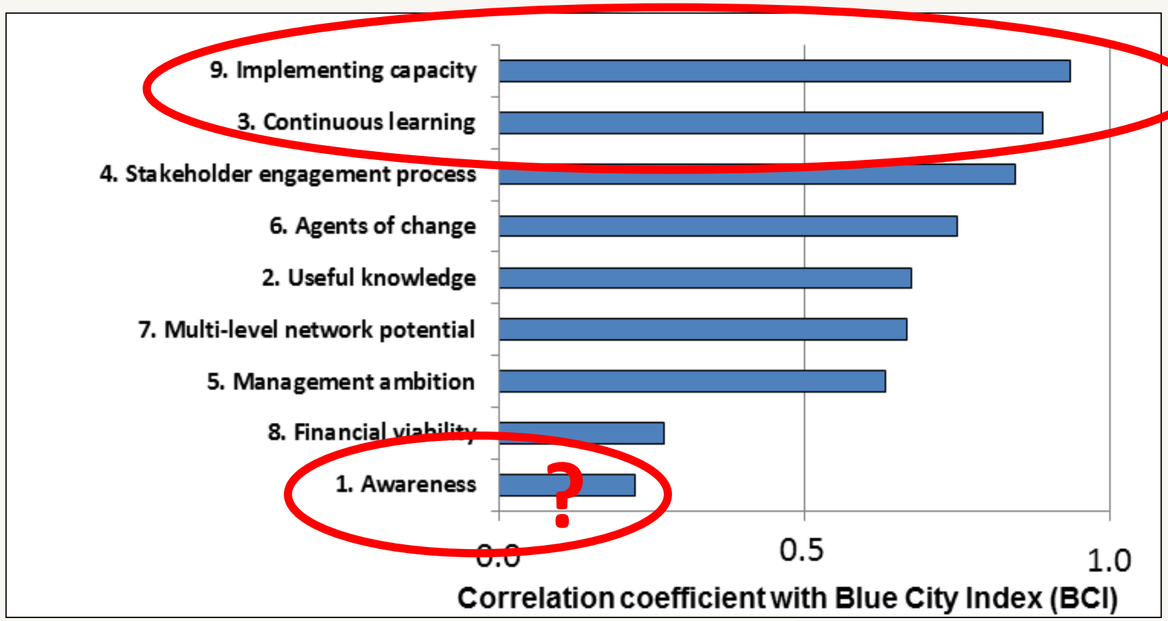
Conclusion

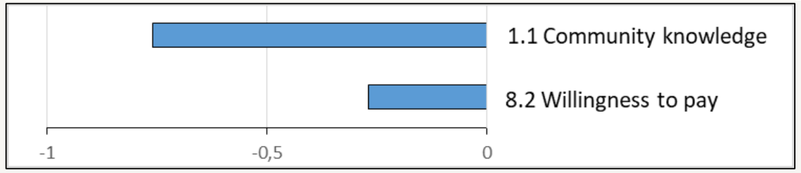
What factors account for water wisdom in urban areas across the globe?

1. What is water wisdom?



2. What factors account for water wisdom?





Applicability for you

- Method designed to be applicable as self-assessment → e.g. in workshops
- Can be useful as a checklist for governance assessments
- Method has mainly been tested & applied by students (17 in total!)
  - Laurence (method development)
  - Alisa (Amsterdam)
  - Eric (Quito)
  - Petra (Melbourne)
  - Martien (Ahmedabad
  - Daniel (NYC)
  - Marketa (Sabadell
  - Suzanne (Taipei),
  - Noyara (Bandung)
  - Laura (Leicester)
  - Fabian (Milton Keynes & Rotterdam)
  - Chakira (Jerusalem)
  - Boipelo (Cape Town)
  - Romy (Utrecht)
  - Daniel (Naivasha)
  - Fritz (Libreville)
  - Seba (Toronto)

List of papers: https://www.sciencedirect.com/science/article/pii/S2589811620300227

- METHOD GOVERNANCE CAPACITY ANALYSIS: HTTPS://LINK.SPRINGER.COM/ARTICLE/10.1007/S11269-017-1677-7

- METHOD CITY BLUEPRINT: 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, SOURTH-KOREA: HTTPS://WWW.MDPI.COM/2073-4441/10/6/682
- UTRECHT, THE NETHERLANDS: HTTPS://WWW.MDPI.COM/2073-4441/11/7/1501

- DISSERTATION: HTTPS://LIBRARY.KWRWATER.NL/PUBLICATION/59260805/

For questions and other input, please contact me:
Stef.koop@kwrwater.nl

Are there any Questions???