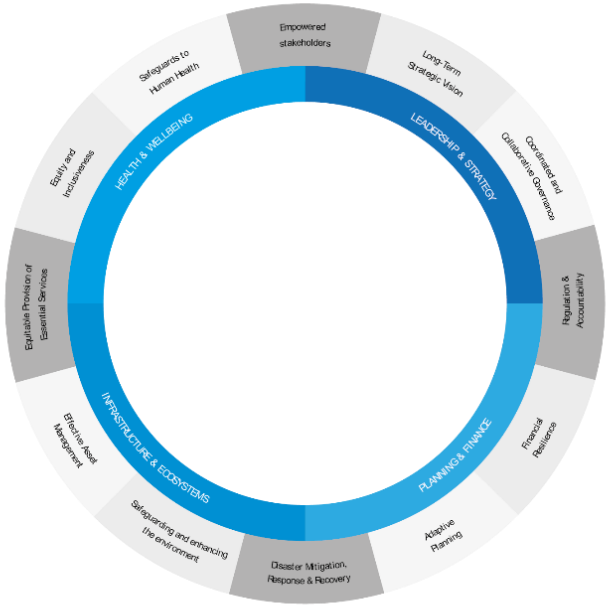
CITY WATER RESILIENCE APPROACH (CWRA)

ARUP SIWI THE WORLD BANK IBRD • IDA PIONEERED BY THE ROCKEFELLER FOUNDATION 100 RESILIENT CITIES THE RESILIENCE SHIFT

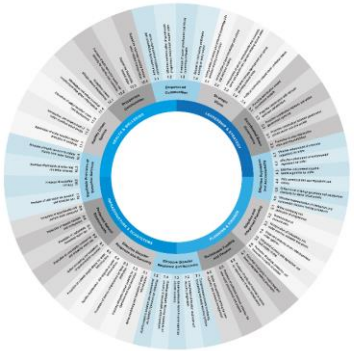
Principles of the City Water Resilience Approach

Inclusive and transparent	Brings together different perspectives from water and city stakeholders and encourages collective action
Systems-based	Takes account of inter-dependencies with other systems
Holistic	Includes leadership and strategy, planning and finance, infrastructure and ecosystems and personal, household and community resilience
Action-oriented	Encourages the ownership, development and progression of actions to improve water resilience
Scalable and global	Scalable from towns through to mega cities and applicable to a global context



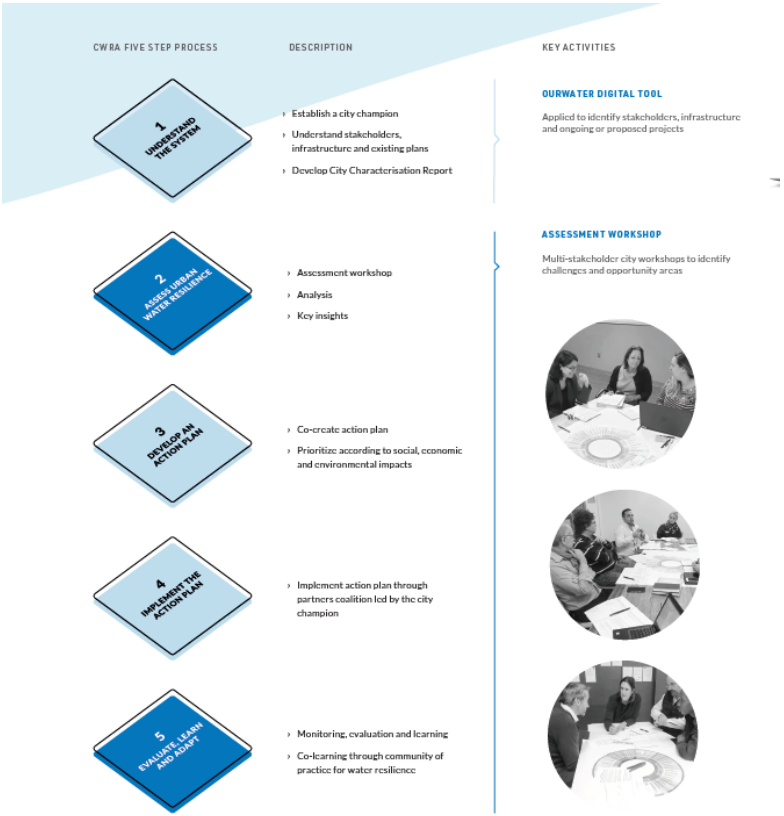
CWRA: Combination of different resources/tools

OurWater digital tool



City Water Resilience Framework (CWRF)

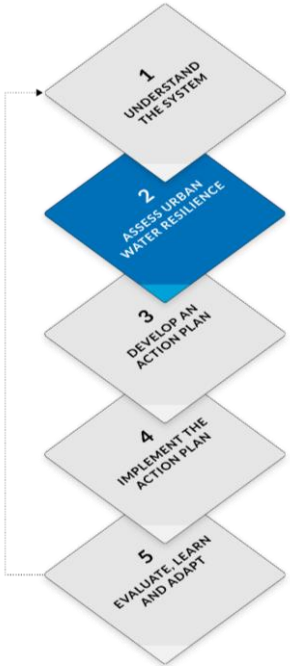
ARUP SIWI RESILIENT THE RESILIENCE SHIFT

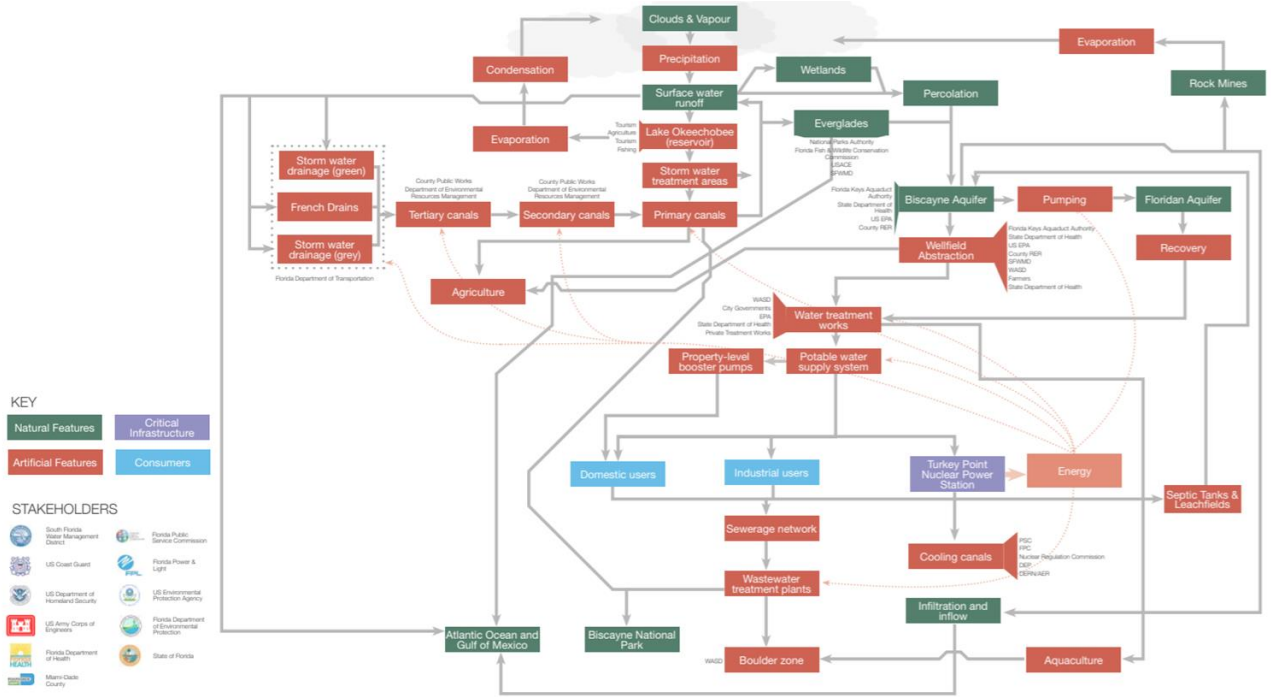


Five step approach

Implementation

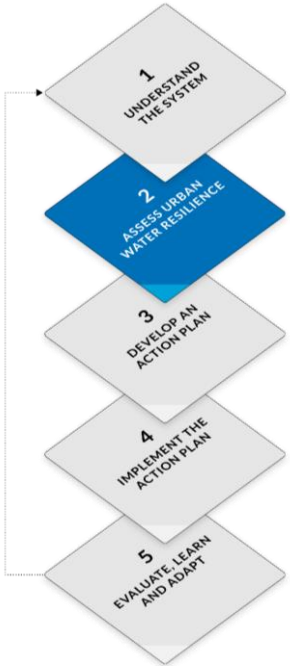
Step 1: Understand the system

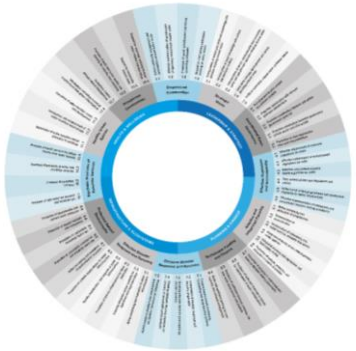




OurWater Governance Tool

Step 2: Assess urban water resilience





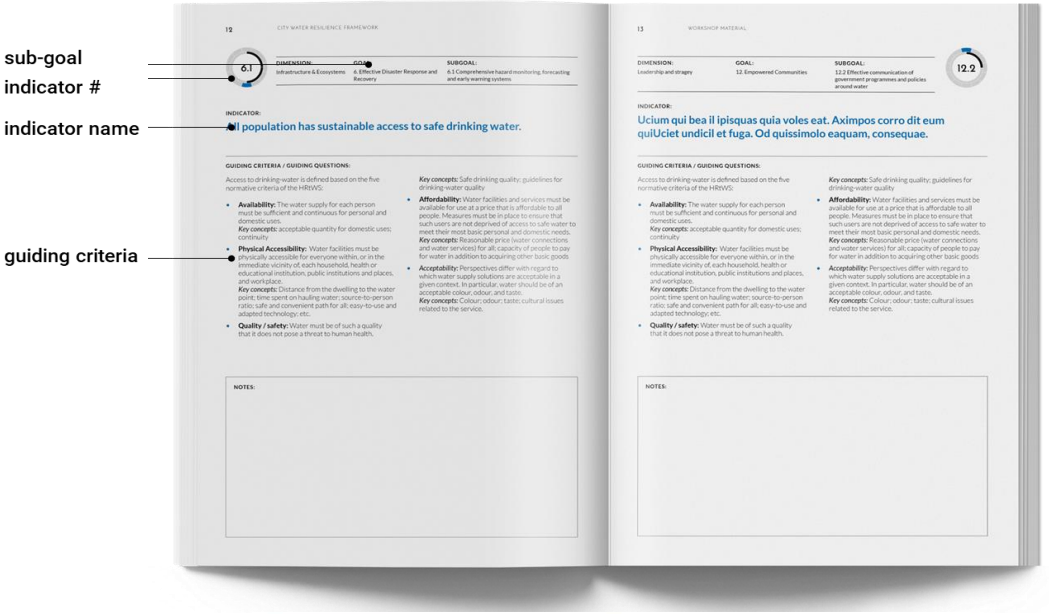
4 Dimensions
Leadership & Strategy
Planning & Finance
Infrastructure & Ecosystems
Health & Wellbeing

12 Goals

57 Sub-Goals

Qualitative Indicators

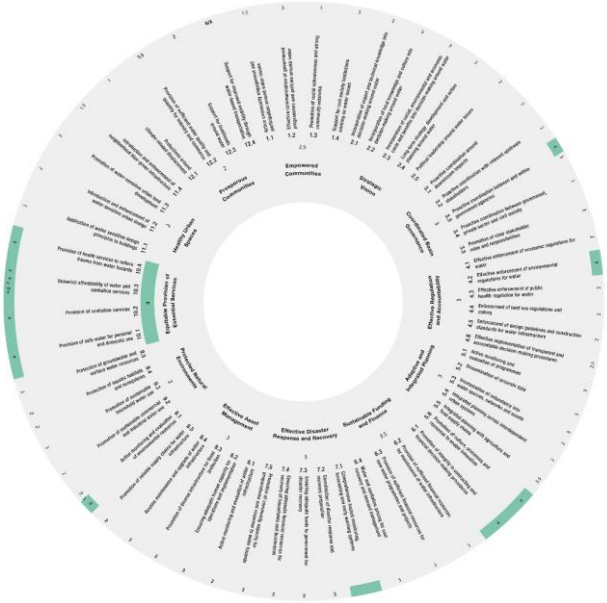
Quantitative Indicators



5 OPTIMAL	4 GOOD	3 FAIR	2 LOW	1 POOR	N/A
The indicator fully reflects current conditions in the city. No improvement is required.	The indicator mostly reflects conditions in the city. Minimal improvement is required.	The indicator somewhat reflects conditions in the city. Some improvement is required.	The indicator mostly does not reflect conditions in the city. Significant improvement is required.	The indicator does not at all reflect current conditions in the city.	The indicator is not relevant to the city.

Water Resilience Workshops • July 2019 • Miami, Florida

Strengths



Weaknesses

The City Water Resilience Assessment for Greater Miami and the Beaches was a collaborative effort based on a multi-stakeholder approach with the end goal of achieving a holistic evaluation of the region.

Highlights from the Workshops

Leadership & Strategy

- Resilience is increasingly well-recognized by Miami leadership but long-term planning for resilience is needed
- Efforts are needed to promote coordination with upstream stakeholders (agriculture, SFWMD, etc.)

Health & Wellbeing

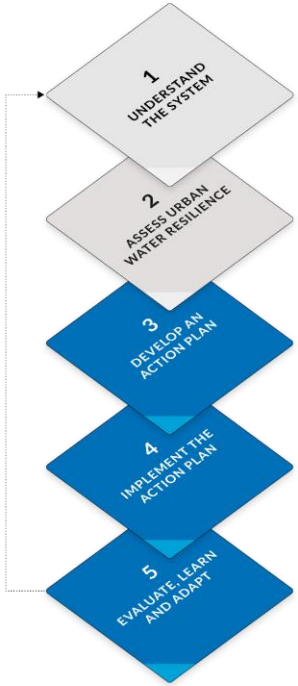
- GMB needs strategies to integrate community voices into policy and planning around water
- Focused outreach is needed to include vulnerable and disadvantaged groups in planning efforts

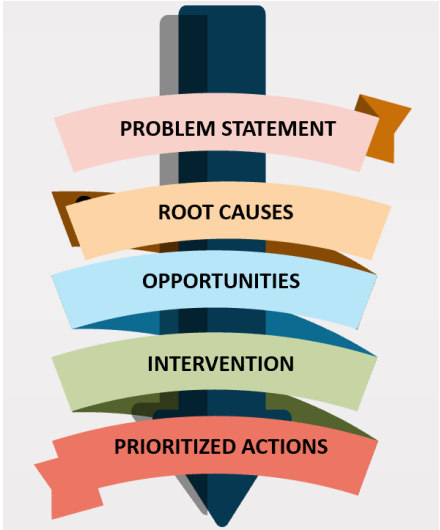
Infrastructure & Ecosystems

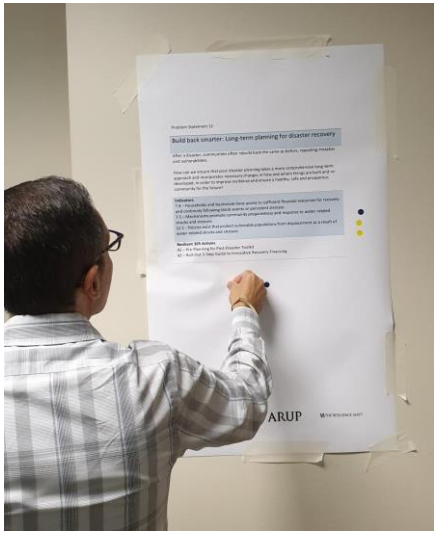
- Early warning systems and preparedness programs are generally good for shocks & disasters, but communities are often less equipped to respond to chronic stresses
- Emphasis is needed to promote green infrastructure in GMB

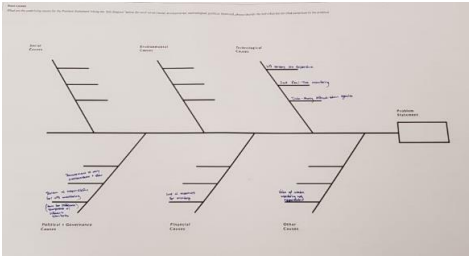
Planning & Finance

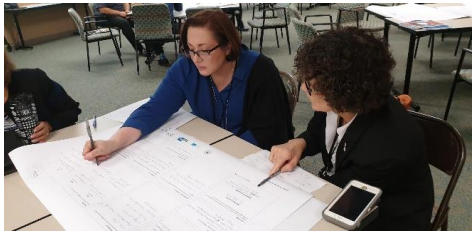
- More can be done to integrate planning across different regional agencies (e.g. transportation, water and sewer, urban planning, etc.)
- There is more to do to promote post-recovery plans











Step 3: Develop an action plan

Priority Actions

- **The Challenge**
  Evidence-based decisions: Water & environmental data for decision-making

- Create an open-data portal to improve data accessibility and sharing between key stakeholders to support sound decision-making

- **The Challenge**
  Institutionalizing Resilience

- Build collaboration between governmental, community, academia, and other stakeholder groups to monitor advancement of actions addressing areas of lower-scoring quantitative and qualitative indicators, as well as to advance key joint projects to achieve outcomes that benefit all

Resources needed

Main items	Amount of resources
Consultative and preparatory meetings	$
Per diem for facilitators and rapporteurs for pre-workshop training	$
Training of facilitators and rapporteurs including meeting facilities rental	$$
Moderation fee and cost (depending on length of workshop)	$$
Venue and related equipment, depending on the overall size of the workshop in terms of participation and scope	$$$[1]
Lunch cost for all participants	$$
Residential workshop (acommodations and full board for residents)	$$$
Transportation for participants	$$
Training of facilitators and rapporteurs including meeting facilities rental	$$

… but also, and mainly, it is important to allocate sufficient resources in terms of **staff time** and **dedicated efforts** to sustain ownership at all levels and scales, to ensure successful and sustainable implementation

Photo: Shutterstock

ARUP SIWI RESILIENT THE RESILIENCE SHIFT

Thank you