



Water, Climate Change and Pandemics – Building Resilience Faster

30 September 2020 – Belynda Petrie

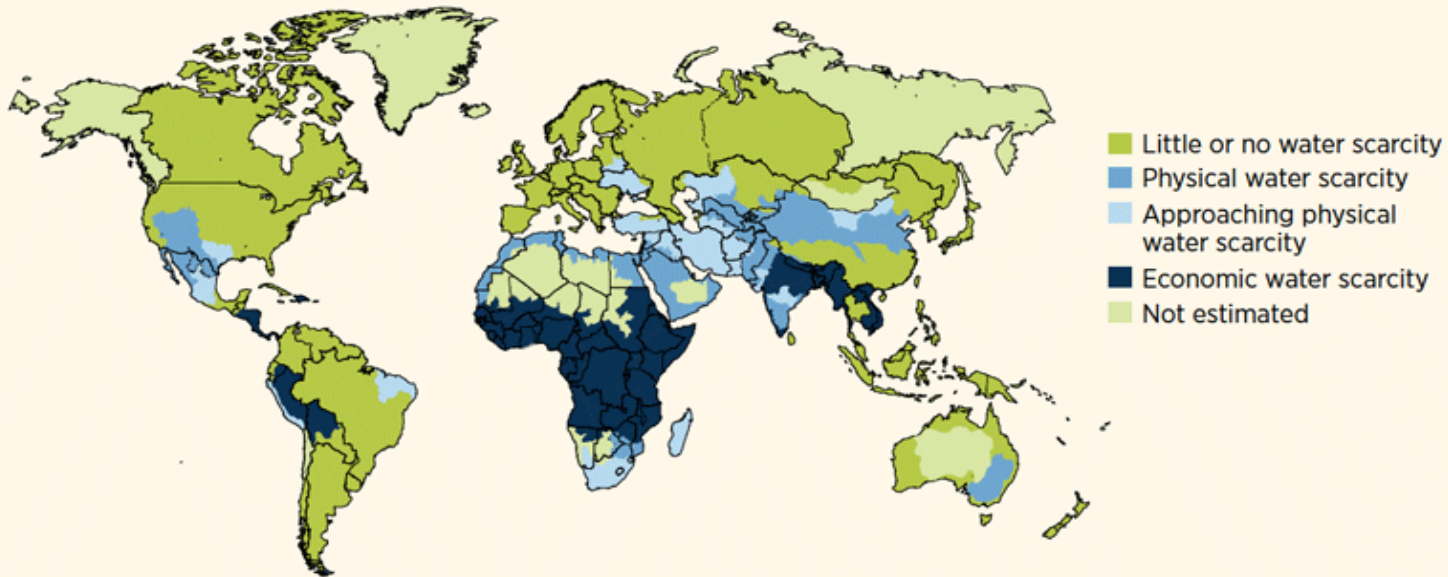
Overview

- Water is the climate change stress multiplier
- Building resilience for multiple crises
- The cornerstones of resilience
- Disruptive innovation for water management
- Water management in CC Adaptation Strategies
- Building back better faster



Water is the primary medium through which we feel the impacts of climate change

Global physical and economic water scarcity



- Around 700 million people in 43 countries suffer today from water scarcity
- By 2025, 1.8 billion people will be living in areas with absolute water scarcity; two-thirds of the world's population in water stress
- Under the existing CC scenario, almost half the world's population will be living in areas of high water stress by 2030; water scarcity will displace between 24 million and 700 million people in arid/semi arid places
- Sub-Saharan Africa has the largest number of water-stressed countries of any region.



Water insecurity affects key sectors - agriculture, health, energy, and tourism

Climate change impacts: temperature rise; sea level rise; changes in seasonal rainfall patterns; increased intensity and frequency of extreme events (e.g. floods and droughts)

Biophysical impacts: Decrease in soil fertility, reduced water availability; high dependence on groundwater extraction, increased rate of evapotranspiration

Socio-economic Impacts: Low crop yields, food insecurity, hunger; increased competition for water & land resources, increased land clearance; vegetation and ecosystem services loss & degradation, loss of arable land

Social impacts: increased poverty and food insecurity; chronic malnutrition resulting in a higher human disease burden; increased water pollution; governance and institutional impacts



Building Resilience Faster for Multiple Crises

- Water is the stress multiplier for climate change; 80% of CC investment must be channelled into building resilience through water
- CC puts us at risk of exacerbating injustices in water access
- COVID-19 has heightened and accentuated water problems around the world, delaying SDG achievement
- Frequent and proper handwashing is the most basic frontline defense against the spread of COVID-19. Yet a quarter of the world's population lacks access to a reliable water supply—a far cry from the aspirations of SDG 6



Ensure availability and sustainable management of water and sanitation for all by 2030



Bringing BIG ideas together...

- Climate change is an opportunity for convening different people around different sets of issues
- A shared sense of concern = the common denominator among groups that may seem surprising
- Bring together land use change with ecosystems resilience with infrastructure developers
- Define the problem by linking a range of problems to interconnected systems

Resilience requires collaboration

Silos are increasingly dangerous

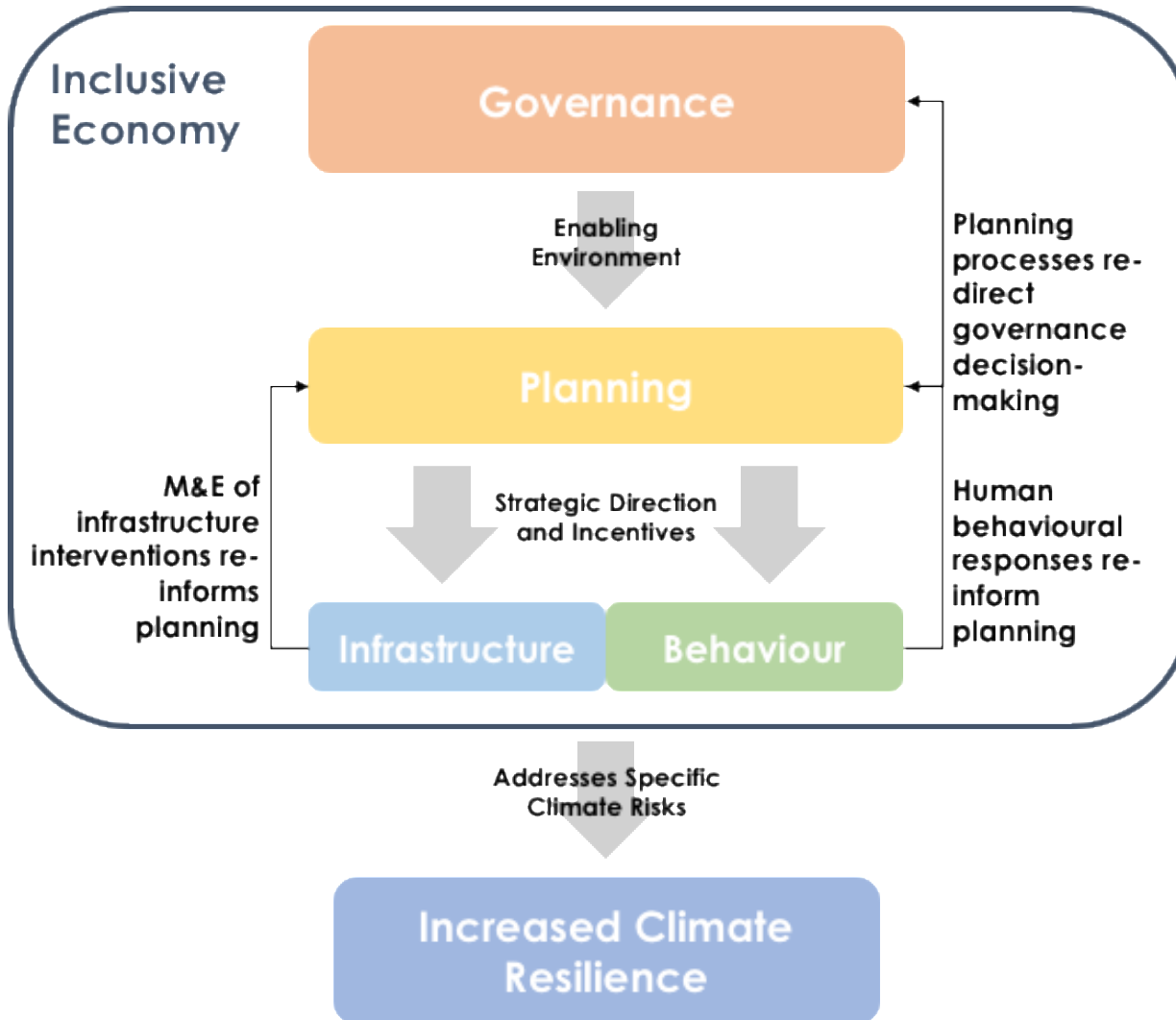
Disruptive innovation is central to transformative change

Changing behaviour is also about power

It is time for decisions – how can we leverage the urgency established by COVID for building longer term resilience?



Conceptualising climate resilience investments

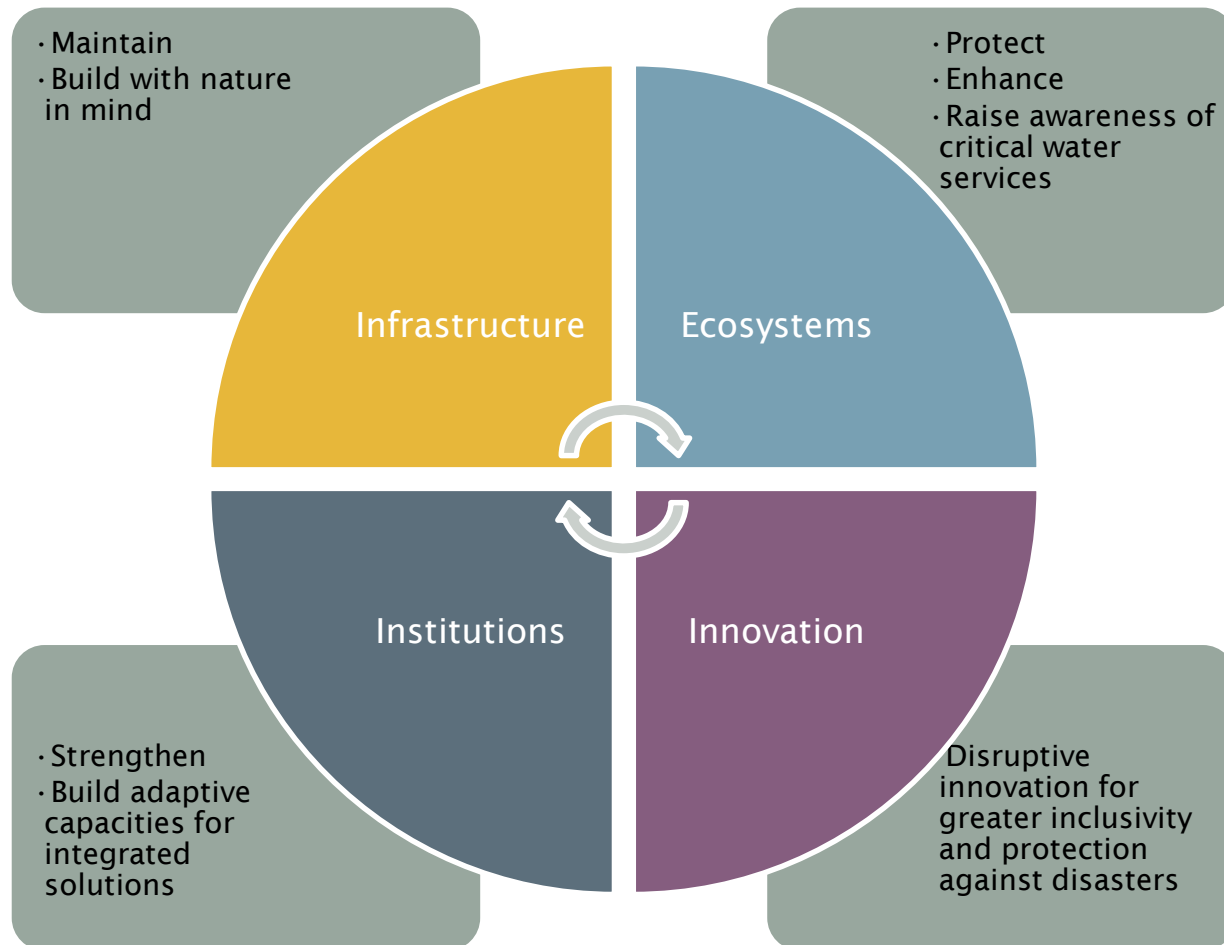


The City of Cape Town, in its draft Resilience Strategy for Cape Town, defines resilience as "the capacity of individuals, communities, institutions, businesses and systems within a city to survive, adapt and thrive no matter what kind of chronic stresses and acute shocks they experience." (CCT, 2019)

Climate resilience is the capacity for socio-ecological systems to: i) absorb stresses and maintain functionality in the face of external stresses imposed upon it by climate change; and ii) adapt, reorganize, and/or evolve into more desirable configurations that improve the sustainability and performance of the system, leaving it better prepared for future climate change impacts (Folke 2006; Nelson et al. 2007)



Water management in CC Adaptation Strategies



Disruptive Innovation in Water Adaptation



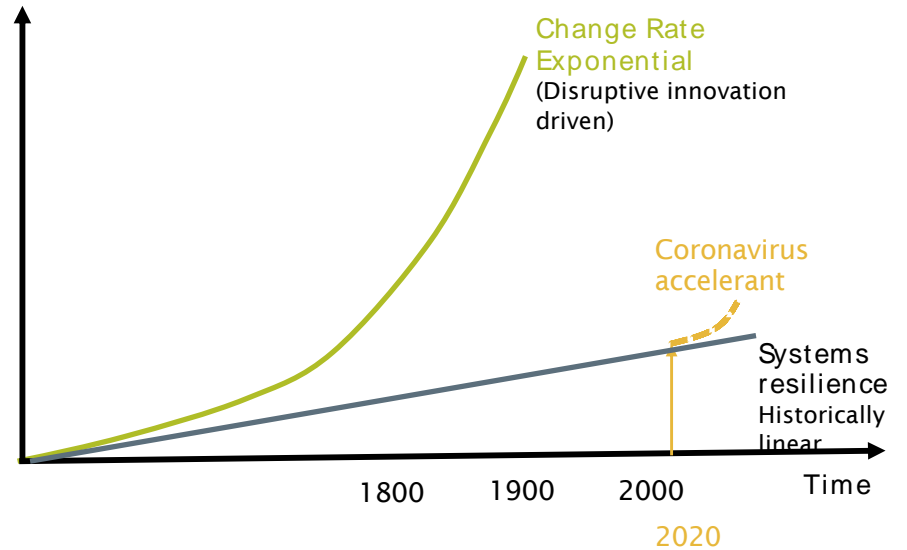
- Digital water is particularly promising
- The costs of centralised water and wastewater facilities are prohibitive and the effectiveness low/zero in the face of climate disasters
- Emerging economies can develop and manage off grid and localised water systems from scratch (e.g. cell phones leapfrogging landlines)
- *Grenada's innovative water management solutions for extreme climatic events*



How to Prepare, Pivot and Build Back Better, Faster?



Velocity of change



The COVID-19 Accelerator





Time to discuss...