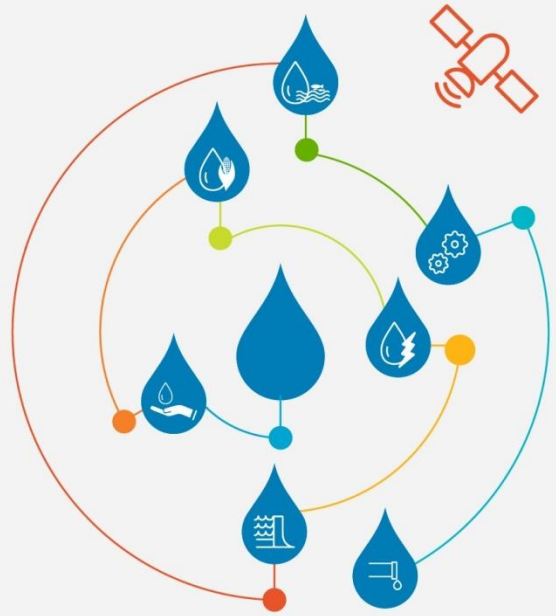
Building Resilience of Small Island Communities to Climate Change



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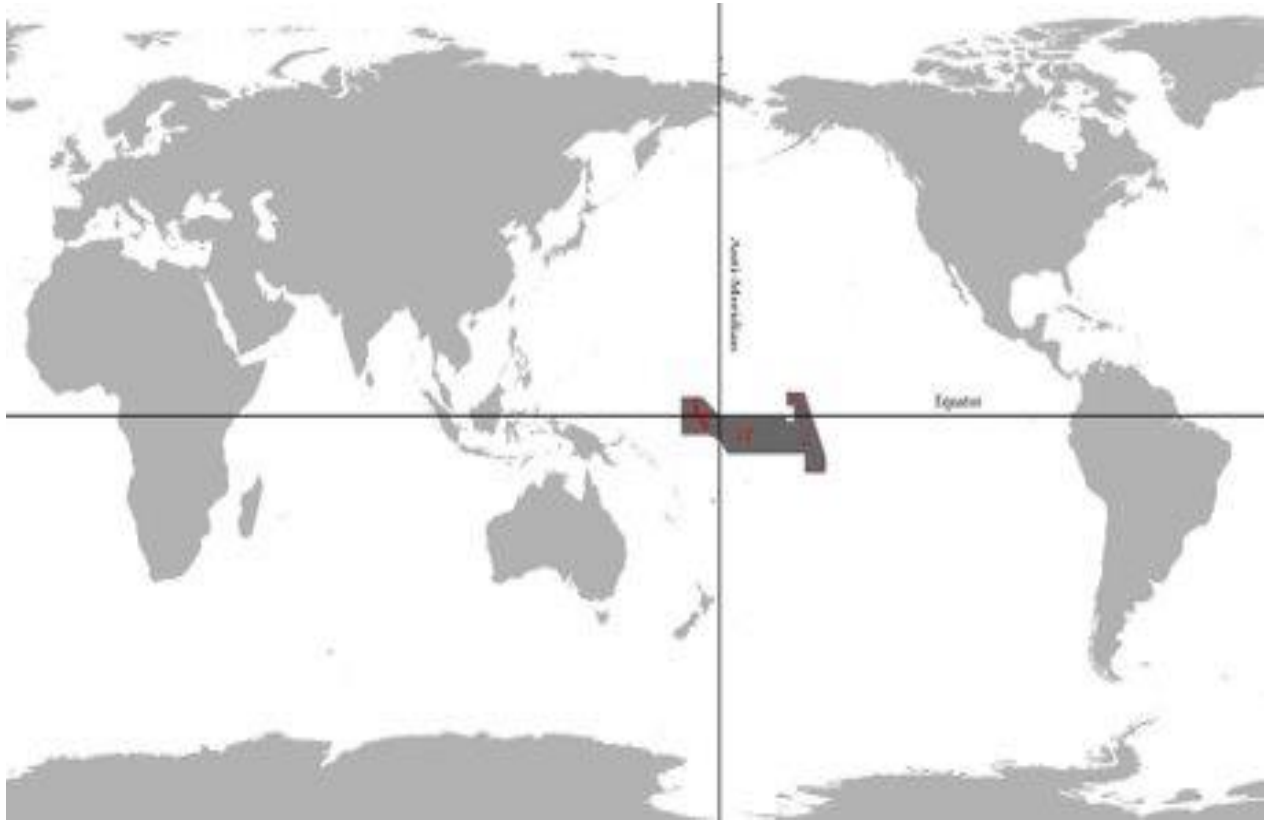
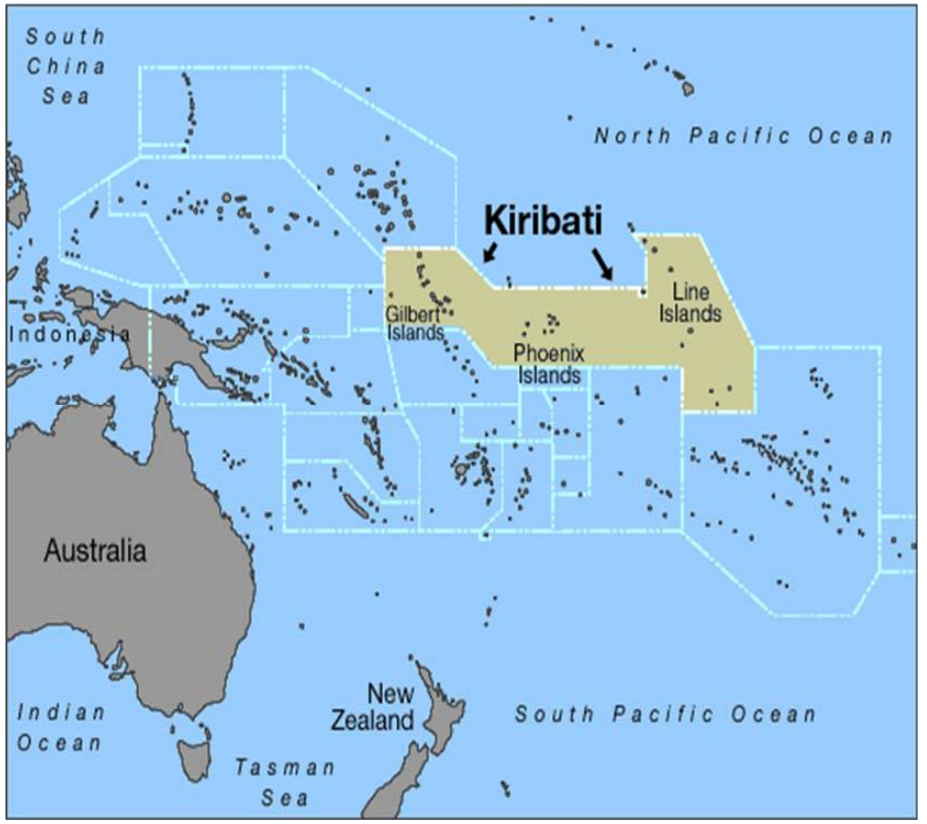
Kiribati





- Population: 115,000
- Capital: South Tarawa
- Spread over 3.5 million km^2 ocean
- 33 atolls, 21 inhabited
- Exports: Fish, Copra

Capital: South Tarawa

- Population: 56,000 on 16km^2
- Average height: 2m
- Average width: 400m
- Limited water resources

Water Resources

- Water Reticulated System (S. Tarawa)
- Rainwater
- Shallow Unconfined Groundwater
- Small Scale Desalination Plants (<100m^3/d)

Challenges

- Sea Level Rise
- Inundation & Groundwater Contamination
- Saline Groundwater
- Prolonged Droughts

Bonriki Water Reserve (Water Lens)

North East South West (NESW	BN1 (m)	BN2 (m)	BN1 28 (m)	BN27 (m)	BN21 (m)	BN26 (m)
Dry - Dec-10/Jan 11	7.30	6.83	15.78	18.14	19.29	5.09
May-18	6.90	4.80	15.00	12.80	4.27	6.30

South East North West (SENW	BN29 (m)	BN13 (m)	BN24 (m)	BN23 (m)	BN28 (m)	BN27 (m)	BN11 (m)
Dry - Dec-10/Jan 11	9.80	12.40	2.90	6.00	15.80	18.10	12.60
May-18	3.90	N/A	4.50	N/A	15.00	12.80	N/A

Source: WSEO, MISE 2018

- Dry period 2011 - state of emergency issued
- In 2018, Bonriki Water Reserve experienced critical thinning
- Freshwater yield impacted, taking years to recover depending on rainfall recharge

Building Resilience

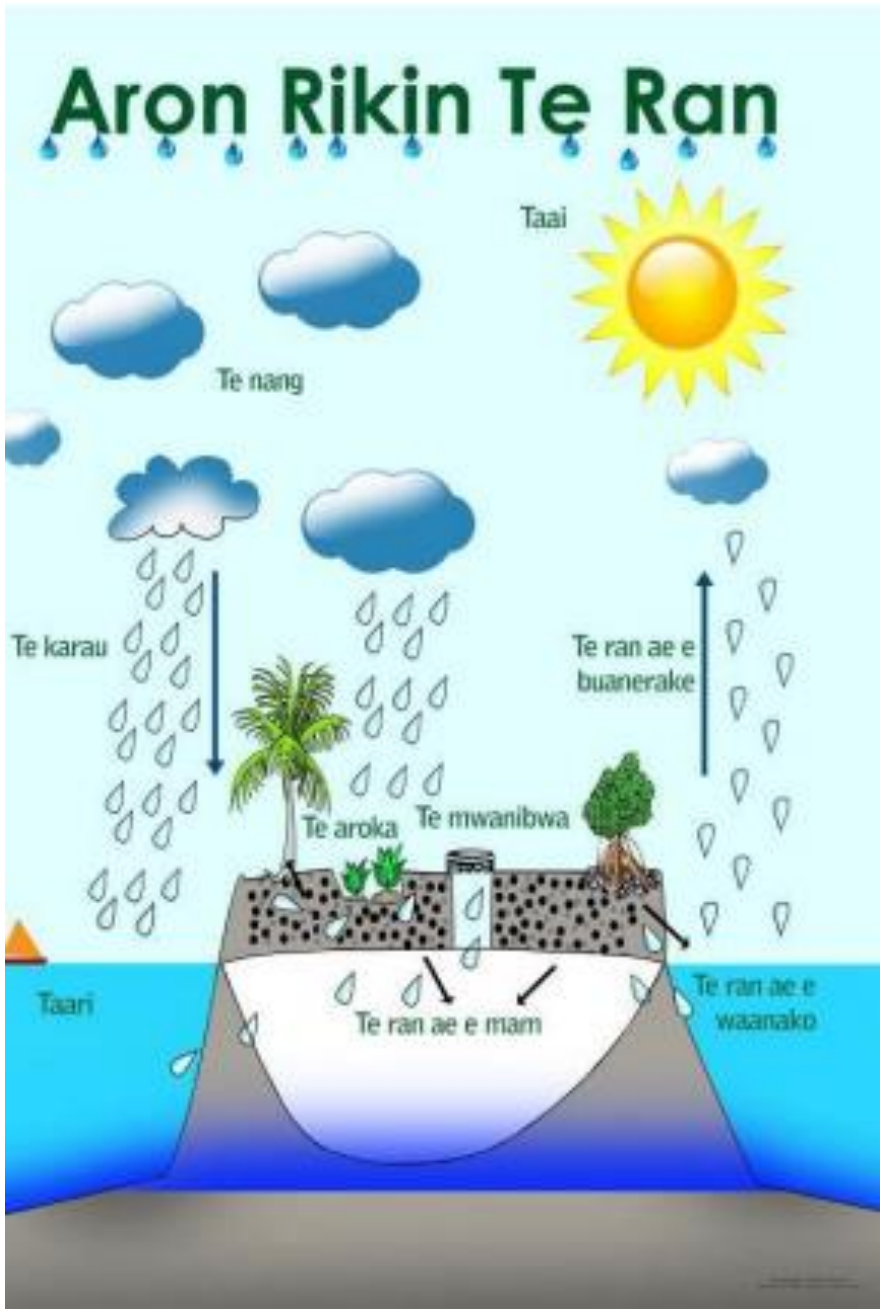
1. **Infrastructure**: Proposed South Tarawa Water Supply Project (STWSP)

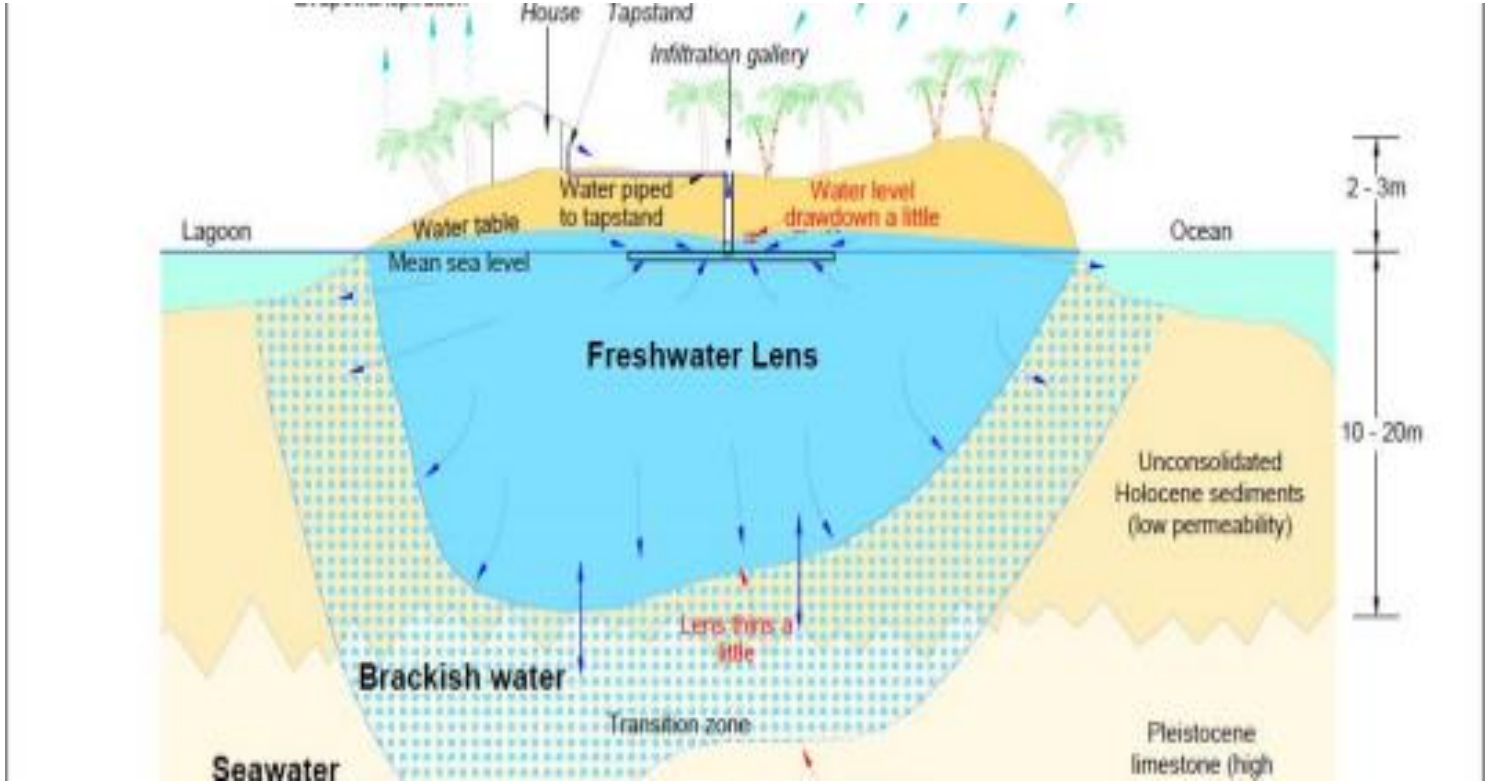
- Desalination with renewable energy offset
  - Attached visitor/education center
- Rehabilitated water supply network
- Potable water for all communities
- Climate change resilient design

Building Resilience

2. Capacity Strengthening

- Community engagement
- Water Sanitation and Hygiene (WASH)
- STWSP Visitor/Education Center





STWSP Visitor/Education Center

Building Resilience

3. Governance and Policy

- National Infrastructure Development Steering Committee (NIDSC)
- Drought Committee
- Kiribati National Energy Policy
- Disaster Fund

Summary

- Small island states including Kiribati face unique water supply challenges
- Climate change exacerbates these challenges
- Infrastructure such as desalination coupled with capacity strengthening and governance and policy play a key role in building community resilience