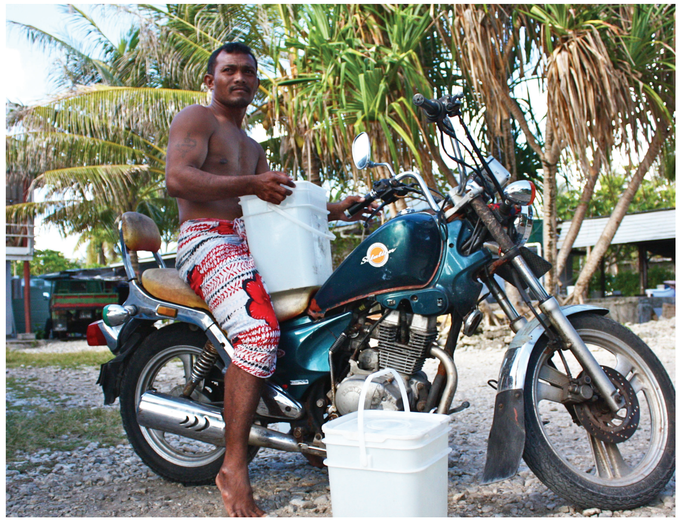
Water security options in Funafuti

Results from a Cost Benefit Analysis



Pictured here, a Tuvaluan collects his household water ration during a drought.
Photo source: Google Images

Funafuti faces significant risks to water security:

- Increased water demand (growing population and higher standard of living)
- Scarce resources and capital for water supply infrastructure
- High inter-annual variability in rainfall

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Cost Benefit Analysis results for Funafuti indicate that the following options would enable water security targets to be met cost effectively in drought years:

EMERGENCY TARGET (drinking & cooking — 45 litres/household/day)
Gutter cleaning and maintenance programme
Tuvalu Water Act enforced
CRITICAL TARGET (drinking, cooking, & personal hygiene — 90 litres/household/day)
Gutter cleaning and maintenance programme
Tuvalu Water Act enforcement
Cistern installation (2,250 kL capacity)
LONGER-TERM TARGET (drinking, cooking, personal hygiene & other basic water needs — 300 litres/household/day)
Gutter cleaning and maintenance programme
Tuvalu Water Act enforcement
Cistern installation (2,250 kL capacity)
Desalination plant and maintenance programme (130 kL/day capacity)

Despite these risks, the following actions can lead to water security for the people of Funafuti.

- **Establish a gutter cleaning and maintenance programme.** *An effective gutter cleaning and maintenance programme would ensure that there is enough water to supply all households in Funafuti with at least 45 litres of water per day during droughts—a proposed emergency target.*
- **Install or upgrade an additional 2,250 kL capacity of centralised rainwater cisterns (government or community).** *Centralised cisterns will generally be more cost effective and practical than providing households with additional rainwater tanks. Additional cistern water will enable a critical target of 90 litres/household/day to be achieved.*
- **Implement a desalination plant maintenance and repair programme.** *Desalination is not a cost effective or reliable means of meeting households' essential and critical water needs during droughts. However, it can contribute to meeting other basic water needs—i.e. a longer term target of 300 litres/household/day—provided it is supported with ongoing maintenance and repairs.*