

Water Conservation: Lessons from the Arid Continent

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Millennium Drought

- Australia – land of “droughts and flooding rains”
- Extreme rainfall variability particularly in south-east (urban centers, country’s “food basket”)
- Millennium Drought: 1995-2009
 - Urban water crisis
 - Agricultural production severely affected
- Impetus for major water reform



Australian water reform

- Water management and pricing largely state responsibility
- Nationally agreed water reforms through 1990s culminating in 2004 NWI
- Reforms included:
 - Introduction of water markets and water trading
 - Changes to water allocation system
 - Sustainable diversion limits for MDB
 - Water pricing reform to promote economic efficiency and sustainable water use

Water conservation during the Millennium Drought

- Water restrictions for outdoor use e.g. no watering of gardens
- Daily use targets e.g. Victorian 155 Target scheme (= 40 gallons per day per person)
- Urban water conservation programs and rebates eg rainwater tanks, dual flush toilets
- Fit for purpose water treatment
- Rural (MDB): \$5.8 b Sustainable Rural Water Use and Infrastructure Program
- Investment in new water supply esp. desal, recycled water, reducing leakage



Water conservation behaviors may be temporary

- Drought profoundly changed community attitudes to water
- But ...
- “Is the wally back? Melbourne water use surges”, *The Age* newspaper, Jan. 18, 2013
- Water use (summer) up to 238 litres/62 gallons per person (double former 155 target)
- Long term decreases in water consumption driven by:
 - Water pricing (urban)
 - Water trading (rural)



Water pricing reforms

- Main elements:
 - Consumption based pricing
 - Full cost recovery for water services
 - Subsidies removed or made transparent
- Implementation has been patchy
 - Most water utilities use block water tariff structure rather than flexible volumetric price
 - Tiered rate structure and price regulation not tied to water scarcity
 - Still heavy reliance on non-price instruments to achieve efficiency
- Even so, Australians pay more for water than Californian counterparts



Take homes

- Potential for water conservation through reducing consumption is substantial
- Non-price instruments (restrictions, rebates) can be effective especially during drought but conservation behaviors may not stick
- Long term water conservation depends on making water more expensive (pricing) and harder to get (trading)

