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Water policy and the application of natural capital accounting

Key water issues

- Water is essential for life and needed for economic activity
- Increasing water demand (population and economic growth)
- Impacts of climate change (floods and droughts)
- Declining water availability (changes in rainfall, upstream use or degraded water quality)
- Investment is needed for meeting basic human needs and managing the competing demands for water requires
- Who pays for the water and how much they should pay is key
- The water – food – energy nexus

Policy options for water management

Increase supply by

- Large dams
- More wells and more water tanks
- Transfer of water from other areas (piping and pumping)
- Use of wastewater (treated and untreated)
- Land use planning (for increased run-off)
- Desalinization plants

Reduce use by

- Increasing price
- Rationing water (water restrictions)
- Use of water saving devices (e.g. dual flush toilets)
- Stopping leakages from system
- Educating consumers (e.g. wasteful habits like leaving taps running, watering crops or gardens in the middle of the day)
- Limiting the establishment of water intensive industries

Main country actors

- Water supply industry (usually government owned)
- Agriculture industry
- Water regulators (essential service commission)
- Emergency management (for floods)
- Health (for water bourn diseases and water quality)
- Environment protection agencies (e.g. for water quality, protection of aquifers, surface waters, wetlands etc.)
- Energy industry

Key concepts for water policy

Full Cost Recovery

Those supplying water should charge those using water the amount needed to cover costs including

- Direct costs, e.g. all capital and running costs
- Externalities or the costs of dealing with public health or environmental impacts of water use and the discharge of wastewater
- Opportunity costs or what is the value of future sacrifices implied by current use

Integrated Water Resource Management

Promotes the coordinated management of water, land and related resources to maximize economic and social welfare. It covers

- Water for people, water for food, water for nature and water for industry
- Enabling environment, institutional roles and management instruments

Accounting and water pricing

Full cost recovery requires information on

- Water supply assets – expected life, performance profile and value of the built and natural infrastructure
- Operating costs

To apportion costs information is needed on

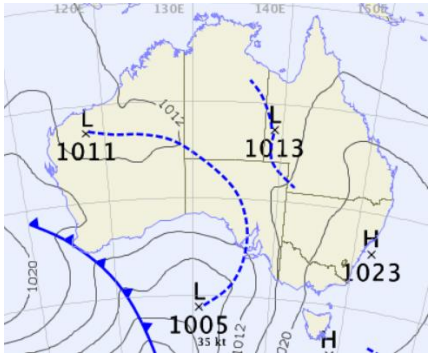
- The users of water – how much they use and what they use it for

Modelling used to estimate the impact in change to water tariff in Australia and Colombia

Accounts for IWRM and Water Pricing in Australia

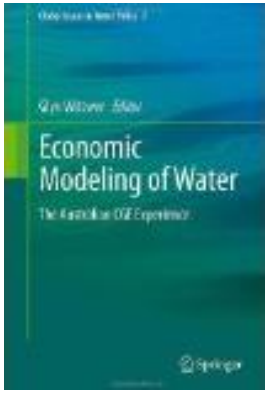
Issue-> water scarcity and competing uses

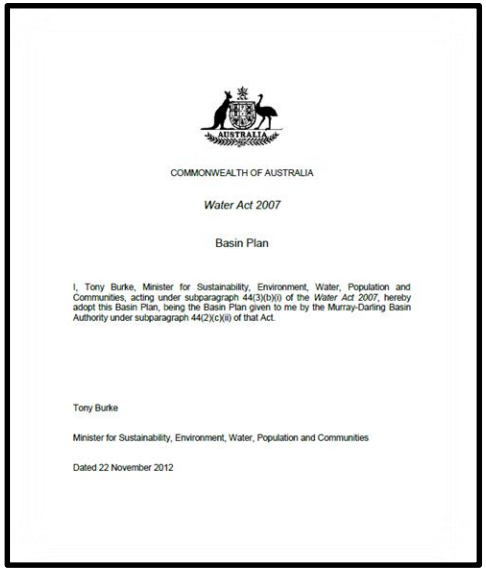
Basic data (e.g. rainfall, agricultural survey)



Account compilation (e.g. water account)

Analysis and interpretation (e.g. water use by industry)





Policy and decision making (e.g. Basin Plan)

Goal 6 Ensure availability and sustainable management of water and sanitation for all.

- 6.1 achieve universal and equitable access to safe and affordable drinking water for all.
- 6.2 achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.
- 6.3 improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.
- 6.4 substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.
- 6.5 implement integrated water resources
- 6.6 protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.

Parts of NCA needed for SDGs

Water accounts

- Physical and monetary supply use tables
- Value and condition of water supply infrastructure

… but not just water accounts

- National accounts and especially the metrics for the water supply, agricultural and energy industries
- Land cover and land use accounts
- Environment protection accounts
- Ecosystem accounts (water provisioning and water filtrations services)
- Energy accounts where there is significant hydro