Stirring the Waters

A Review of Water Allocation Practice

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Overview

• Is water an issue in NZ?
• Property rights and institutional arrangements
  – defining rights to water
  – allocating rights to water
  – institutional arrangements
• The current NZ approach to water allocation
• Concerns with the current approach
• Lessons from overseas experience
• Conclusions
Water: an issue for NZ?

• NZ has an *abundance* of rainfall and water resources

• But…
  – rainfall and resources are not evenly spread
  – growing populations are straining existing water supplies
  – increased competition and demand among water users

• Examples include:
  – Auckland water shortage 1994
  – Low hydro lake inflows 2001 and 2003
  – Marlborough droughts 2001
  – Competition for Waitaki river water
Property rights

• Ownership of a property right does not necessarily mean ownership of the resource

• A property right is a claim to the use of a resource and the benefits that result from that use

• A property right entitles the holder to a bundle of rights:
  – right to use the resource
  – right to exclude others from its use
  – right to freely transfer these rights to others
Institutional arrangements

- Institutional arrangements are the social institutions formed to manage, allocate and supply resources.

- Institutions may be:
  - markets
  - local or national government
  - private companies
  - or a range of others

- Focus here is on the way rights to water are defined and allocated, and the institutions managing and allocating water.
The New Zealand approach
Defining rights to water

• Resource Management Act: sets out principles for regional councils to use in deciding who is entitled to a water right (resource consent)

• Water rights are defined volumetrically. A right specifies:
  – amount to be taken or used (often in l/s or m³/day)
  – from what site
  – for what use

• Max. length of 35 years, although typically 5 – 15 years
The New Zealand approach
Allocating rights to water

• Councils set out methods to allocate rights in plans and policy statements

• Water rights allocation process involves:
  – assessing effects on environment
  – consulting with affected parties
  – decision made by a hearing
  – may be appealed to Environment Court

• In reality, first-in first-served prevails
The New Zealand approach
Institutional arrangements

Water rights allocation & resource management → Regional Councils

Wholesale water supply

Wellington Regional Council

Auckland: Watercare Services Ltd

Retail water supply

District and City Councils
- Business units
- LATEs
- Franchising

Irrigation schemes
- User-owned coops

Direct from source
- Irrigators
- Industry
- Hydro generation

Industry

Hydro generation
Concerns with the New Zealand approach

- First-in first-serve does not allocate to highest valued use
- Limited trading of water to allow reallocation to higher valued uses
- Institutional arrangements have led to poor infrastructure
- Allocation process under the RMA often criticised as being too time consuming
Can we learn from overseas experience?
Lesson 1: Defining water rights

• A well-defined water right ensures security of tenure and certainty in its title

• This is difficult due to the uncertain nature of water

• Key lessons from overseas experience are:
  – prioritising in times of scarcity
  – defining rights proportionately
  – an appropriate time-limit on water rights
Prioritising water rights

- High priority user has first call on the water, giving security of supply in times of scarcity

- Prioritising rights allows water users to manage risk

- **Examples:**
  - Colorado
    - “first in time, first in right”: priority based on date of right
  - Chile
    - ‘permanent’ rights have priority over ‘contingent’ rights
  - NZ
    - prioritising already occurs to a limited extent
Proportional allocations

• Priority rights do not help in allocating water *within* each priority group

• Defining rights proportionately means users have their extractions proportionately reduced in times of scarcity

• **Examples:**
  - Chile
    - rights defined volumetrically but revert to proportions if not enough water available to satisfy all volumetric rights
  - Northern Colorado
    - water right entitles user to a share of the amount available each year
Time-limiting water rights

• An infinite length water right is ideal for ensuring continued access to water
  But changes in water use and availability mean periodic review is required

• An effective system would have a time-limit for renewal but with a presumption of renewal

• **Example:** England and Wales
  – 12 year time-limit but presumption of renewal subject to environmental and resource-use criteria being met
Lesson 2: Allocating water rights

Administrative allocation

New Zealand
England & Wales
Australia
Colorado
Mexico
Chile

Market-based allocation
Administrative allocation

• Planning and consultation is used, but a ‘catchment overview’ approach to water allocation is taken, rather than first-in first-served.

• Examples:
  Australia
  – use modelling to assess cumulative impacts of extraction, and prepare catchment plans detailing allocation strategies

  England & Wales
  – Catchment Abstraction Management Strategy (CAMS): planning and consultation to assess resource availability and sustainability
Market allocation: examples and benefits

• Australia
  – all states have introduced trading in water rights
  – water is moving to farmers with higher valued crops and more efficient irrigation technology

• Northern Colorado
  – water users receive a share of supplemental water
  – water users make temporary and permanent trades
  – general trend has been permanent trades from agricultural to urban and industrial users, with temporary trades in the other direction
Market allocation: examples and benefits (cont.)

- Mexico
  - temporary and permanent trades are made
  - benefits to small farmers with debt: able to sell water without selling the land

- Chile
  - water rights allocated free of charge or auctioned
  - rights may be freely sold or leased regardless of the effect on third parties
  - no clear consensus on whether market is beneficial – they may have gone a bit too far in some aspects
Thin markets

• Water markets often have few buyers and sellers and so trades are likely to be limited

• This is likely to be unavoidable for NZ – small population and a large number of relatively small catchments

• Thin markets are not necessarily undesirable
  – bilateral decentralised transactions will occur
  – short-term or temporary transactions will be more common

• Future research will be looking at long-term transactions
Lesson 3: Institutional arrangements

- Corporatisation and privatisation:
  
  England and Wales:
  - water and wastewater service providers (to urban and industrial users) were fully privatised in 1989
  - companies are area-based monopolies facing price and service regulation
  - has resulted in: improved infrastructure, improved water quality, fewer interruptions, reduced leakage
  - also significant price increases
Corporatisation and privatisation (cont.)

• Comparison with Scotland (The Economist, July 19 2003)
  – retained water supply services in government hands
  – prices were initially lower
  – water supply is now less efficient, service delivery is worse, water quality is worse
  – to catch up, prices are now above levels in England and Wales
Privatisation for New Zealand?

• Privatisation would help solve the problem of poor infrastructure

• But the issue is highly controversial: there is a reluctance to place infrastructure assets in private hands

• More realistic approach would be corporatisation or franchising e.g. LATEs
  – Metrowater in Auckland city

  Franchising
  – Papakura, Ruapehu District Councils to United Water
Water user associations

- WUAs allow user participation and provide flexibility to allocate water according to users’ needs

- They can also facilitate trading in water rights

- Examples:
  - Chile, Mexico and Colorado
    - irrigation associations and resource-specific associations
Conclusions

• The allocation of water is a particularly important issue for NZ

• There is no universal best practice that NZ can copy

• Key aspects of good water management:
  – defining water rights to ensure security in supply
  – the right mix of administrative and market allocation
  – institutions that encourage investment in infrastructure