



THE AUSTRALIAN NATIONAL UNIVERSITY

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(7/3/09 ILBM project - Shiga University)

Multi-level governance of closed hydrological systems

(Case study - Murray-Darling Basin)

My history

- Education – political history, cultural studies, policy, institutional analysis
- Journalist/interviewer 25 years - Australian Broadcasting Corporation, spin-doctor Murray-Darling Basin Commission
- Research approach is to look for the political dimension within technical documents and the design of institutions
- PhD 2006
book 2007 - *Water Politics in the Murray-Darling Basin*
- Now teach/research water governance Australian National University

Comparative governance project

- Focus is on hydrological systems in federal political systems - Murray-Darling, Colorado (apologies Mexico!), Guadiana, Orange, Yellow, Namada etc
- Federal hydro systems are often similar to international hydro systems in outcomes re environment and security of supply but the potential is greater (but usually not realised WHY?)
- Aim is to push beyond the research literature (most knowledge is in consultancy and govt reports and people's heads)
- Project was previously basin-wide but will now include lake studies

Criteria for selection

Cases selected should:-

- Be largely contained within one overarching political system (ie Australia, USA, EU, China etc)
- illustrate general issues applying widely to other hydrological systems, and
- include ambitious and innovative approaches to water management (ie Australia's National Water Initiative and the EU's Water Framework Directive)

Key focus for the study

Issues related to interaction of different levels of governance. This includes need to:-

- **define balance between what should be central and what should be local (subsidiarity)**
- **get agreement re goals across jurisdictions**
- **achieve compliance with the overall plan by lower or sub-regional jurisdictions and by people and organisations within those jurisdictions**
- **maintain consistency but also allow for adaptive management**
- **link policy to good science (and not just political deals)**
- **get public support for the water management regime, and**
- **take account of justice and equity issues**

Murray-Darling Basin



Murray Darling Basin

- **Has always challenged Aust federal system**
- **Major catchment, large population (for Aust)
70% irrigation, 40% nat. agriculture, Ramsar
wetlands, etc**
- **Subject to ongoing decline in environmental
condition and resource reliability due to instituional
failure**

The MDB - a complex region

- **Geographical-climatic**
- **Low energy system**
- **Quantity v quality issues (role of catchment)**
- **Levels of development —wild to highly modified**
- **Different state management systems**
- **Types of irrigation**
- **Range of interests**
- **Cross border interactions**
- **Six jurisdictions - an election every 12 months**

Future

Context - 24,000 GL p.a. inflows, 11-12000 extractions
(now only occasional flows to the sea)

Emerging issues - climate change, farm dams, forest plantations, bio-replantings, reduced leakage etc

Predicted reduction

2500 -5000 GL next 20 years

4500 – 9000 GL next 40 years

(CSIRO 2006 study re future threats to inflows)

Forces for change

- MDB over allocated – only greater efficiency will allow continued economic growth
- Management systems unable to halt environmental decline and erosion of resource security
- Pressure to maximize autonomy of producers and minimize bureaucratic discretionary decision making
- Recent recognition of many additional stakeholders
- Demands that more costs of the supply system should be passed on to producers
- Stalled implementation of MDB Cap is indicative of systemic failure

MDB Credit Card

(Long term arrangement that the NWI is meant to change)

- Shared by six antagonistic users
- Cardholders report only some purchases
 - not required to report others
- No full statements re accumulating debt
- No credit limit short of bankruptcy (lower lakes)

MDB - an open access resource

- 'Tragedy of the commons' – misunderstood concept but applicable to open access resources (OARs) where there is no full accounting
- OARs - no reward for restraint it merely creates opportunities for others
- Challenge is to create a comprehensive rights and responsibilities system that is socially acceptable

Importance of whole-of-system water planning for achieving sustainability

- Whole-of-system analysis is the only way to relate inflows to outflows, short term to long term
- Provides a context for balancing social, economic and environmental costs and benefits
- Without a systems approach short term political considerations will always dominate decision making
- Required by the NWI (ie p23, iv & x. 25, v. 28-57. Sched E.)

The agenda - the promise

- Previous century old system was based on close identification of interests between State govts and irrigation communities supported by wider public. Major decisions about who got water and how much were made by administrators and politicians.
- *National Water Initiative 2004* - a rights and responsibilities system to be introduced after environmental sustainability has been achieved. It is designed to manage a wide range of competing interests
*(Govts become umpires not promoters of development
courts are meant to replace ministerial discretion)*

But - NWI after four years

No government has yet implemented whole-of-system water planning based on the goal of 'environmental sustainability' to water management. In practice water management post-NWI has continued on pre-NWI assumptions albeit with a greater emphasis than in the past on the promotion of water trading in some circumstances and on projects designed to mitigate the worst effects of the ongoing decline in environmental conditions and resource security. Despite agreement to the NWI by all govts the need to halt decline has not been accepted in practice. (Is society ready for it?)

Water Act 2007/8

- Nat Govt displaced the states and took control of high level planning.
- A catchment-wide Basin Plan to achieve sustainability to be prepared for the first time. (by MBDA in consultation with states)
- States to implement 10 year sub-plans (consistent with Basin Plan).
- States can critique but no longer have final say or right of veto.
- Compliance to be driven by the need of the states for Nat Govt funds
- Auditing by national agencies (ACCC, NWC, BOM)

BUT states retain vetoes re water-shares and many catchment activities that will affect quantity and quality of run off into streams

Project components

Comparative study of case studies of hydrological systems shaped by national/provincial govt interactions focussing on:-

- Whole-of-catchment water planning (Connell - ANU funded)
- water markets and assessment of major infrastructure projects (Grafton - ANU funded)

Looking for:-

- international research collaborators
- funding (ARC, World Bank etc) for three senior researchers 50% time re:-
 1. Negotiation of trans-boundary benefit-sharing water agreements
 2. Justice, equity and gender issues in planning/management
 3. Applicability of the project themes to lake systems
Erhai, MDB lower lakes, Saltron Sea etc (+ ILEC projects)

Two PhDs – cross-border pollution (China) & stakeholder involvement

Whole-of-catchment water planning

Project will examine capacity to:-

- respond to crisis expeditiously
- develop evidence based policy
- engage communities re difficult issues
- Negotiate compromises between competing interests
- Manage across borders
- Achieve compliance despite division
- Promote cultural change to support reform
- Take account of equity and indigenous issues
- Adapt to novel circumstances not previously foreseen

Negotiating water agreements

- Most inter-jurisdictional agreements deal mainly with sharing water quantity by volume
- Water quality and variability issues - hard to resolve
- 'benefit sharing' (World Bank etc)
hydropower, fishing, tourism, recreation, ecosystem services etc

Water markets - infrastructure assessments

Water markets

- fashionable but applicable under what circumstances?
- Drought management
- Agent of change - low to high value, rural to urban, production to environment

Infrastructure assessment

- response to demand and climate change
- Vic-Aust nth to sth, inter-basin transfers China India

Justice Equity Gender

- **Now standard requirement of water planning
Agenda 21 - Millennium Development Goals**
- **but neg impacts of development continue to grow**
- **Lack economic power but can acquire legal/political power (Indigenous rights Aust-USA, Namada India)**
- **Can you have stable political/investment environment without justice?**

Lakes

- **The interaction of govts is a major factor shaping legislation, institutional design, stakeholder participation, planning, management and funding for lakes**
- **Specific case studies illustrate and test general ideas**
- **ILEC project provides the opportunity to work with policy makers-managers (keepers of key knowledge)**

PhDs

- **Cross border pollution (China)**
'temptation of the border'
world-wide issue
- **Stakeholder involvement**
always required
always contested

Concluding comments

- **Good institutional design helps prevent resources being 'open access'**
- **We need to acknowledge the political dimension of water planning and management**
- **Sustainability/stability may not be a realistic goal but what is the alternative?**