Issues and priorities for tropical rivers

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Hydrological features

• Tropical rivers contain 70% of water resources
  • < 2% is diverted
  • < 1% of ag. land is irrigated

• Very few regulated rivers

• Considerable inter-annual and intra-annual variability

• Groundwater–surface water interactions are vital

Australia’s distribution of run-off
(Source: NLWRA, 2001)
Socio-economic characteristics

• Small populations, low density
  • 25% of the land mass contains only 300,000 people (2% of the population)
  • Highly concentrated in major centres, outside is < 1 person per sq km

• High proportion is Indigenous (>25%)

• Fast growing but impoverished

• Infrastructure is limited

• Educational levels are low
  • A large proportion is illiterate and the majority have completed < 10 yrs
  • Particularly acute for Indigenous people, poor outcomes for Indigenous labour markets
Water management con’t

• No over-allocated systems

• Relatively little conflict between jurisdictions

• Strong associations with unregulated, intact river systems

• Keen to avoid ‘southern’ mistakes
  • Eg. GW/SW interactions, GW plans

• But scientific knowledge base is poor and few attempts to harness IEK

• Mining sector outside NWI
NRM institutions

• Severe capacity constraints
  • Transient population
  • But local knowledge is an asset
  • Indigenous CB NRM has boomed

• Non-Indigenous NRM institutions are in their infancy
  • 55 catchments, only a handful of NRM groups
  • Scale usually not compatible with Indigenous social organisation
  • Introduced systems tend to ignore Indigenous mgmt institutions
  • Land and water mgmt are separated

• Very little experience with NRM plans or water plans
  • Rapidly growing area but few finalised water allocation plans
  • Very low level of awareness of water reforms
• Resource values are undergoing change – valorisation of ‘protection values’
  • e.g. Between 1976-2006 conservation tenures expanded from 0.6-8.1%

• Water laws under review, facing significant equity questions and resistance to regulation (e.g. metering)

• No trading now - will markets work?
Contested visions

• Ongoing popularity of drought proofing schemes – harness the wasted water
• Recent interest in ‘developing the north’ but –
  • Changing attitudes to limits on agricultural settlement
  • Local awareness of limits is growing
  • Taskforce report
Indigenous water management

Large stake in water:

• Customary rights inc. native title

• Extensive land base
  - community development and livelihoods
  - widely supported by policy

• Water’s religious and cultural significance
Cultural significance of water

• Distinct landscape perspective
  • land and water one entity
  • metaphysical & physical domains unified
  • water a vital force - central to life

• Cultural affiliations expressed in different ways
• Defining role of water to social and individual identity
• Environmental knowledge and ethics
Indigenous people have diverse interests in water

- Interests span economic, environmental, cultural and social categories

- Many ‘invisible’ economic interests
  - Subsistence or customary use – fishing, harvesting, ceremonial
  - Commercial activities that rely on instream values – sports fishing, tourism, arts and crafts
  - Potential to contribute to agricultural and other water based economic activity
Policy developments

- Growing interest in Indigenous access and equity

- Focus on governance, Indigenous economic development and livelihoods

- Indigenous capacity is increasing

- Significant policy innovation
  - Indigenous reserves
  - Indigenous water facilitators
Equity in commercial access?

- Tindal (Katherine) WAP introduced a limit on water extraction
- No Indigenous land within WCD
- Native title pending
- Initially no allocations for Indigenous commercial use
- After CSIRO study and IWPG dialogue, a Strategic Indigenous reserve was established.
- Calculated at 2% of consumptive water, equiv. to claim area

*Significant precedent for NT WAPs but no policy position yet*
Priorities for governance

• Governance is complex but recognised as important to remote area development AND natural resource management policy (e.g. DK CRC contributions)

• Importance of recognising Indigenous systems of customary governance AND rights even where competition is low

• Design of allocation mechanisms appropriate to northern conditions – sustainable, efficient and equitable
Priorities for water governance –

• Environmental flows research and environmental water governance models to accommodate Indigenous world views and ethics
  • Are aquatic conservation priorities responding to Indigenous values?
• What are the design principles for co-management models?

• Are there livelihood opportunities for Indigenous land and water management?

• How can the allocation system provide equity of access: to ‘late-comers’?
Priorities con’t

• How should Indigenous allocation measures address equity between groups?

• How might market-based systems affect Indigenous use e.g. should Indigenous people pay for water use, might there be benefits?

• Adaptive NRM governance
  • Need to build resource & skill base in agencies and Indigenous capacity
  • Decision making under uncertainty with limited resources

Thank you
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