

2ND SOUTH EAST ASIAN WATER FORUM

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Managing Water Resources in River Basins

Best Practice Concepts for Emerging River Basins

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BEST PRACTICE CONCEPTS FOR EMERGING RIVER BASINS

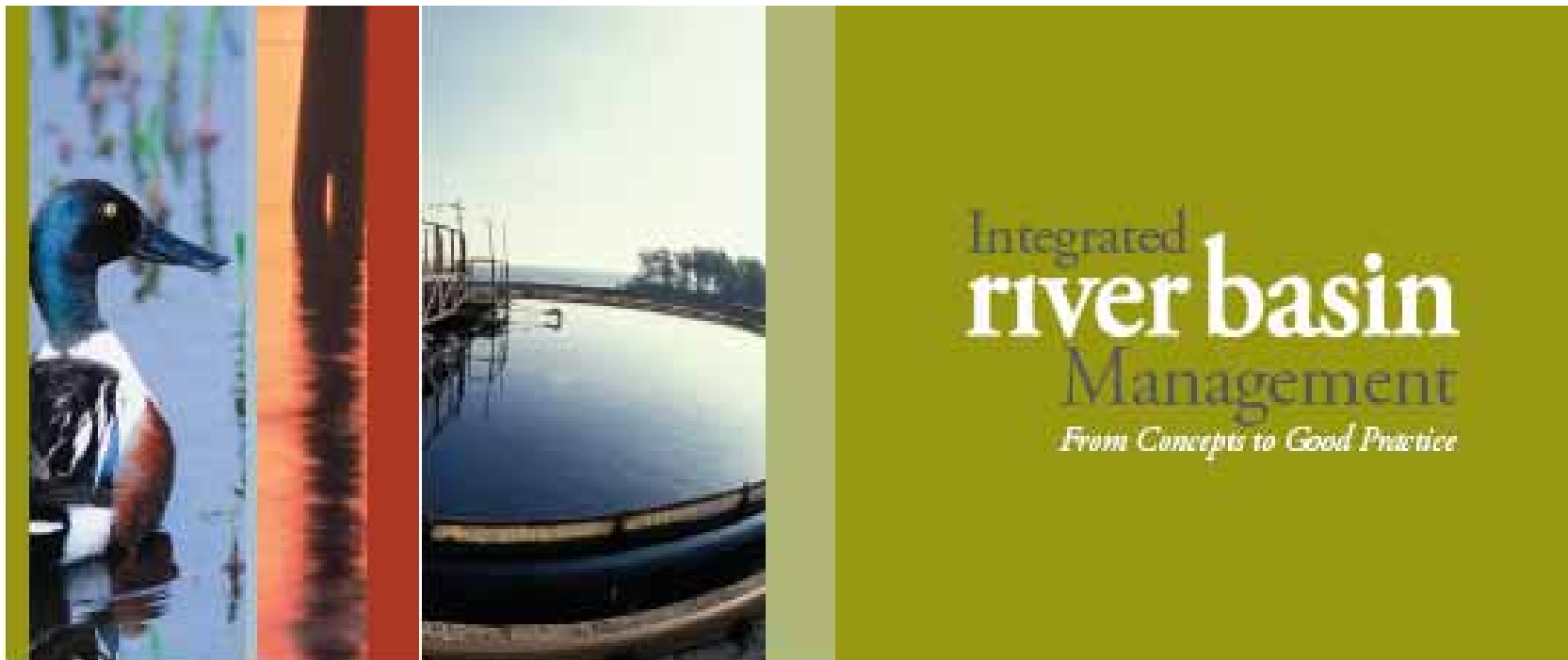
Presentation Summary

THEME – Some ideas from the practitioner's point of view – next steps for new RBOs

- The five themes of 'good' integrated river basin management – IRBM
- Community and Stakeholder Participation
- Asset Management for RBOs

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World Bank IRBM Briefing Note Series



Briefing Note 1

An Introduction to
Integrated River Basin
Management

Integrated River Basin Management - IRBM

“To coordinate, facilitate and implement planning, development, management and conservation of the water-related resources of a river basin in a participative and integrated way, consistent with relevant international conventions and national laws, policies, objectives and goals.”

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Well, that sounds good, but when is integrated river basin management successful?

- When stakeholders in the basin can achieve things by acting together that they cannot achieve by acting alone.
- When all parties believe they are getting benefit from agreement to manage the basin in this cooperative fashion.

The Psychology of Basin Management

- Basin management arrangements survive and succeed when they support 'mutual self-interest'
- A partnership is vital, but sovereign and similar rights are also key matters, and must be respected
- Progress generally will only occur at the rate of the most unsure or reluctant partner
- Progress will stall without mutual trust, respect and confidence among basin partners

So, how do we achieve success in IRBM?

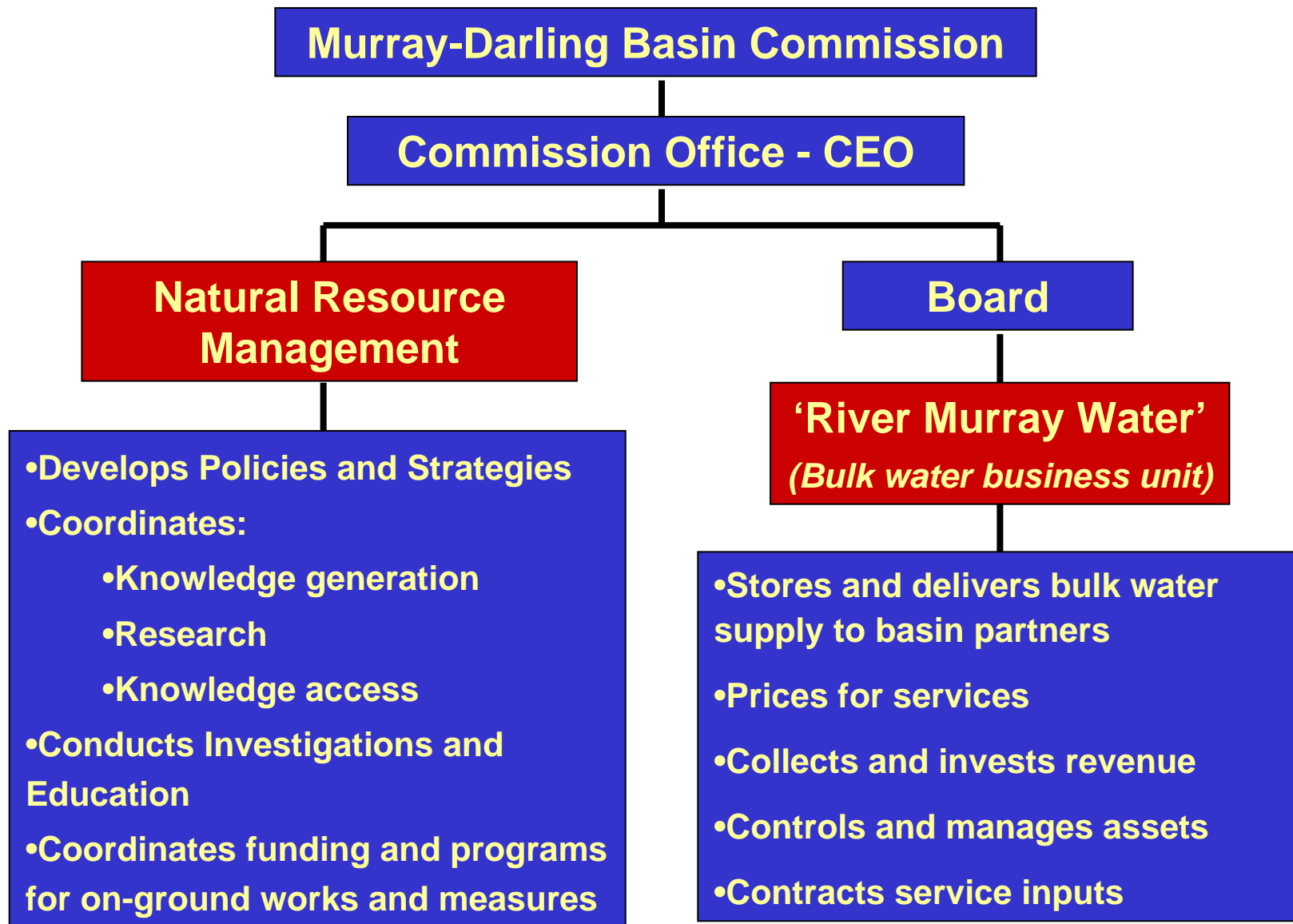
Five themes of good IRBM

1. Clear and strong institutional arrangements
2. Good water-related data, information, systems, & models
3. A complete suite of basin-wide policies, procedures, and strategies
4. An appropriate form of communication and participation for all basin stakeholders and partners
5. Basin sustainability performance indicators and an agreed approach to monitor and report on how the basin is being managed and how the resources are being consumed and protected.

1. Concepts and institutions

- A reason to exist - RBO must manage actual issues.
- What type of RBO? - No 'one-size-fits-all' model
- *Key Message:* Best models come from first principles analysis:
 - Physical attributes of basin -- Demand and supply situation
 - Administrative structure of state -- Cultural and political traditions - etc
- Adopt simplest model to resolve the identified issues
- What functions to give new or re-structured RBO?
 - Separation of regulator & service provider roles?
- RBOs need to evolve and respond to emerging issues – or risk becoming irrelevant.

A mixed model – internal role separation



2. Data, information and models

- Basin sustainability relies heavily on having easily accessed, factual knowledge
- Inter-agency data sharing usually poor – directors/managers see knowledge as power
- Deadlock can be broken by creating a data-sharing protocol based on **data custodianship** approach – takes time to convince partners that it's win-win.
- Three **initial milestones** to achieve:
 - Basin-wide data-sharing policy
 - Rules and Procedures agreed by all basin partners
 - River basin data directory

2. Data, information and models

GOAL: An adequate information system with:

- Good data on natural resource base, and related social and economic information
- Set of simulation models & analytical tools for testing policy and project proposals
- Set of decision support tools that present information to basin decision-makers

Suggestion: For data custodianship concepts visit websites of Mekong River Commission (MRC); Permanent Committee for Geographic Information in Asia & Pacific (PCGIAP); Australia & New Zealand Land Information Council (ANZLIC)

3. Basin-wide policies and strategies

- Failure of many old-style 'master plans' has led to a move to strategic policy and planning frameworks
- Cross-sectoral, integrated, sustainable for natural system, with high-level & political endorsement
- Water shares, use rights and utilisation rules should be established upfront
- Clear and agreed set of rules for notifying and consulting on new policies & projects
 - Economic, environmental & social data allow description of trade-offs
- Recognise IRBM depends on local **land use planning**
- Need top-down (traditional) AND bottom-up (newer)

4. Communication and participation

- Significant cultural change: Hierarchical ► Inclusive
- Long-term aim is a community-government partnership in natural resource management
- Requires:
 - Genuine political and official commitment
 - Awareness-raising and public education
 - Open-door policy with data & information
 - Systemic participation from top to bottom
 - Local leaders and 'champions'
- When done well, the rewards are large for both government and community

5. Basin sustainability performance indicators

- Achieve political legitimacy with gov't and community through demonstrating success
- Enable strategic focus for activities and well-targeted use of scarce funds
- River health is key indication of basin health

Suggestion: Choose 3 simple cheap WQ indicators – eg turbidity, salinity, total phosphorus

- ✓ Add simple, cheap bio-monitoring
- ✓ Display results in simply understood format – eg red/green/orange to illustrate WQ vs targets
- ✓ Later expand to “Health of the Basin” reporting.

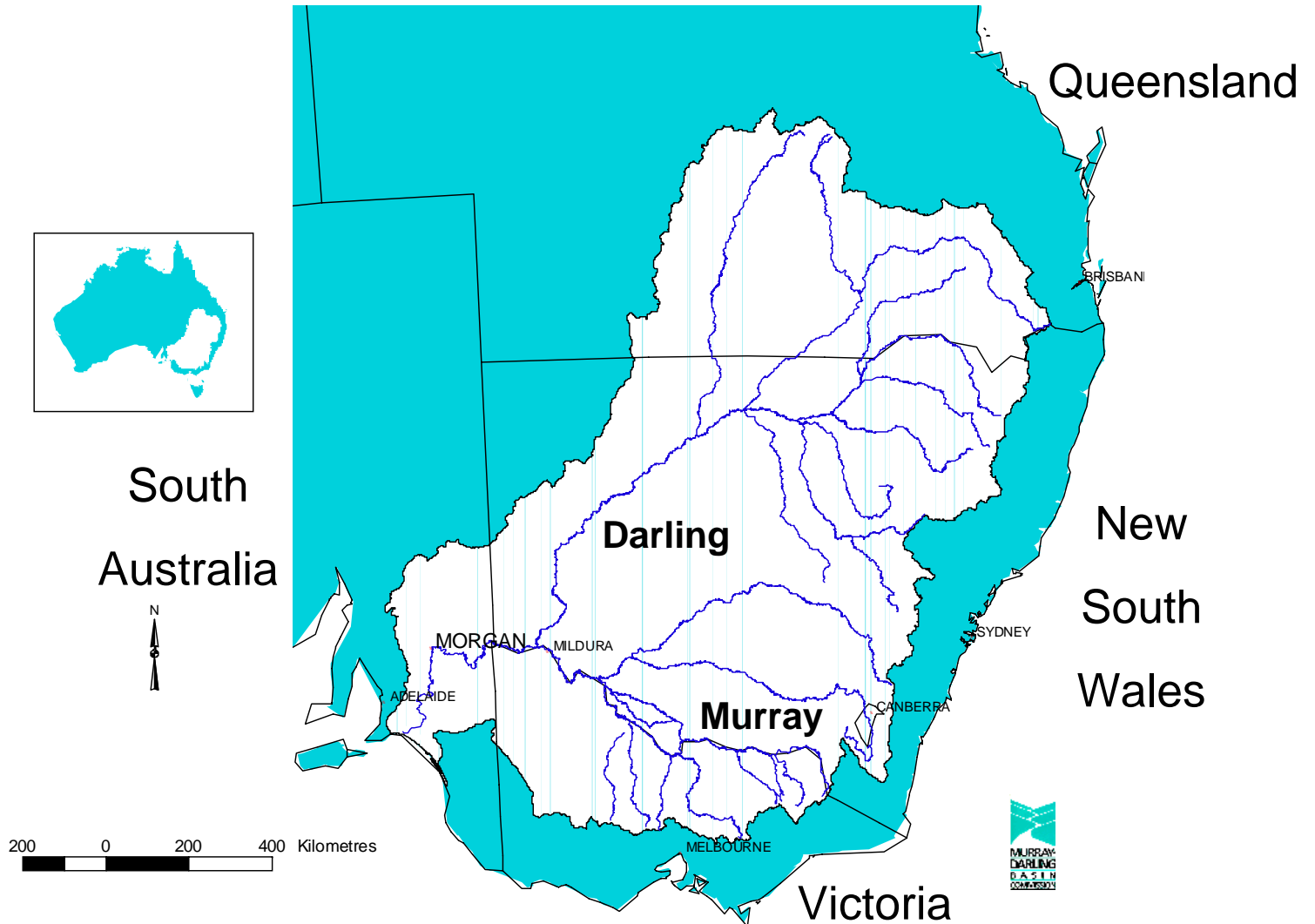
Community participation and partnerships

- the Australian experience

Using the 1,060,000 sq km Murray-Darling Basin as the case study to examine a comprehensive approach – and to share some hard-learned suggestions:

- Local participation – including water user associations
- Sub-basin (or watershed) participation
- Basin-level participation

The Murray-Darling Basin



MDB local level participation

- Landcare groups, Rivercare groups and various associations of water users:
 - manage land and water in their neighbourhood
 - comprise only community members
 - partially funded by State and national governments
 - technical advice from government agencies
 - prepare and implement action plans at farm level and minor catchment/watershed level
- This means each minor catchment/watershed contributes to overall sustainability of sub-basin
- Multiplier effect on public funds of 8 to 12

Murray Darling sub-basins

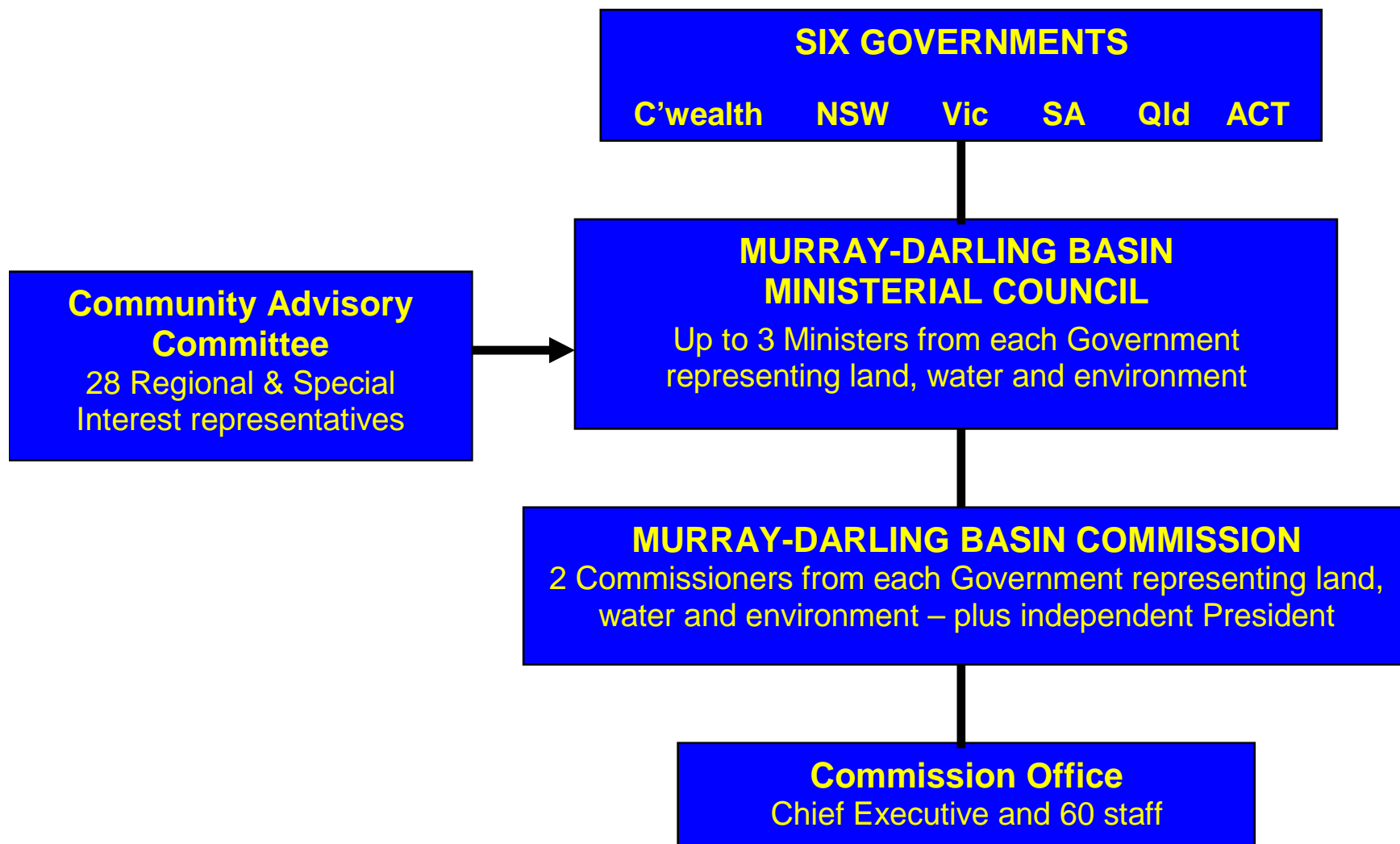
Average sub-basin area:
62,500 sq km



MDB sub-basin participation

- Catchment Management Authorities:
 - manage sub-basins of Murray-Darling Basin
 - community-based
 - funded by State and national governments
 - protect & enhance land & water resources through regional catchment strategies
- Community-driven approach enshrined in law
- Each CMA Board of Management required to have a majority of community members.

MDB – Basin-level participation



How to make participation work in real life

- Recognise that 'sustainability' is as much a social construct as it is an ecological one.
- Recognise that natural resources are owned by communities at large, and the right to say how they will be managed is theirs.
- Operate in an information-rich way.
- Provide adequate technical support for this.
- Only proceed as fast as the community feels comfortable with - but keep facts up to them.

How to make participation work in real life

- Consult widely. Don't let anyone feel that their views are excluded or unworthy.
- Keep experts on tap, not on top.
- Implement through adaptive management, with the community always involved.

Finally:

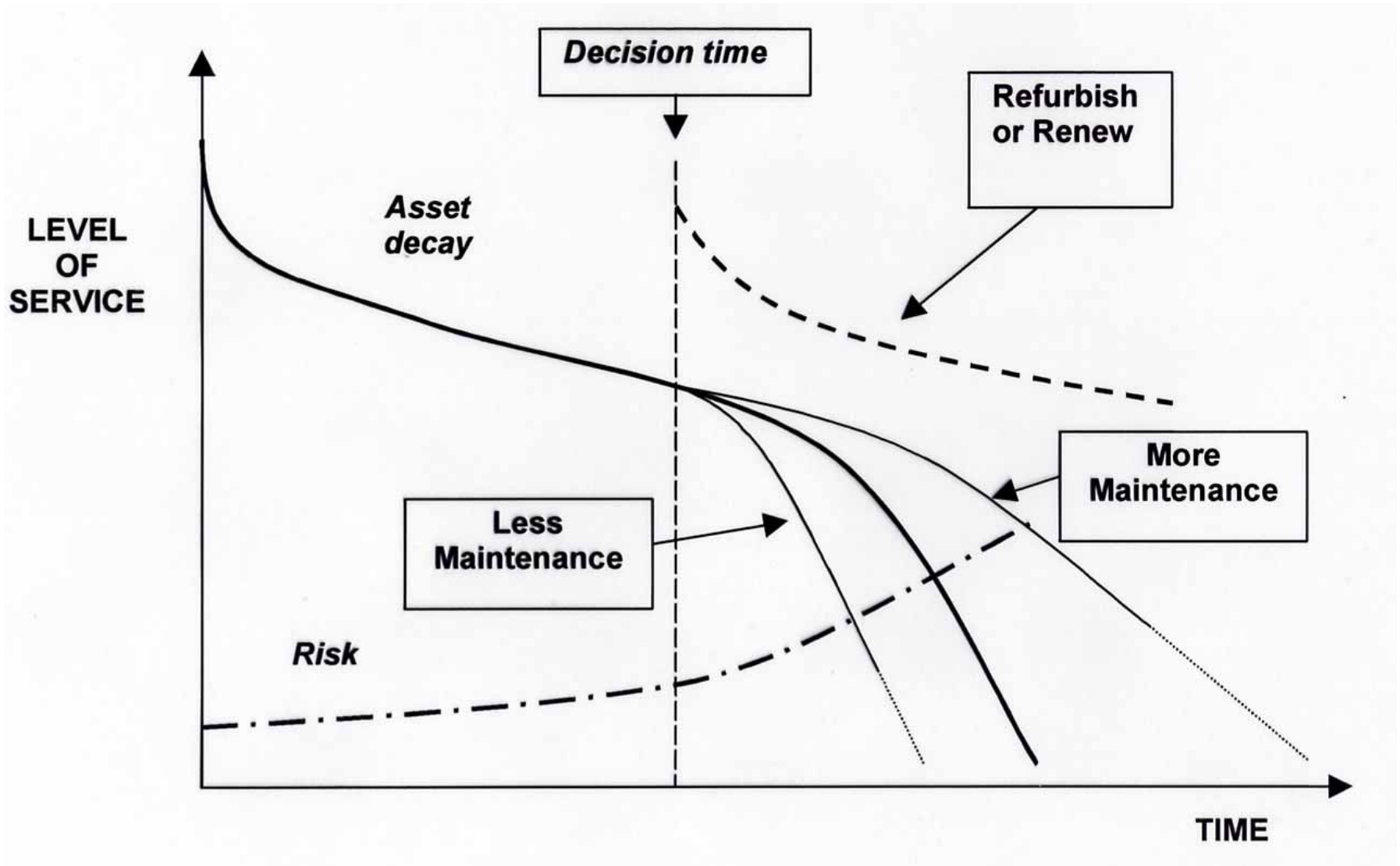
When all this is done, the community will go harder and tougher to achieve sustainability than they will let governments do to them.

Contemporary Asset Management

- Asset management is now a technical profession in its own right
- AIM: Long-run sustainability of the assets at the lowest possible cost.
- This has led to what is known as “life cycle asset management” – generally “condition-based”
- Additional aim for river basin assets: Asset management funded by pricing for services provided at agreed standards of performance.

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Condition-based Asset Management



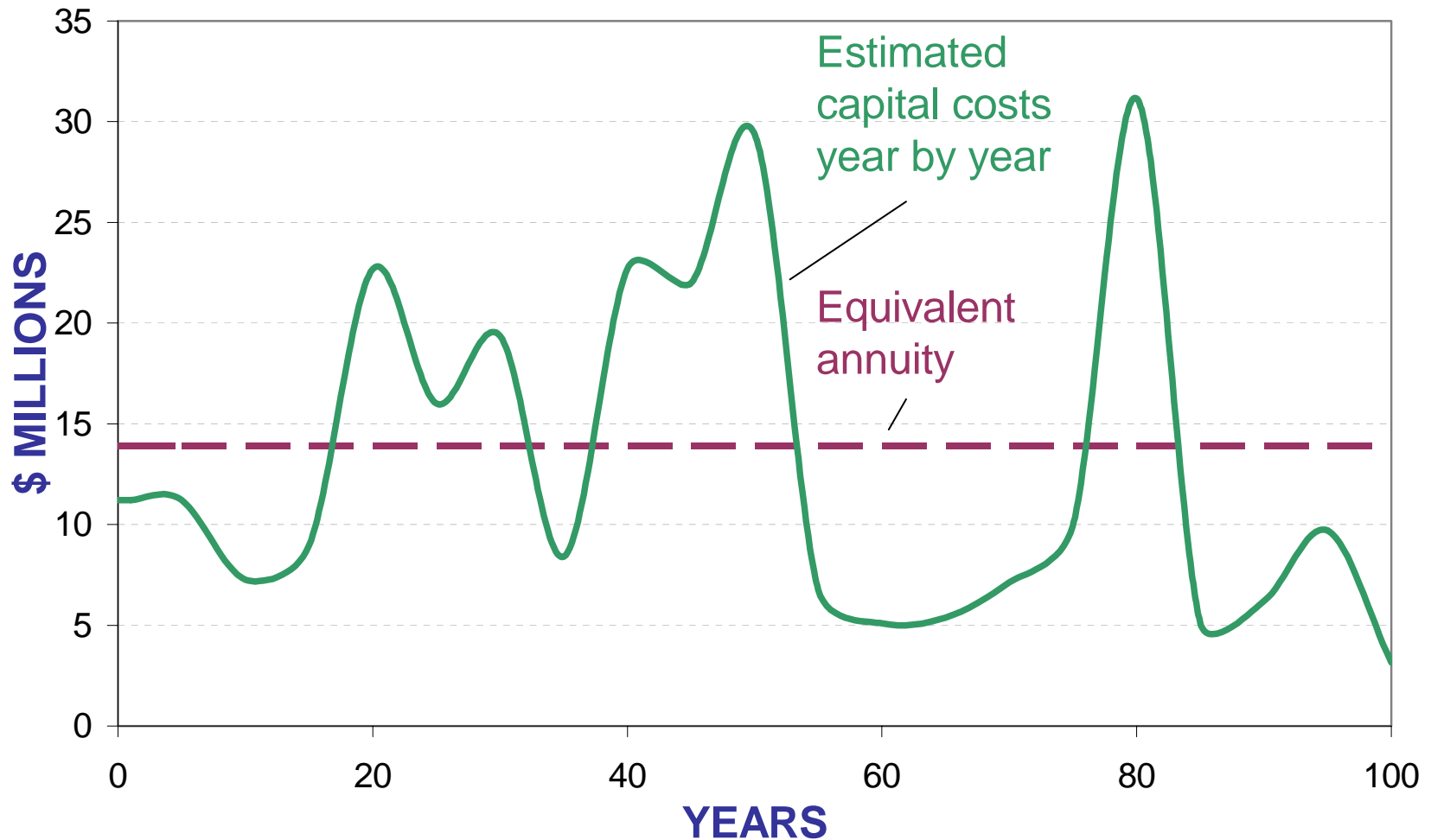
Costs of sustaining an asset

Failure to account for all costs will create risks for long-run financial sustainability

- Administration and overheads
- Maintenance – routine / periodic / rehabilitation
- Capital
- Depreciation
- Renewals
- Cost of capital - amortisation

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Levelling Costs using a Renewals Annuity



Notes: (a) Annuity based on discount rate. (b) Need capacity to borrow & invest.

Asset Management System

- Asset register
 - Valuations
 - Condition assessments
- Maintenance manuals
- Risk assessments
- Asset management plans
 - Renewals & capital works
- Service level agreements
- Information systems
- Business organisation
 - Institutional arrangements / human resources

Asset management - path ahead in S E Asia

- For major infrastructure units (dams, hydro etc)
 - Create business entity (Nexus between expenditure & income)
 - Head towards full professional asset management system – starting with asset register, condition assessments, costing
 - Set up service pricing in consultation with users
- For smaller infrastructure units (irrigation etc)
 - Create & build capacity of user partnerships (WUAs etc)
 - Set up simple systems – starting with asset register
 - Negotiate service standards & maintenance on system elements
 - Quarantine local income – put WUAs in charge of budget & works
 - Aim for maximum sense of ownership & autonomy

“Water resources management is as much about psychology as it is hydrology or ecology”

Brian Haisman – Barcelona 1999



Terima kasih!

