## NO PAIN NO GAIN: PUBLIC PARTICIPATION IN AUSTRALIAN WATER MANAGEMENT

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## **INTRODUCTION**

Australia is an old continent, with areas that are prone to salinity problems.<sup>i</sup> Water is scarce, and its supply is variable. As is often said, Australia is both wet *and* dry. It has some of the wettest areas on earth, while other areas experience prolonged droughts, seasons of low and variable rainfall broken by sweeping floods. Compared with other continents such as Europe and North America, this is a dry continent.<sup>ii</sup> As a result, Australia has the highest per capita storage capacity of all countries in the world.<sup>iii</sup> Groundwater is an important part of the resource.

Access to water resources in Australia has, in the last 250 years, been governed by three different regimes. Until colonial settlement, indigenous peoples' relationship to land and water was characterised by a custodial obligations only recently recognised as a form of communal property rights.<sup>iv</sup> As part of the reception of the English common land into Australia,<sup>v</sup> the colonisers instituted a regime of access to water based on a different sort of common property regime. Riparian rights were restricted to a select group of people who occupied land next to rivers. It was recognised in the 1880s that common law riparian principles were not suitable for development of water resources of the colony. Hence a regulatory regime was instituted to vest use and control of water resources in the State.<sup>vi</sup> Incremental changes were made to that regime for the next 100 years.

The country is a federation, and the management of water resources is considered a state matter. In the mid 1990s the Commonwealth and state governments agreed that reform was necessary for an efficient and sustainable use of water resources. They noted widespread natural resource degradation and called for new measures to halt this. As a consequence, all of the Australian states have now passed new water legislation.<sup>vii</sup> Amongst the many objectives of reform were the introduction of

- clearly specified water entitlements which separate water property rights from land title,
- allocation of water for the environment, and where river systems were over-allocated, for 'substantial progress' to provide a better balance in water resource use,
- and public consultation where new initiatives are proposed especially in relation to pricing, specification of water entitlements and trading in those entitlements.

An area of intense water development and use, the Murray-Darling Basin located in eastern Australia, has been the cutting edge for reform. Many of the water allocation and management practices adopted in the country have originated from those in the Basin. The Basin is a large river system within which there are nested smaller drainage areas. Four political jurisdictions share the water resources of this large river system: New South Wales, Queensland, South Australia and Victoria. The Basin contains the largest concentration of water use in the country and accounts for some 60% of national consumptive water use. About 75% of water is used for irrigation, with urban uses accounting for 12% and industry for 3%. The balance is mostly used for rural domestic and stock purposes. Like the rest of the world, water resources in Australia, particularly in the Basin are stretched to their limit. Of the four states in the Basin, NSW's water resources are the most over-allocated and therefore the highest level of conflict.

This paper explores the provisions of public participation particularly in respect of plans for the sharing of water. Where necessary the paper will draw on the different approaches in the states of the Basin. It asks: What were the gains from the processes put in place? What were the pains? What are the lessons to be drawn for more effective participation?

## **1 PRELIMINARY ISSUES**

I begin with outlining a number of preliminary issues: what are the reasons for public participation? What is meant by the term 'public'? How do we determine whether public participation has been effective?

#### **1.1** Reasons for public participation in management of water resources

Public participation has now become an accepted principle in the management of water resources in Australia. It has not always been so. In the era of big dam building which occurred mainly after the Second World War till the 1970s, public servants were considered the experts in the field and best prepared to make decisions on their own. Many decisions to manage the dams and water releases were taken administratively, and while there may have been consultation with groups of water users, there were no formal requirements to do so.

Public interest in water management first arose from the perspective of quality issues in the 1960s. This merged with increased public interest in environmental matters in the 1970s and the ESD movement in Australia. Subsequently there were several legal provision of various means of public participation in government decision making.

The principle of public participation was formalised through the Intergovernmental Agreement on the Environment in 1992. One of the four guiding principles adopted by the IGAE is that decisions and actions should provide for broad community involvement on issues that affect them.<sup>viii</sup>

Its theoretical basis lies in the concept of participatory democracy. James and Blamey summarises the concept as

... participatory democracy, ... in simple literal terms, means 'rule by the people' ... [and] "all acts of citizens that are intended to influence the behaviour of those empowered to make the decisions". Participatory democracy thus involves decentralised or dispersed forms of decision-making and the direct involvement of amateurs in the making of decisions. Associated with the dispersion of power is the notion of community empowerment. Empowerment involves selfperceptions of competence associated with an active engagement in one's community and an understanding of one's socio-political environment.<sup>ix</sup>

#### **1.2** Who is the public?

Academic literature debates how to define the community called upon to participate in decisionmaking. At the most expansive, the term would refer to the entire community of the Murray-Darling Basin. On the other hand there are strong arguments that the public should be the local or regional community.<sup>x</sup> Or should the relevant community be the smallest jurisdiction that encompasses all the costs and benefits of a decision?<sup>xi</sup> Policy literature in Australia suggested that it is the last definition which is the most applicable.<sup>xii</sup>

Then much depends on the context of the decision to be made. For a water quality problem with only localised costs and benefits, this community would be local. Where the issues relate to sharing the water in a sub-catchment, then it would be that community. And where the scope and severity of problems are state-wide, the broad-based community would need to participate. Where transferable rights in water are to allocated then 'community and stakeholder partnerships in planning processes is (sic) essential to ensure local issues are incorporated in resource allocation and management rules'.<sup>xiii</sup>

#### **1.3** Requirements for effective public participation

Not all types of involvement result in effective public participation. Since 1994 the US Environmental Protection Agency has been developing guiding principles and a comprehensive checklist for ensuring processes adopted by federal agencies reflect environmental justice.<sup>xiv</sup> The documents reflect seven core values for effective participation developed in 1996 by the International Association for Public Participation. These are

- 1. People should have a say in decisions about actions which affect their lives
- 2. Public participation includes the promise that the public's contribution will influence the decision
- 3. The process communicates the interests and meets the process needs of all participants
- 4. The process seeks out and facilitates the involvement of those potentially affected
- 5. The process involves participants in defining how they participate
- 6. The process communicates to participants how their input was, or was not utilized
- 7. The process provides participants with the information they need to participate in a meaningful way.<sup>xv</sup>

In effect participation is effective only when it is sustained, deliberative and directed to action and change.<sup>xvi</sup> These values have been used to assess public participation in resource management, environmental decision-making and also public health matters.

## 2 LEGAL MECHANISMS FOR PUBLIC PARTICIPATION IN AUSTRALIA

A range of legal mechanisms have been adopted for public participation in environmental and resource legislation in Australia. They may be categorised as:

- (1) a range of mechanisms for formal and informal public participation in policy-making and planning
- (2) rights of notification or access to information
- (3) rights of public groups/ or individuals with no direct financial interest to object to decision
- (4) rights of public groups to seek review/appeal of decisions
- (5) the public's right to enforce the law
- (6) modification of the usual application of the law of costs, so that the public will not be discouraged by the risk of having costs awarded against them.<sup>xvii</sup>

Because of the constraints placed, this paper will consider only the 1<sup>st</sup> of the mechanisms for public participation. Generally there are four stages in planning when participation occurs.

(1a) During the formulation of policy and law

Extensive public participation took place in New South Wales (NSW). The process began in 1998 with a discussion paper outlining options for 21 major policy issues. 200 responses were received and a report summarised the nature and strength of support/opposition. Consultations took place with stakeholder groups and also the NSW Water Advisory Council which led to a White Paper in 1999.<sup>xviii</sup> The Bill (proposed legislation) was tabled in Parliament for 6 months before debate started, to allow for its provisions to be understood and debated in the wider community.

#### (1b) During planning stage

It is critical that public participation occurs at this stage. This is discussed in detail in part 2.2 of this paper.

#### (1c) During the conversion from old to new entitlements

In implementation of the plans, public involvement would be reduced because the plans would set out broad parameters which govern the conversion. NSW and Queensland are going through this stage in 2003.

#### (1d) When the current plan expires and a new planning stage is entered

Again it is critical that participation occurs. The public should be engaged *before* the current plan lapses.

#### 2.1 Planning and public participation

All States accept comprehensive planning should take place before allocating tradeable rights in water for consumptive use. Planning is the cornerstone of the new generation of water legislation. A brief description of state water planning provisions follows.

#### Victoria

No formal planning process existed in Victoria when semi-exclusive rights to water were allocated starting from 1995. It was the first state to convert the poorly specified bulk annual average volume allocated to irrigation schemes to new Bulk Entitlements (BE).<sup>xix</sup> Two important aspects of the specification of new BEs were volume (or share of flow or storage), and security of supply, defined as 'the statistical probability of being able to supply a given volume of water in a year'.<sup>xx</sup> Additionally, obligations such as passing flows, measurement, reporting and financial responsibilities were specified.<sup>xxi</sup> Before granting the BE, the Minister for Conservation and Natural Resources was obliged to consider an extensive list of matters, including the environment.<sup>xxii</sup>

Public participation occurred in the conversion of entitlements. The Minister appointed an advisory committee for each sub-catchment. In the Victorian portion of the Murray catchment (although the environmental outcomes may be disputed), the process was generally successful if we are to consider the 7 core values discussed earlier. The 'public' involved was large – there were about 7,000 farmers and 40 towns with domestic and industrial users, and three water suppliers.<sup>xxiii</sup> Initially the views were extremely polarised but after a year of monthly discussions, the committee members started looking for middle ground. The whole process took about 3 years. Its gains will be considered later.

#### Queensland

Water planning has been in progress since 1995. For priority catchments the plans are to establish broad objectives for consumptive and environmental use. Environmental flow objectives with stated ecological outcomes are to be provided.<sup>xxiv</sup> The Minister appoints a community reference panel that includes local representatives of cultural, economic and environmental interests. However the role of such panels is not specified by legislation except that the Minister is to consider their advice in preparing draft plans.<sup>xxv</sup> The use of expert technical reports in the planning process is discretionary but the Minister is required to state before the process begins, what arrangements are to be available.<sup>xxvi</sup> Public notice of draft plans is mandatory and all 'properly made submissions' must be considered by the Minister before a final plan is made.<sup>xxvii</sup>

The broad catchment plans are to be implemented by operation plans. This step will lead to conversion of existing licences to water allocations in conformity with water allocation security objectives in the broad plan.<sup>xxviii</sup> The water allocation security objective is defined as 'an objective that may be expressed as a performance indicator and is stated in a water resource plan for the protection of the probability of being able to obtain water in accordance with a water allocation'.<sup>xxix</sup> A priority grouping, for example high security, will attach to all water allocations supplied from dams.<sup>xxx</sup> Reviews of plans will occur every 10 years.<sup>xxxi</sup>

#### South Australia

South Australia has a hierarchical statutory planning arrangement. At the top of the hierarchy is the State Water Plan (SWP).<sup>xxxii</sup> State Water Plans are to be amended whenever the Minister considers it necessary in order to achieve the object of the Act.<sup>xxxiii</sup> Specific periods of review are not stated. The next tier of planning is primarily at catchment-level through Catchment Water

Management Plans (CWMP), with provision for optional local water management plans which must be consistent with the CWMP for that area.

The scope of CWMPs are defined in legislation but no methodology or outcomes are specified. <sup>xxxiv</sup> Financial provisions for implementation of a CWMP are for a 3 year period<sup>xxxv</sup> which imply a similar period for reviews but no specific period is provided.

There is no provision for the establishment of independent scientific advice about environmental requirements, targets or benchmarks in plans. There is however a requirement that the peak water advisory body in the State is chaired by a person who in the opinion of the Minister has knowledge of water management and of the ecosystems that depend on it.<sup>xxxvi</sup> The Minister may appoint additional persons with special expertise to assist the body in any particular matter.<sup>xxxvii</sup>

#### New South Wales

NSW has also adopted a planning model. The model is based on a 10 year planning process structured around the issuing of access licences.<sup>xxxviii</sup> These licences will be linked to a share component and/or an extraction component established after the planning process.<sup>xxxix</sup> The licences are subject to water management plans based on a 10 year period and a review of the plan after 5 years.<sup>xl</sup> River Management Committees (RMCs) are established in each declared catchment-based area to carry out specific planning tasks, for example preparing a draft plan for water sharing. Public consultation of draft plans is mandatory.<sup>xli</sup>

Of all the States, NSW has the clearest provisions for monitoring and accountability:

- the Minister is responsible for ensuring an audit of the plan takes place at intervals of not more than 5 years to ascertain whether the provisions of the plan have been given effect; <sup>xlii</sup> and
- in setting out the terms of reference for a new management plan, the Minister must have regard to the results of the latest audit.

However the representation on these management committees is legislatively prescribed to ensure that they reflect local community interests<sup>xliii</sup> and includes at least one person nominated by the Minister for the Environment.<sup>xliv</sup>

Besides the River Management Committees public participation takes place through another process in NSW. As part of the water reform process, the Healthy Rivers Commission (HRC) was set up in 1995 to study stressed rivers or those with water supply issues.<sup>xlv</sup> The HRC was instructed as to which catchments should be subject to an inquiry to recommend longer-term environmental objectives and practical strategies to achieve them.<sup>xlvi</sup> It held detailed independent inquiries with an emphasis on informality, objectivity and public consultation. A discussion paper is first circulated in the catchment. Public meetings are held. Comments are taken, a draft report is circulated and comments are taken again before a final report is made. But the HRC has no statutory jurisdiction and no formal documentation sets out processes it should follow.<sup>xlvii</sup>

Reports from the HRC were wide-ranging in approach, and advisory in nature. Environmental, social and economic implications of its recommendations were considered.<sup>xlviii</sup> Reports were tendered to the Minister for the Environment who presented it to Cabinet. Without going into the merits of the HRC's recommendations, the holistic approach taken by HRC was to be commended. Much of river management were piecemeal and ad hoc, especially in coastal catchments activities and organisation tended to be more diverse and than inland catchments. An

overall strategy for *all* river catchments was sorely needed. A major criticism of the HRC was that there is no evidence that any of its recommendations have been accepted and implemented. Several further questions remained unanswered: where did the HRC sit within the water planning and management framework? How did it relate to other agencies?

# **3 PAINS AND GAINS: ASSESSMENT OF STRENGTHS AND WEAKNESSES.**

It is clear from the above discussion that public participation in water resources planning has been an evolving process in Australia. The greatest pain/weaknesses occurred where

- 1. No clear processes were set down, and/or community representatives on consultation panels did not understand their role. This gave rise to unrealistic expectations. In some instances committees thought they were able to make decisions, but their role was actually limited to giving advice to the Minister who was not obliged to follow.
- 2. Sound scientific knowledge was not properly incorporated into the process. For example in Queensland, a controversial draft plan for the Condamine Balonne (the upper parts of the Darling River) was released in 2000. It has still not been finalised. In the meantime water users have challenged that scientific studies underpinning the plan were unsound. In 2002 an independent scientific study had to be commissioned and a final plan has still to eventuate. Lay persons may find it very difficult to understand hydrological information. In NSW, scientific knowledge was incorporated through the expertise of government agencies on decision making committees. In addition either an independent scientist or an Expert Panel has been made available to most management committees entrusted with making water management plans.<sup>xlix</sup> But this is not a legislative requirement.
- 3. Participation by the community in committees/panels may be shallow. Members generally are from special interest groups and generally represent vested interests. Indigenous peoples have mainly been excluded, or been alienated by the process because it has been culturally inappropriate. There is anecdotal evidence that members of committees are not able to put things on agenda. Many of the members had no prior knowledge of how the rivers were managed, no understanding of the technical jargon used by water managers, and could not understand fully the various options presented for decisions.
- 4. Often a very limited time is allowed for feedback on important issues. In NSW river management committees were given 6 months to decide on cuts to consumptive use in order to restore a level of environmental flows to rivers. The tight deadlines meant that there was a lot of pressure. Conflict in the community was also reflected in the committees, with some members paying a high personal cost through illness.

Victoria experienced some of the greatest gains from public participation. The process in the Murray was inclusive to an extent, but the 34 members in the Murray committee excluded indigenous interests and only had 3 representatives from environmental groups. Public consultation was well managed. Information was widely circulated after every monthly meeting by a newsletter, and the draft proposal presented in a well-written booklet which explained difficult concepts simply. Its chief gain was to stave off a very real threat of litigation by the First Mildura Irrigation Trust, a private irrigation interest that believed they held very early legal rights to an unlimited amount of water.

From the Australia experience areas of greatest gain have been where:

- 1. Legislation provides for public participation and gives specific direction as to how this is carried out. Conflict resolution within the water management committees in NSW has been one of the difficulties encountered in that state therefore administrative processes should provide for conflict management.
- 2. The provisions do not merely pay lip service to public involvement. The public plays a role in making decisions through a committee (or other structure). This occurred in NSW. Meetings take place over 2 days, initially twice a month and later once a month. Members are allowed to finalise the agenda.
- 3. The membership of a committee is as broad as possible, with an independent chair and representatives of minority interests. Broad representation may be a problem because academic literature suggests that cooperation between members decreases as the number increases. Five to seven members has been suggested as an optimal number for an 'action' group'.<sup>1</sup> However the Victorian experience shows that if a generous time frame is allowed, difficulties with cooperation in a large group may be overcome.
- 4. Participants are presented with financial and administrative support, and have resort to independent scientific advice.
- 5. Active participants are supported in channelling information, and discussions to their stakeholder groups. Government/technical reports should be written in non-technical language and all of this including information data bases should be made easily available (for example on the internet).

#### The way ahead

There has been much academic research both in Australia and in other places to consider citizen juries *for specified issues*. This may be one way to overcome the domination of policy debate by special interest groups. The lack of capacity for public interest, environmental or non-user groups continues to be a weakness. Inadequate funding hampers effective participation. Intervenor funding, such has been introduced in Canada may provide some answers, but it is helpful only in court proceedings. There needs to be commitment by governments that participation is not mere tokenism. It is clear that in Australia at least there needs to be an ongoing search for institution that provides for holistic decision-making. The institution should be government funded but be independent to a large extent because the public is sceptical of government's ability to adequately and apolitically represent the public's interest. The institution may have to exist at a federal level with responsibilities on a catchment basis, transcending state boundaries.

iIn the Murray-Darling Basin, salt accumulation and recharge of groundwater, a natural phenomenon, was restricted to particular locations but soon after European land use patterns were established, the increased effects of salinity was experienced: Murray-Darling Basin Ministerial Council, The Salinity Audit: A 100 year perspective, 1999, MDBMC, Canberra, 1999, 3-4, hereafter Salinity Audit, 1999.

iiAustralian Academy of Technological Sciences and Engineering, Water and the Australian Economy, Australian Academy of Technological Sciences and Engineering and Institution of Engineers, Parkville, Vic, 1999, 11-12.

iiiState of the Environment Advisory Council, Australia State of the Environment: 1996, CSIRO Publishing, Collingwood, 1996.

ivFor a description of Aboriginal use of water see DI Smith, Water in Australia, Melbourne, Oxford University Press, 1998, 263; for analysis of Aboriginal title to water resources, see RH Bartlett, 'Native Title to Water' in RH Bartlett, A Gardner and S Mascher, Water Law in Western Australia, Centre for Commercial and Resources Law, UWA and Waters and Rivers Commission, Perth, 1997.

vThe common law was received into Australia on British acquisition of sovereignty. See generally Mabo v Queensland (No 2) (1992) 175 CLR 1.

vi For an account see PL Tan, Legal Issues Relating to Water Use, Issues Paper No.1, Murray-Darling Commission Project MP2002, Report to the Murray-Darling Basin Commission, 2002. For a general text see D Fisher, Water Law, LBC Information Services, Sydney, 2000.

vii For a discussion of the policy see generally A Gardner, 'An Administrative Framework of Land and Water Management in Australia', (1999) 16 Environmental and Planning Law Journal. For analysis of reform in Victoria see PL Tan, 'Irrigators come first: A study of the conversion of existing allocations to Bulk Entitlements in the Goulburn and Murray catchments, Victoria', (2001) 18 Environmental and Planning Law Journal, 154; for Western Australia see A Gardner, 'Water Resources Law Reform in Western Australia- Implementing the CoAG Water Reforms' (2001) 19 Environmental and Planning Law Journal, 6.

viii Intergovernmental Agreement on the Environment, AGPS, Canberra, 1992, ss 3.4 and 3.5.

ix RF James and RK Blamey, 'Public Participation in Environmental Decision-Making – Rhetoric to Reality?', paper presented at the 1999 International Symposium on Societyand Resource Management Brisbane, Australia, 7-10 July 1999 (http://cjp.anu.edu.au/docs/appendix2.pdf).

xi J Cannon, 'Choices and Institutions in Watershed Management', (2000) 25 William and Mary Environmental Law and Policy Review, 379, 383. xii Agriculture and Resource Management Council of Australia and New Zealand, Water Allocations and Entitlements: A National Framework for the Implementation of Property rights in Water, 1955, p 13.

xiii As above.

xiv National Environmental Justice Advisory Council Model Plan for Public Participation (http://www.epa.gov/Project XL/nejac.htm) (2 April 2003).

xv See (http://www.iap2.org/corevalues/coreofvalues.html) (2 April 2003).

xvi D Robinson, 'Public participation in environmental decision making' (1993) Environmental and Planning Law Journal, 320; A Simon, 'Valuing public participation' (1998) 25 Ecology Law Quarterly, 757, M Jeffery, 'Intervenor Funding as the Key to Effective Citizen Participation in Environmental Decision-Making: Putting the People Back into the Picture', (2002) 19 Arizona Journal of International and Comparative Law, 643.

xvii See details discussion of public participation in decision making processes in D Farrier et al The Environmental Law Handbook, 3rd ed, Redfern Legal Centre Publishing, Sydney, 1999, 477-482.

xviii J Burchmore, 'The development of new water legislation for NSW – a policy perspective', (2000) 17 Environmental and Planning Law Journal, 309. xix NSW in 1995 also started to reform bulk licences for irrigation areas and districts.

xx Bulk Entitlement (Eildon-Goulburn) Conversion Order 1995, cl 4. The probability is dependent on computer models of hydrological conditions and information collected over a period of time. The more data and the longer the collection period, the more accurate the model.

xxi Water Act 1989 (Vic), s 43. If it is by share of storage, then the amount of water is to be further quantified by reference to further matters such as the share of inflow to the storage, volumetric share of releases, seepage and evaporative loss adjustments, and the share of the water remaining in the storage after heavy inflow causes the water in the storage to spill over.

xxii Water Act 1989 (Vic), s 40.

xxiii Murray Water Entitlement Committee, Sharing the Murray: Proposal for defining people's entitlement to Victoria's water from the Murray, Melbourne, 1997, 7.

xxiv Water Act 2000 (Qld) ss 46(1)(e) and 46(3)(a). Ecological outcome is defined as 'a consequence for an ecosystem in its component parts specified for aquifers, drainage basins, catchments, subcatchments and watercourses': schedule 4.

xxv Water Act 2000 (Qld) ss 41, 47.

xxvi Water Act 2000 (Qld) s 39(c) and Water Management Act 2000 (NSW)

xxvii Water Act 2000 (Qld) ss 49, 50.

xxviii Water Act 2000 (Qld) s 46(3)(b).

xxix Water Act 2000 (Qld) schedule 4.

xxx Water Act 2000 (Qld) s 128(1)(e).

xxxii Water Resources Act 1997 (SA) s 90. The 1995 plan was adopted at the commencement of the Act and a new State Water Plan was made in 1999.

xxxiii Water Resources Act 1997 (SA) s 91.

xxxiv Water Resources Act 1997 (SA) s 92.

xxxv Water Resources Act 1997 (SA) s 92(4).

xxxvi Water Resources Act 1997 (SA) s 50(2)(a). This person will be the presiding member of the Water Resources Council.

xxxvii Water Resources Act 1997 (SA) s 50(4).

xxxviii The new Act uses the word 'rights' only in reference to state and basic landholder rights. All other users obtain 'licences', denoting that their interests, although tradable, are ranked lower than the two rights. The licences are generally issued for a period of 15 years: Water Management Act 2000 (NSW) s 69(1)(a). Local and major water utility access licences are issued for 20 years and regulated river (supplementary water) access licences are issued for the term of the associated access licence: ss 69(1)(b) and (c) and 70.

xxxix Water Management Act 2000 (NSW) s 56(5).

xl Water Management Act 2000 (NSW) s 43.

xli Water Management Act 2000 (NSW) ss 38-9.

xlii Water Management Act 2000 (NSW) s 44.

xliii Water Management Act 2000 (NSW) ss 12 and 13.

xliv Water Management Act 2000 (NSW) s 13(1)(g).

xlvIt was set up under s 23 of the Pollution Control Act, 1970. See HRC, Independent Inquiry into the Hawkesbury Nepean River system: final report August 1998, Sydney, HRC, 1998 at Appendix 1.

xlviEPA, Water quality and River flow Interim Environmental Objectives: guidelines for River, Groundwater and Water Management Committees, Lachlan River Catchment, Sydney, EPA, 1999.

xlvii HRC, 1998, above Appendix 2 outlines the process which was followed in that enquiry.

xlviiiFor example the Final Report into the Hawkesbury Neapean looks into a range of activities that impact on river health, including irrigation, extractive industries, and local government.

xlix See for example list of Lachlan River Management Committee furnished by DLWC Forbes, November 1999 to the writer. I Cannon above at p 410 citing Olson, The Logic of Collective Action, 1965.

xxxi Water Act 2000 (Qld) s 55(3).