



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Policy Innovation and Institutional Capacity Building: Putting Market-Based Instruments into Practice in South Australia[◇]

Tian Shi *

Corporate Strategy and Policy, Primary Industries and Resources South Australia, GPO Box 1671, Adelaide, SA 5001, Australia

Abstract: As market-based instruments (MBIs) become a buzzword, there is an emerging expectation among policy makers and natural resource managers that MBIs should be more widely adopted. However, without the change of existing ideas and institutions, governments tend to continue to use the default regulatory and voluntary instruments. This paper provides an overview of policy instruments and the general expectations about the instrument choice when governments face policy implementation. Although it does not provide specific choice of individual instruments, some key issues and opportunities are identified for the wide adoption of MBIs in South Australia for sustainable NRM and economic development.

Keywords: Market-based instruments, Institutional capacity building, Policy instrument, Instrument compatibility, Natural resource management, South Australia

[◇] The views expressed in this paper do not necessarily reflect those of the South Australian Government or the Primary Industries and Resources South Australia.

* Tel: +61 8 8226 0561; fax: +61 8 8226 0221; email address: shi.tian@saugov.sa.gov.au

1. Introduction

As market-based instruments (MBIs) become a buzzword, there is an emerging expectation among policy makers and natural resource managers that MBIs should be more widely adopted. In Europe, the use of MBIs in environmental policy has gained ground substantially since the mid-1990s, especially in the areas of taxes, charges and tradable permits (European Environment Agency, 2006). In Australia, MBIs for environmental issues and natural resource management (NRM) are relatively new. However, the opportunities to use competition and markets to address complex environmental concerns and NRM issues (e.g., biodiversity conservation, salinity, climate change, and water management) are widely explored.

The Round One of the National MBIs Pilot Program has witnessed a significant increase in the experimental use and assessment of MBIs for NRM. The results indicate that MBIs can help achieve improved NRM outcomes at significantly lower cost than existing grants programs. MBIs also have the capacity to attract significant landholder engagement, encourage voluntary change and improve the potential to target public investment in NRM (Grafton, 2005).

Natural resource and environmental management is a complex process. Different policy tools are required to address different problems, and different policy tools need corresponding institutional capacity building to support their implementation. Currently, there is an insufficient understanding of the integration between community, industry, NRM boards and government agencies in the institutional capacity to implement MBIs.

Without appropriate institutional arrangements (broadly refer to the legal, political, and social norms, rules, and organizational structures) in place to facilitate change, people often revert to old ways of practice when incentives end, and therefore long-term NRM objectives may be compromised. Enhanced institutional arrangement and government-community capacity building is a key step to facilitate MBIs implementation for positive natural resource and environment management outcomes delivery.

2. Policy instrument and policy implementation

Due to the complex nature of the environment and natural resource management, no single policy instrument can provide a comprehensive solution. Government could apply a variety of instruments to address different policy problems. Table 1 provides a summary of ten types of policy instruments. According to Howlett and Ramesh (1995), these instruments can be classified into three categories: voluntary, mixed and compulsory instruments.

Table 1. A summary of a spectrum of policy instruments

| Category | Policy tool | Feature | Government option | Rationale for choice | Advantage | Disadvantage |
|---|-------------------------------|---|--|--|---|---|
| Voluntary Instruments No or little government involvement, leave to market, family, or voluntary organizations ; cost efficiency, respect cultural norms; usage will increase due to more privatisation | <i>Family and community</i> | Provide goods and services with no financial reward | Expand their role either indirectly by cutting back on government services, or directly by promoting them | Emotional gratification, expect effort would be reciprocated | No cost to the government, unless it chooses to provide grants or subsidies | Weak instrument to address economic problems; inequitable; need financial assistance sometimes |
| | <i>Voluntary organization</i> | Free of state coercion and economic constraints | Government budgetary constraints have pressed to expand their role; expansion of the welfare state has gradually diminished their role | Satisfaction in deeds for religious, ethical, or political reasons | Equitable, cost-efficient, flexible, quicker response than governmental organizations; promote community spirit, social solidarity, and participation | Largely inapplicable to many economic and social problems; may become bureaucratic; not cost-efficient if depends on government funds |
| | <i>Market</i> | Voluntary organization backed by government coercive powers | Most important instrument, governments rely on extensively; often accompanied by other instruments (eg, regulation, subsidy) | Self-interest | Effective and efficient in providing private goods | Cannot adequately provide public or common pool goods; inequitable |

| | | | | | | |
|---|------------------------------------|---|--|---|--|--|
| Mixed Instruments (MBIs) Permit government varying levels of involvement, leave the final decision to private actors; offer the benefits of both voluntary and compulsory instruments | Information and exhortation | Exhortation involves only slightly government activity than information dissemination | Does not offer rewards or impose sanctions; consultations between government officials and industry representatives become a new form of exhortation | Help people make informed choices | A good starting point if problems have no definite solutions; easy to change or abandon; inexpensive; consistent with the norms of liberal democracy | A passive instrument, public has no obligation to respond |
| | Subsidy | All forms of financial transfers to reward a desired activity (eg, taxi cab industry through regulations that fix prices to protect competition from driving down prices) | Heterogeneous instrument: grants (from government's general tax revenues); tax incentive (no direct government expenditure); voucher increases the consumption of government desired goods and services; low interest rate loans | Voucher allows relatively free choice in the marketplace | Easier to establish if the preference between government and people coincides; flexible to administer (eg, tax incentives not constrained by fund availability and not need budgetary approval); encourage innovation; low cost in administering and enforcing; political acceptable (benefits are concentrated, costs are spread) | Difficult to establish and need financing and legislative approval (except tax incentives); costly in gathering information; time-lag; may be redundant and causing a windfall; hard to eliminate; tax incentive is inequitable |
| | Auction of property rights | Establish markets by creating an artificial scarcity and enabling price mechanism to work | A combination of regulation and market instruments | People can adjust behaviour in response to changing circumstances | Easy to establish; flexible to set the ceiling; restrict some resource use for those without alternatives; markets made decision according to the demand and (artificially limited) supply; raise revenue; certainty (only a fixed amount of undesired activity occurs) | May cause speculation; high enforcement costs (eg, those cannot buy the rights forced to cheat); inequitable (eg, extra cost of buying right, allocate resource according to ability to buy rather than need) |
| | Taxes and charges | Taxes often used as negative incentive (or sanction) to curb undesired behaviour; user charges are commonly used to control negative externalities | User charges are a combination of regulation and market instruments; governments set the charge (tax), market forces determine the target activity | Imposed upon | Easy to establish; provide financial incentive to reduce undesired activity; user charges promote innovation (eg, search for cheaper alternatives); flexible; need less enforcement; raise government revenue | Require vast information to set the correct level of taxes or charges; resources may be misallocated during the process; not effective in times of crises; not permit planning (as it relies on private decisions); possible high administration costs |
| Compulsory Instruments Directive and highly coercive instruments, leave little discretion to target individuals, groups, or organizations | Regulations | Quite restrictive in focus (eg, rules, permits, prohibition, legal orders, and executive orders); some are laws, most are administrative edicts; govern the price and standards of vast goods and services we consume | Government requires or prescribes certain activities or behaviour on the part of individuals and institutions through a continuing administrative process; economic regulations controlling price to correct perceived imbalances in market; social regulations focus on broader problems, cut across industries and agencies; environmental protection is a hybrid | Failure to do so results in a penalty | Require little information to establish; easier to prohibit undesired activity; administratively efficient and effective; allow coordination and planning; predicability and suitable for immediate response; politically appealing if want a quick and definite action | Distort voluntary or private activities, promote economic inefficiencies (eg, restrictions on entry to and exit from industry reduce competition); inhibit innovation and technological progress (eg, no incentive to reduce the behaviour below the specified standard); inflexible (not consider individual circumstances, new technology requires a change in regulation); uncertainty in interpretation; high administration and enforcement costs |
| | Public enterprise | State-owned, semi-autonomous; some degree of public ownership (between a private enterprise and an ordinary bureaucratic agency); some degree of government direct management | A trend in public enterprise is to increase privatisation to prevent lose large money | Governments have control or direct management | Efficient economic policy tool (if no private sector produces relevant goods or services); require less information to establish; simple administrative arrangement; profits for public funds | Difficult to exercise effective control over the company; inefficient in operation (no bankruptcy); monopolistic nature may pass costs of inefficiency to consumers |
| | Direct provision | Basic and most widely used instrument | Directly perform the task in question, deliver goods and services | Funds available from public treasury | Low information required to establish; enable capacity building; avoid problems with indirect provision; internalise transaction costs | Inflexible (due to formal operating procedures); promote political interference; incoherent directives; not cost-conscious (no competition); delivery of programs may suffer from intra- and inter-agency conflicts |

Source: Derived from Howlett and Ramesh (1995).

It is important to note that these instruments are descriptive rather than prescriptive, their actual selection and implementation depends on a variety of contextual factors. Policy instruments are the actual means that governments must select for implementing policies. To a great extent, policy implementation can be seen as a process of applying one or more policy instruments to policy problems.

3. Policy instrument choice

It is risky to call on an instrument from the repertoire before analysing fully the nature of the issue under investigation. A big task before the government is to select an instrument or combination of instruments that is most appropriate, effective and efficient for the task at hand, taking into accounts both the limitations and capacities of each category of instruments, as well as the political consequences of their implementation (Hoelett and Ramesh, 1995). As government options are limited by available instruments, knowledge about the range of choice is therefore essential (Hood, 1986). An important trend in policy instrument choice is that when governments under pressure (eg, to restrain expenditure), “politicians prefer to employ the least coercive instruments possible” (Atkinson and Nigol, 1989, p. 111).

Although a variety of instruments are available, the choice of specific policy instruments is a complex process. Social and political constraints favour the choice of some instruments and inhibit the choice of others. Factors that shape the choice of policy instruments may involve:

- Characteristics of instruments;
- Nature of the problem;
- Governments’ past experiences;
- Subjective preference of the decision makers;
- Cost of implementation and ongoing operation; and
- Likely reaction from affected social groups.

3.1. An alternative classification of policy instruments

Table 1 provides a summary of three categories and ten types of policy instruments. With further study, an alternative classification of these ten types of policy instruments can be made:

- **Voluntary instruments** (family and community, voluntary organizations);
- **MBIs** (markets, information and exhortation, subsidies, auction of property rights, tax and user charges, offsets); and
- **Regulatory instruments** (regulation, public enterprise, and direct provision).

3.2. A model of instrument preferences

Instrument choice is shaped by resource constraints, political pressures, legal realities, and the lessons learnt from past instrument failures. In fact, it is a function of the nature of the governments’ goals and resources and the organization and capacity of targeted social actors (Hood, 1986). The tendency to choose a particular instrument is ultimately determined not only by state capacity but also by the level of policy complexity (see Figure 1).

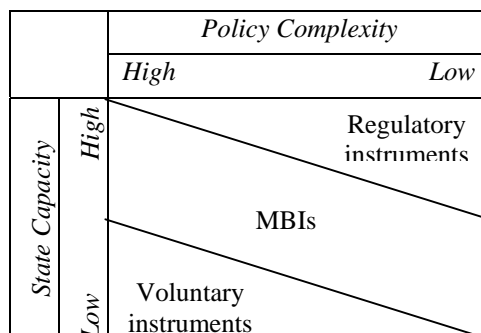


Figure 1. A model of instrument preferences

Compared to voluntary and regulatory instruments, MBI is a highly contentious instrument, which is opposed by those who are likely to lose out from its operation, or do not understand the issues or operation. The model suggests that a high level of state capacity is required to use MBIs and regulatory instruments. This is the reason why institutional capacity building is so important for the adoption and implementation of MBIs (Shi, 2006). When the state is lacking in policy capacity, it will tend to use traditional regulatory instruments, or rely on existing voluntary instruments (see Table 2). Therefore, there is a need to analyse instruments in the context of the relationship existing between the government and the community.

Table 2. Feature of individual policy instruments

| Policy instrument | Information requirement | Efficiency | Effectiveness | Equity | Cost | Organizational | Administrative | Flexibility | Enforcement | |
|-------------------|----------------------------|------------|---------------|--------|------|----------------|----------------|-------------|-------------|---|
| Voluntary | Family & community | L-M | L-M | L | L | L-M | H | L | H | L |
| | Voluntary organization | L | H | M-H | H | L-M | H | L | H | L |
| MBIs | Market | L-M | H | H | L | L | M-H | M | H | M |
| | Information & exhortation | M-H | L | L | M | L | H | L-M | M | L |
| | Subsidy | M-H | M | L-M | L-M | M-H | M | L | M-H | L |
| | Auction of property rights | H | M | M | L | L | H | H | H | H |
| | Taxes & charges | H | M | L-M | L | L | M-H | H | H | L |
| Compulsory | Regulations | L | H | H | M | M | H | H | L | H |
| | Public enterprise | L | L-M | H | L-M | M | H | L-M | M-H | L |
| | Direct provision | L | M-H | H | L-M | H | H | H | L | L |

Note: H=high, M=medium, L=low

4. Factors influence MBIs implementation

There are a lot of factors that may facilitate or constrain implementation of MBIs. It is important to note that the success or failure of many MBIs often depends on the commitment and skills of those directly involved in the implementation process. Furthermore, institutional and socio-economic differences between regions may influence the applicability and adoption rates of particular NRM practices and MBIs.

MBIs are constrained by limited institutional capacity (eg, under-funding, inexperience, unclear jurisdiction, or lack of political will) to effectively implement them (Scott et al., 1995). This is a universal problem that needs to be addressed. As NRM and environmental issues became institutionalized (in some form) within multiple public sector ministries or departments, this could result in substantial duplication of effort and uncertainty in jurisdictions. A challenge has therefore involved a form of “rationalization” spelling out clear NRM and environmental policy objectives and concomitant institutional reforms that involved more than one institution in the entire management process. In essence, the goal of rationalization and reform is to re-establish institutions that are themselves sustainable to support MBIs implementation.

To be effective, instruments should be compatible with existing or proposed legislation, institutional frameworks and administrative structures. Jurisdictional constraints may affect the design and performance of MBIs. Particular difficulties may be experienced in coordinating instruments at different levels of governments. In a federal system, policy instruments differ across jurisdictions. The federal division of power is a major constraint on selection of policy instruments in an Australian setting (Bridgman and Davis, 2004). In addition, there is weak integration between state and regional levels. These intra- and intergovernmental integration issues are often identified as serious institutional problems. Capacity building and information sharing were identified as key

factors that promote intra- and intergovernmental integration and public participation, thereby helping to remove legal and administrative barriers and merge institutional strengths.

5. Policy innovation

The goal of NRM is to maximise the benefits through efficient allocation of resources. Determining an appropriate mix of policy instruments will be important tasks. When initiating a MBI program, legal and institutional settings must be considered where the regulations are to be implemented. A decision framework for selecting and assessing MBIs would help government to build up the capacity to facilitate the delivery of positive outcomes. As Bridgman and Davis (2004, p. 77) point out, “[p]olicy instruments need to be backed by sufficient authority and money, and chosen in a framework of rigorous thinking about ends as well as means.” Those tasks may include:

- Negotiating the pattern of future NRM practice and investment;
- Formulating a response to risks and uncertainties (eg, droughts and climate change);
- Efficient planning of new rural infrastructure; and
- Integration of MBI options with exiting regional socio-economic development plans.

All will require a capacity for informed decision-making about instrument options, priorities and trade-offs in the government departments. The MBI approach can flow from either 'direct' or 'indirect' government intervention. The key issue is to have a receptive or suitable environment in which MBIs can establish and operate. A “strong” MBI would allow market forces to determine the best way to meet a given standard or goal. Across all level of government, there is movement away from direct government action. A common feature is that governments choose to ‘contract out’ functions, relying on private providers who deliver services to a standard specified in a contract.

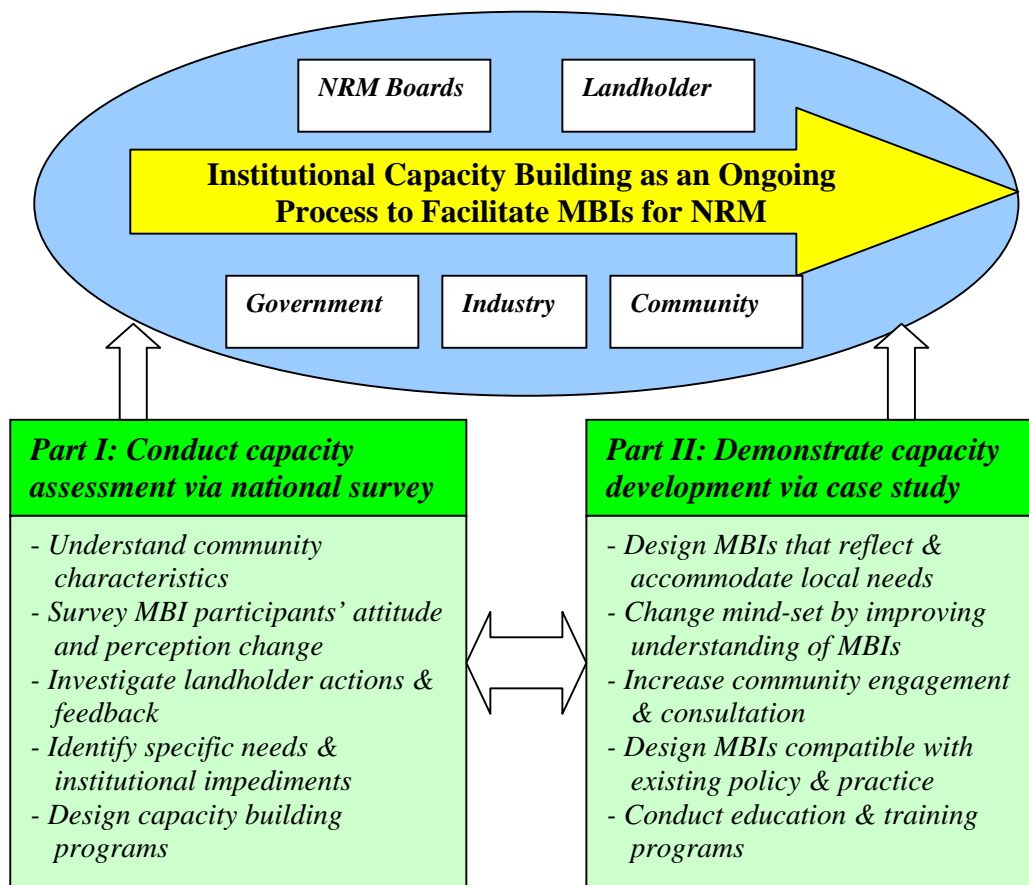


Figure 2. Institutional capacity building to facilitate MBIs for NRM

Success in implementing types of instruments will be achieved only if the community understand the functioning of instruments and the objectives that management agencies are attempting to meet. There may be inherent conflict between different interest groups, depending on the allocation of rights and responsibilities that different types of instruments bestow. Notions of fairness must be addressed as a prerequisite to any type of MBIs. To overcome problems of acceptability, the environmentally beneficial effects of MBIs must be demonstrated through public consultation and information programs (Bari, 2002).

In order to maintain functional institutions and administrative processes to perform effective, efficient and sustainable NRM outcomes delivery, two parts of study need to be stressed in the institutional capacity building. Part I focuses on investigating people's willingness and perceptions to participation, while Part II focuses on developing individual abilities and strengthening institutional capacities to facilitate the design, development, management and implementation of MBIs. Their relationship is illustrated in Figure 2.

6. Opportunities and recommendations

A variety of MBIs could potentially be used to address NRM objectives, but the performance varies at different levels. Understanding the policy issue and context is crucial for the design and adoption of MBIs. Currently, many regions are constrained by a lack of information about why, where and how MBIs operate, their potential advantages and disadvantages, and how to integrate these instruments into regional policy toolkits. The main challenge is to design MBIs that can be successfully applied within the context of the same institutional and political barriers that are constraining the command and control approach. Meanwhile, MBIs often yield better results by harnessing the powerful cost-benefit motivations of businesses and individuals.

It can be envisaged that the future development and implementation of MBIs will be challenged to be compatible between jurisdictions, but reflect regional variability in the level of capacity and the state of knowledge. From the state government perspective, potential opportunities associated with the development of MBIs may include:

- Improved knowledge on institutional capacity building;
- Building the capacity to implement MBIs in SA; and
- Increasing the potential for future MBIs adoption as a policy option by NRM Boards.

Accordingly, there are some recommendations for the adoption and implementation of MBIs in SA:

- Identify gaps and opportunities for the application of MBIs at a local and landscape scale in SA (legislation, policies, information, initiatives, funding opportunities, processes);
- Facilitate and exchange of information across the Inter-Agency Group and the broad community that support groups to better understand/access knowledge and experiences of MBIs across SA; and
- Develop a register of expertise and identify mechanisms to access expertise from SA, Australia and overseas.

Key elements that need to consider include:

- ***Set quantitative targets and standards for NRM***, particularly for salinity and water quality;
- ***Capacity building for communities and landholders*** to develop and implement MBIs, together with the provision of technical and scientific support and engineering innovations;
- ***An improved governance framework*** to secure the government investments and community participation in the long term;
- ***Articulated roles for the government and the community*** to provide an effective, integrated and coherent framework to deliver and monitor implementation of the MBI projects; and
- ***A public communication program*** to support widespread understanding of all aspects of the MBIs policy so as to promote behavioural change and community support.

Past experience has shown that the chances of achieving long-term institutional sustainability increase if three conditions are met:

- Flexible in institutional structures and mandates to deal with changing circumstances, this is best achieved by relying on existing capacity and mechanisms;
- Mechanisms available that provide for adequate financing of these institutions, this is best achieved through making the institutions cost-effective and through providing them with some form of long-term self-financing; and
- Initial development focus on areas where early successes are likely to occur, this is achieved through phasing development of institutional capacity and through outlining high-priority targets for intervention.

7. Concluding remarks

This paper provides an overview of policy instruments and the general expectations about the instrument choice when governments face policy implementation. It does not provide specific choice of individual instruments as this is largely shaped by political factors related to state capacity and policy complexity. Without the change of existing ideas and institutions, governments tend to in favour of continuing to use their default regulatory and voluntary instruments. As a result, the relatively newly introduced MBIs are increasingly being challenged to gaining ground between government and community.

Institutional capacity building is essential that it not only helps people change their practice and attitude through MBIs implementation but also facilitates organizations understand and deal with landholder development needs and NRM issues in a broad context and in a sustainable manner. The scope of MBIs must match regions' institutional capacity to implement them. It is arguable that some MBIs in the Round One of the National MBI Pilot Program were pushed too hard and too fast in some regions that were institutionally unprepared to implement them. In this regard, MBI approaches that introduce gradual and flexible reforms are therefore more likely to succeed within the current regional context of ongoing institutional changes.

References

- Atkinson, M. M., Nigol, R. A., 1989. Selecting policy instruments: Neo-institutional and rational choice interpretations of automobile insurance in Ontario. *Canadian Journal of Political Science*, 22(1): 107-135.
- Bari, M., 2002. Literature review on market-based instruments. NSW Department of Land and Water Conservation, July.
- Bridgman, P., Davis, G., 2004. *The Australian Policy Handbook* (3rd edition). Allen & Unwin, Crows Nest, NSW.
- European Environment Agency, 2006. Using the market for cost-effective environmental policy: Market-based instruments in Europe. EEA Report No. 1/2006.
- Grafton, R. Q., 2005. Evaluation of Round One of the Market Based Instrument Pilot Program. Report submitted to the National MBI Working Group, 17 August.
- Hood, C. C., 1986. *The Tools of Government*. Chatham House, Chatham.
- Howlett, M., Ramesh, M., 1995. *Studying Public Policy: Policy Cycles and Policy Subsystems*. Oxford University Press, Oxford.
- Linder, S. H., Peters, B. G., 1989. Instruments of government: perceptions and contexts. *Journal of Public Policy*, 9(1): 35-58.
- Scott, A., Robinson, J., Cohen, D. (eds.), 1995. *Managing Natural Resources: Markets, Regulations, and Sustainable Development*. Sustainable Development Research Institute/UBC Press, Vancouver.
- Shi, T., 2006. Applying market based instruments for sustainable natural resource and environmental management in South Australia: challenges and opportunities. Paper presented at the AARES 50th Annual Conference, 8-10 February 2006, Manly, Sydney.