

National Land & Water Resources Audit

An Initiative of the Natural Heritage Trust

**Socio-Economic Indicators for NRM (Project AI.1)
Indicators of Capacity, Performance and Change in
Regional NRM Bodies**



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Socio-Economic Indicators for NRM (Project A1.1)
Indicators of Capacity, Performance and
Change in Regional NRM Bodies - August 2004

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EXECUTIVE SUMMARY

Under the National Action Plan for Salinity and Water Quality (NAPSWQ) and the National Heritage Trust (NHT), regional bodies are developing NRM plans and investment strategies and undertaking on-ground actions to address the declining condition of Australia's natural resource base.

The Monitoring and Evaluation Working Group (MEWG) of the Natural Resource Management Ministerial Council and the Audit Advisory Council (AAC) have tasked the National Land and Water Resources Audit (NLWRA) to develop social and economic indicators (quantitative and qualitative) suited to the needs of NAPSWQ and NHT program monitoring and evaluation. This study focuses specifically on developing a framework and indicators which may be useful in monitoring the performance of regional NRM bodies involved in NAPSWQ and NHT program implementation. The study has three objectives which are to identify indicators and associated data needs to measure:

1. the capacity of regional groups to make decisions on NRM issues, including
 - whether decision-making capability has improved.
2. institutional change (defined as change in the formal and informal rules for regulating behaviour together with means of implementing those rules), including
 - whether institutions have responded more effectively, and
3. the interlinkages between the above two components and their relationship of longer term changes to the:
 - condition of the natural resource base,
 - capacity of regional communities to respond and manage for effective NRM outcomes, and
 - the economic viability of agriculture.

A systems framework has been developed to understand the performance of regional NRM bodies. This framework recognises that regional bodies will move through three key lifecycle stages, which include the stages of (i) foundation, (ii) NRM plan development and (iii) NRM plan implementation. Indicators have been developed which reflect the transition of regional bodies through each of these stages.

Using a systems model, the performance of regional bodies has been defined in terms of management and program performance, with performance influenced by factors and processes both internal and external to the regional body.

Management performance is dependent upon the management capacity of the regional body and includes for example, skills and abilities in financial management and human resources, the quality of decision making processes and the number, type and expertise of staff in the regional body.

Similarly program performance, which includes the development and implementation of regional NRM plans, investment strategies and on-ground actions, is dependent upon program capacity within the regional body. Headline indicators of program capacity include for example, the use and availability of NRM knowledge and technical skills; the use of expert advisory panels; and the employment of program specific staff, including program leaders, facilitators and coordinators.

While the performance of the regional body will be dependent upon management and program capacity, it is also recognised that performance will be influenced by factors and processes external to the regional body, including its interaction with external organisations, including Government, community groups and the general community. Headline indicators in this context include for example the use and quality of community networks, information exchange and communication and the existence of a community engagement and communications strategy.

Using a systems model, 24 headline indicators of the capacity and performance of regional bodies have been identified. On the basis of this initial framework and the headline indicators that have been identified, a staged research methodology is proposed to further define and operationalise indicators of the performance of regional bodies, which can be included and integrated into the National Natural Resource Management Monitoring and Evaluation Framework.

1. INTRODUCTION

Two significant programs being undertaken in Australia to address issues associated with the declining condition of our natural resources are the National Action Plan for Salinity and Water Quality (NAPSWQ) and the National Heritage Trust (NHT). Significant investment, which is being targeted at improvement in the condition of the natural resource, is occurring through a number of initiatives within each program. This investment is being devolved through regional bodies that have developed, or are in the process of developing, natural resource management plans and investment strategies.

The Monitoring and Evaluation Working Group (MEWG) of the Natural Resource Management Ministerial Council and the Audit Advisory Council (AAC) have tasked the National Land and Water Resources Audit (NLWRA) with the provision of social and economic indicators (quantitative and qualitative) suited to the needs of NAPSWQ and NHT program monitoring and evaluation.

The NLWRA convened a working group to develop a discussion paper of social and economic indicators as they relate to NRM. The discussion paper, which was subsequently refined by the Audit's Socio-Economic Working Group (SWEG), identified the types of questions which could be answered using socio-economic data to:

- measure the adoption of sustainable management practices and identifying the social and economic drivers of decision making,
- assess change in institutions and the capacity of regional groups/communities,
- undertake regional profiling and identify the key elements of social and economic processes and structures, and
- undertake a regional trade-off analysis.

A key area of need identified in the discussion paper was to progress the development of indicators to assess the capacity of regional groups and communities to make decisions on NRM issues and institutional change.

In addition, the policy and program areas within the Australian Government have been developing a framework for articulating the achievements of the social dimensions of the NAPSWQ and NHT. This work has identified the capacity of regional organisations as one of the cornerstones to the achievement of longer term NAPSWQ and NHT outcomes. Other critical factors include:

- engagement with the broader community

- the strength of organisational partnerships between government and regional bodies, and
- the degree of recognition within governing institutions of the social dimensions of NRM and regional delivery.

The outcomes of this project will contribute substantially towards clarifying understanding of these areas of achievement and their contribution towards longer term NAPSWQ and NHT outcomes.

2. PROJECT OBJECTIVES

Recognising that change may occur in a number of specific social and economic domains as a consequence of implementing NAPSWQ and NHT programs, this paper focuses specifically on identifying and developing initial ‘headline indicators’¹ which may be useful in monitoring change in the performance of regional bodies that are involved in NAPSWQ and NHT program implementation.

The aim of this paper, as described in the project brief, is to “identify qualitative socio-economic indicators which can be used to provide an immediate indication of the performance of the NHT and NAPSWQ programs and to identify additional, potential qualitative socio-economic indicators which could be used, following further statistical analysis, data collection or the development of an appropriate methodology”.

Within this context the project brief identifies three core objectives, which are to identify “qualitative socio-economic indicators and associated data needs to measure:

1. the capacity of regional groups to make decisions on NRM issues, including
 - whether decision-making capability has improved.
2. institutional change (defined as change in the formal and informal rules for regulating behaviour together with means of implementing those rules), including
 - whether institutions have responded more effectively, and
3. the interlinkages between the above two components and their relationship of longer term changes to the:
 - condition of the natural resource base,
 - capacity of regional communities to respond and manage for effective NRM outcomes, and
 - the economic viability of agriculture.

3. REGIONAL BODIES

A presentation of the initial project objectives and approach to the Social and Economic Working Group (SEWG) resolved that the focus of this project would be on regional bodies, or those organisational entities identified in regional areas throughout Australia that were responsible under the NAPSWQ and NHT for developing NRM plans, regional investment strategies and the implementation of these plans.

An understanding of the form, function and objectives of regional bodies is described under Section 16 of the intergovernmental agreement on the NAPSWQ, where regional bodies are required to have the following attributes:

- a suitable level of authority to develop and implement catchment/regional plans;
- transparency and equity in decision making, and effective mechanisms for participation by all relevant stakeholder groups;
- technical ability and capacity for the development and implementation of accredited catchment/regional plans or the ability to coopt this ability and capacity;
- the ability to work effectively in the delivery of cross-border plans;
- adequate arrangements for administration, financial management and accountability for implementing the catchment/regional plan and delivering agreed outcomes; and
- arrangements to work with local government and other agencies to ensure the integrity of the catchment/regional plans and government investments.

The attributes of regional bodies, as described in the intergovernmental agreement, identifies the importance of plan development and implementation as important objectives and organisational goals. However, in addition to these program objectives, the intergovernmental agreement also emphasises the importance of procedural issues in decision making and community involvement and that the regional body has the necessary technical and organisational capacity for implementing and delivering regional plans. Given that regional bodies are tasked with implementing NRM plans and investment strategies, it would appear palpable that a lack of management and program capacity within a regional body would have significant implications for program implementation and as a consequence the achievement of resource condition targets.

¹ Headline indicators are indicators that are defined and identified at a conceptual level rather than at an individual operational level suitable for the purpose of measurement.

4. ORGANISATIONAL CHANGE

Regional bodies deliver NAPSWQ and NHT program outcomes² through several stages. In the delivery of program outcomes, regional bodies are essentially funded and progress as an organisation through three key stages, which is referred to here as (i) foundation, (ii) plan development and (iii) plan implementation.

The initial 'foundation' stage is associated with the establishment of regional bodies who have the responsibility for regional program delivery under the NAPSWQ and NHT. In this stage many regional bodies have as their core objectives issues related to the establishment and development of appropriate organisational structures and functions. This includes, for example, the establishment of a Board, the appointment of staff, acquiring physical infrastructure and the development of administrative and management structures.

A second and significant stage for many regional bodies is the development of regional NRM plans, which includes a description of the resource condition within the region, the identification of resource condition targets and management actions and the development of a regional investment strategy, which identifies areas of priority funding required to achieve resource condition targets that have been identified.

Following the development of an accredited plan, the third stage through which all regional bodies will progress is the implementation of the regional plan and associated regional investment strategy. Regional groups during this stage will be responsible for the implementation of multiple projects and on-ground actions directed at achieving the resource condition targets.

It is clear, even with reference to the three macro stages of development that have been identified (foundation, plan development and plan implementation), that while a regional body is tasked with addressing NRM issues within the region, there are temporal shifts in the objectives of regional bodies as they develop. That regional bodies may have different objectives across time, would also suggest that the capacity requirements of regional bodies may also differ across time. For instance, a regional body involved in NRM plan development may require different very different skills and abilities to a regional body more directly involved in the implementation of the plan and the management of on-ground actions.

² NAPSWQ program outcomes can be found at www.napswq.gov.au and NHT extension program outcomes can be found at www.nht.gov.au/publications/framework

That regional bodies will develop through different stages and that they will at different times need to address different key objectives indicates that the capacity requirements of regional bodies will not be constant across all regional bodies, but will vary according to the stages and objectives through which the regional body is progressing. Furthermore, recognising the developmental or temporal shifts in objectives and capacity requirements occurring across regional bodies also becomes critically important if the capacity of regional bodies is to be monitored across time.

Van de Ven and Poole (1995) have reviewed several theories of organisational change and have identified four key theoretical approaches that have been used to explain how change occurs within organisations. They include (i) life-cycle theories, (ii) teleological theories, (iii) dialectical theories and (iv) evolutionary theories of organisational change. Life-cycle and teleological theories of organisational change are discussed in this paper as they focus on change and development within a single organisational entity and are most applicable to change and development within regional bodies. On the other hand, dialectic and evolutionary theories of organisation change address organisational change through competing interrelationships occurring amongst multiple groups and organisations and are more suited to describing organisational change amongst organisations in competitive market economies.

Life-cycle theories suggests that organisations move through a prescribed series of stages in order to achieve their goals and objectives. Adoption of a life-cycle approach to organisational change and development within regional bodies would suggest that while there are prescribed stages through which regional bodies progress and that there will be a set of commensurate capacity requirements associated with each stage if the regional body is to progress through each life-cycle stage. The three stages of formation, plan development and plan implementation that have been discussed may be considered as three lifecycle stages through which regional groups progress.

Teleological theories of organisational change do not emphasise a set of predefined or prescribed stages through which organisations must progress. In contrast the emphasis is placed on the achievement of goals or end states, with organisations undertaking a constant cycle of goal formulation, implementation, evaluation and modification of goals. Theoretical perspectives from within this approach emphasise the concept of equifinality; that there are often several equally effective ways of achieving a goal or end state. Unlike life cycle theories in which the change is predetermined, change from a teleological approach is progressive and is constructed and unfolds as the organisation develops.

As Van de Ven and Poole (1995) indicate, "proponents of this theory focus on the prerequisites for attaining the goal or end state; the functions that must be fulfilled, the accomplishments that must be achieved, or the components that must be built or obtained for the end state to be realized" (Van de Ven & Poole, 1995, p. 516)

In the context of change within regional groups it is most likely the case that some combination of life-cycle and a teleological approach to organisational change are appropriate. Van de ven and Poole (1995) have also argued that in many instances a combination of life cycle and teleological theories may be one of the best explanations of organisational change.

In the case of regional bodies, organisational change occurs in relation to the macro life cycle changes that have been identified (foundation, plan development, plan implementation) and also the embedded and multiple micro teleological changes (Figure 1). Any monitoring of regional bodies must therefore take into consideration the performance of the regional body in progressing through the macro and micro changes as identified in Figure 1 and the underlying capacity of the regional body to progress through these stages.

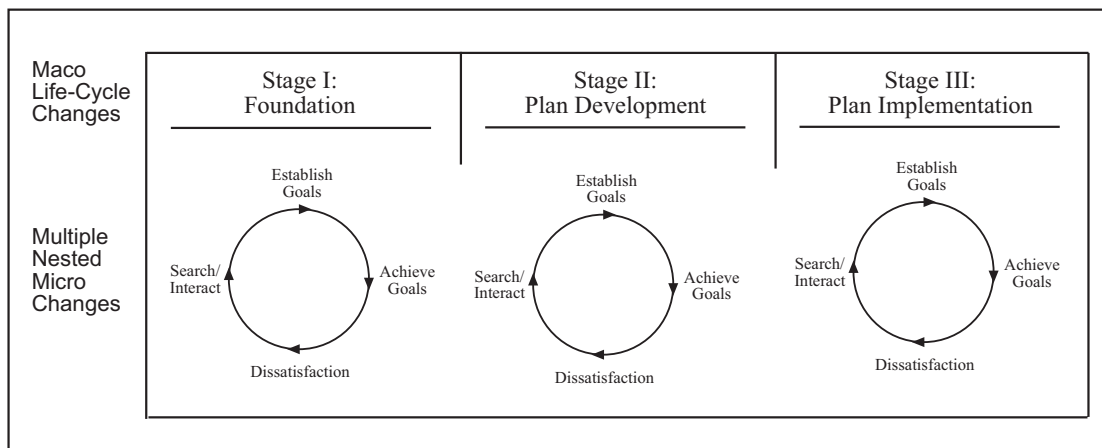


Figure 1. Macro and micro change cycles occurring within regional bodies
(Adapted from Van de ven and Poole, 1995)

5. ORGANISATIONAL PERFORMANCE (EFFECTIVENESS)

The first two objectives of the project brief make reference to the identification of indicators which will measure "whether decision making has improved" and "whether these institutions have responded more effectively". Taken together these two statements essentially seek to understand whether across time there has been any change in the organisational 'effectiveness' or 'performance' of regional bodies.

The terms organisational performance and effectiveness are virtually synonymous and are used interchangeably in the literature, with many researchers recognising the similarity in the use of both terms and for the sake of simplicity basing their discussion on the use of either one (March & Sutton, 1997; Selden & Sowa, 2004). In this paper and again for the sake of simplicity the term organisational performance is used.

Frameworks or models of organisational performance have continued to be developed since early research in this area commenced in the 1960's, however there is still uncertainty and lack of agreement on the meaning and definition of organisational performance (Pahhizgari & Gilbert, 2003). On the one hand there have been attempts to develop generic frameworks or models of organisational performance which are applicable to all organisational types, while at the same time there have been a number of studies that have focussed the assessment of organisational performance within specific types of organisations, such as non profit, educational or health organisations.

Although numerous frameworks or models of organisational performance have been developed, with van der Heer and Coetsee (1998) identifying 26 methodological frameworks, the development of a model or framework is particularly important as it provides some direction as to the selection of indicators or criteria which underpin organisational performance. Without some a priori framework that guides the selection of indicators, indicator selection becomes a 'whimsical exercise' with little if any justification and is often reduced to the selection and use of indicators which are easily accessible and measurable.

While a number of different frameworks for conceptualising organisational performance or effectiveness have been developed, including for example the competing framework model (Lewin & Minton, 1986), the multiple constituency model (Connoly, Conlon & Deutsch, 1980) and the competing values model (Quinn & Rohrbaugh, 1983), the two most commonly applied approaches are the use of goal models and the use of systems models.

The goal model defines organisational performance on the basis of the achievement of specific goals and targets and is measured in terms of whether the identified organisational goals have been achieved. In reference to organisational change, discussed in Section 4, the performance of regional bodies could be defined on the basis of whether they achieved their macro and micro goals and objectives (i.e., Figure 1). Monitoring the performance of regional bodies across time would then become a simple assessment at specified points in time, as to whether specific goals and objectives have been achieved. However, this approach although

prevalent prior to the mid 1970's, is generally considered overly simplistic as a measure of organisational performance and effectiveness by most researchers.

In a review of organisational effectiveness and performance measurement (Henri, 2003) indicates that the system model of organisational effectiveness, while recognising the importance of achieving organisational goals also places an emphasis on those organisational processes and attributes that permit goals to be achieved and is perhaps one of the most commonly used frameworks for understanding organisational performance.

Systems models of organisational performance are generally based on the development of a conceptual model or framework which identifies subsets of attributes and their interrelationships which are regarded as important predictors of organisational performance. For instance, van der Heer and Coetsee (1998) in a systems study of organisational performance developed a framework based on (i) inputs from the environment, (ii) internal organisational transformations and attributes and (iii) organisational outcomes. Through literature reviews and expert judgments, indicators were then identified and operationalised, for each of the subsets of attributes identified in the model and expert judgments and regression analyses used as a basis to identify the most salient predictors of organisational performance.

Recent research by Seldon and Sowa (2004) using a systems approach to the assessment of organisational performance has conceptualised performance on the basis of two dimensions which includes both management and programs. Management refers to those characteristics of the organisation which describe the organisations capabilities and characteristics, while programs are those specific services and functions that are delivered by the organisation.

In this model, management performance (outcomes) is a function of management capacity within the organisation and specific external environmental controls which may act as opportunities or constraints on the organisation. Program performance (outcomes), which is a second dimension of organisational performance, is a function of both management capacity and the management outcomes, but is also a function of the organisations capacity to deliver and undertake specific programs.

Figure 2 illustrates a systems model of organisational performance based on the research of Seldon and Sowa (2004).

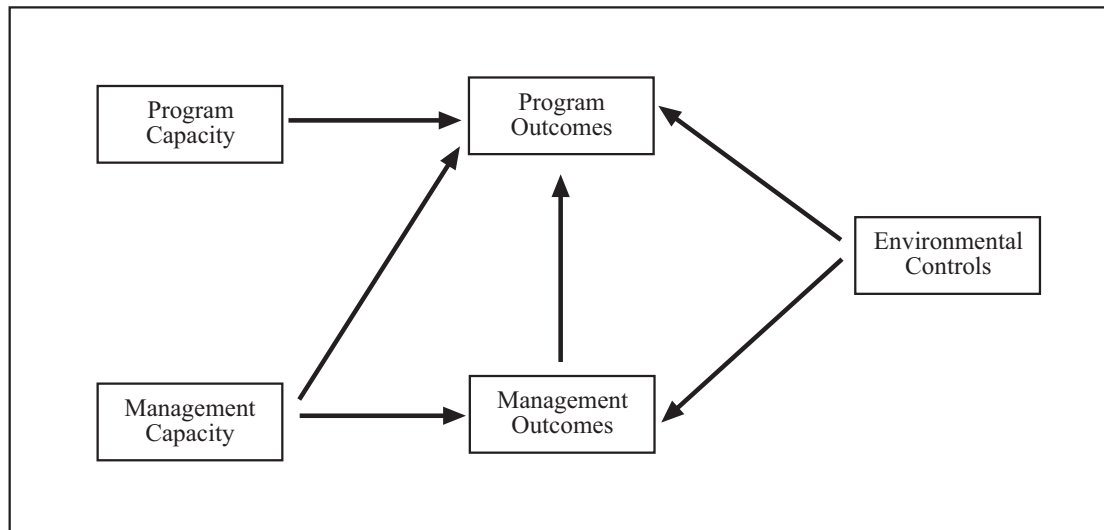


Figure 2. A systems model of organisational performance
(Based on the model of Seldon and Sowa's, 2004)

The model of organisational performance presented in Figure 2 is based on one of the most recent outcomes of research in organisational theory, and appears to be a useful framework through which to conceptualise and understand the performance of regional bodies.

With reference to the model as shown in Figure 2, regional NRM bodies have been established to provide a core service which is the delivery of NHT and NAPSWQ program outcomes within each region. However the NHT and NAPSWQ program outcomes are dependent upon program capacity within the regional body, which includes for instance a capacity to develop and implement NRM plans and the on-ground activities to achieve identified NRM resource condition targets. Not only are the program outcomes dependent upon program capacity within the regional body, but they are also dependent upon the management capacity of the regional body and associated management outcomes. For instance, having effective human resource and financial systems in place will directly impact on management outcomes and indirectly through increased job satisfaction and reduced employment turnover within the regional body assist in achieving program outcomes.

The management and program dimensions as shown in Figure 2 have as their focus the internal processes and outcomes within the organisation. Seldon and Sowa (2004) also identify external 'environmental controls' which are seen as influencing both management and program outcomes. However there is little explanation or attention given to these controls in their model, other than a footnote indicating these controls will vary depending upon the organisation and the organisational context of the study.

The strategic constituencies and competing values models of organisational performance discussed earlier also emphasise the role of external environmental conditions on organisational performance. In the context of identifying the performance of regional bodies the constraints and opportunities presented through the interaction of regional bodies with other organisations, including Government, community groups and the broader community, will directly impact on both management and program performance of the regional body.

6. A CAPACITY MODEL OF THE PERFORMANCE OF REGIONAL BODIES

The model of organisational performance developed by Selden and Sowa (2004) is used as the framework for describing and assessing the performance of regional bodies. As with other system approaches to understanding organisational performance, indicators are used as a basis for the measurement of each of the subset of attributes within the model. At this stage in the development of the conceptual framework and the development of indicators, 'headline indicators' are identified, rather than specific operational indicators. Specific operational indicators will need to be developed through more detailed field research and pilot testing of headline indicators and framework that has been proposed.

It is assumed within this model that regional bodies that have (i) management and (ii) program capacity and which also have (iii) positive management outcomes and (iv) a positive external environmental interface with external organisations and community will also perform comparatively well in relation to program outcomes.

While it may be possible to provide a static description of the performance of regional bodies it is also important that the framework can be used to monitor the performance of regional bodies across time. Section 4 provided a brief discussion of organisational change and emphasises that at the macro level regional bodies may well develop through a number of life-cycle stages.

For instance, and in relation to the capacity model of organisational performance, the first stage of development for a regional body would be focused more so on developing management structures and processes within the organisation. In relation to the capacity model of organisational performance, greater weight in this early stage of foundation development for regional bodies may be given to management outcomes (Figure 3a)

In relation to the second and third stages of development for regional bodies, performance may well shift from management outcomes to program outcomes and more specifically performance in relation to the program outcomes of NRM plan development followed by plan

implementation. The plan development stage within the regional body may place greater importance on program capacity (Figure 3b), while plan implementation which will require management of on ground actions and projects, may require an increase in both management and program capacity (Figure 3c).

What is important is to recognise that as the regional body moves through the developmental stages, the emphasis on management and program performance may change, as may the salience of management and program capacity within the organisation and the importance of environmental controls. Figure 3 illustrates possible changes in performance outcomes and the salience of model components in the context of life-cycle changes within the regional group.

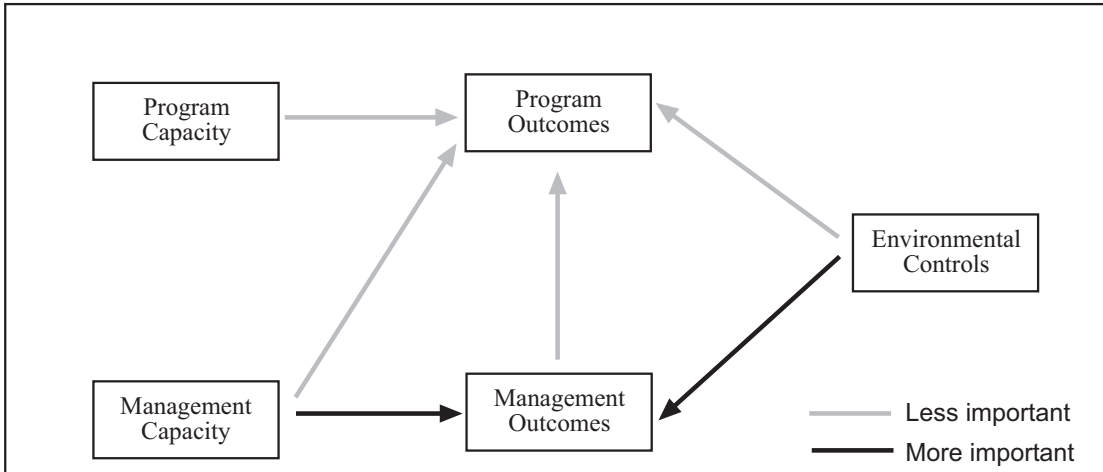


Figure 3a: Life-Cycle Stage: Foundation

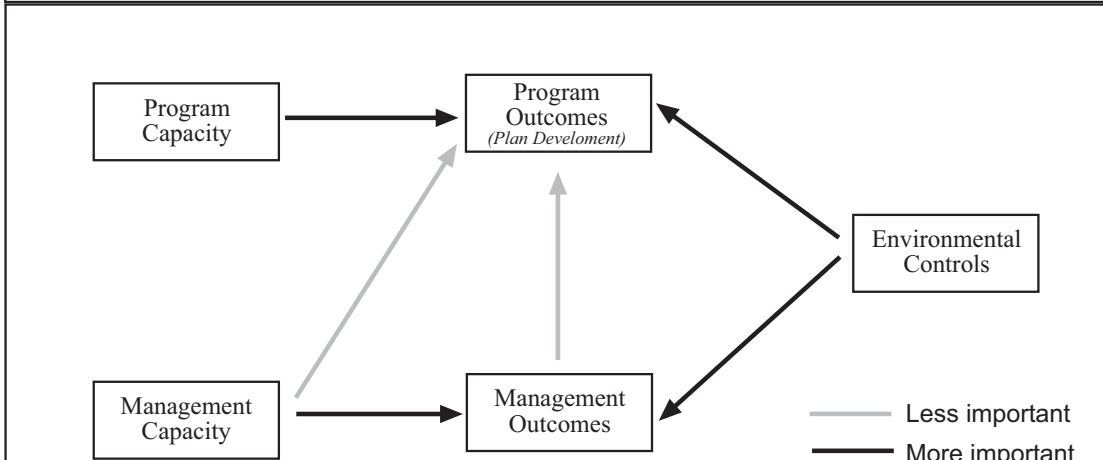


Figure 3b: Life-Cycle Stage: Plan Development

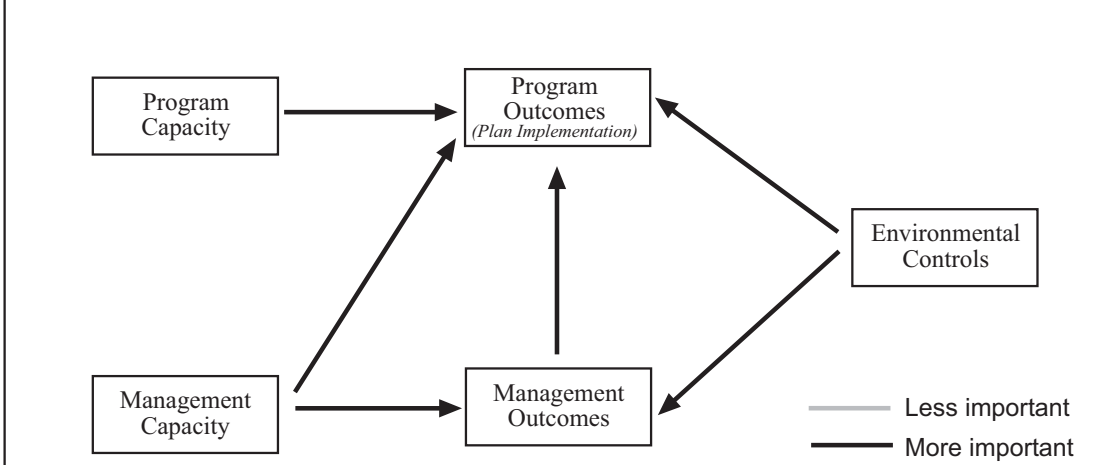


Figure 3c: Life-Cycle Stage: Plan Implementation

The following discussion describes each of the subsets of indicators within the capacity model with particular reference to the performance of regional bodies. In addition, a table of initial headline indicators is provided for each subset of model attributes³.

³ These are initial 'headline indicators'. As indicated in section 7 these indicators should be developed further through qualitative research with regional bodies and a more extensive literature review, however this is outside the scope and resource of the current project.

6.1. Management Capacity

Within the model proposed by Seldon and Sowa (2004) ‘management capacity’ refers to “the degree to which the necessary systems and processes are in place to maintain an organization” (p. 404). Indicators of management capacity identified by Seldon and Sowa (2004) include (i) human resource training, (ii) feedback from staff performance evaluations, (iii) satisfaction with salary and (iv) satisfaction with the organisation’s management infrastructure, including the information technology systems, the mission statement and financial policies.

The importance of many management capacity indicators, such as leadership, human resources and financial management have also been discussed in the context on non-profit organisations by De Vita, Fleming and Twombly (2001). Similarly, Aslin, Mazur and Curtis (2002) in interviews with regional NRM groups have identified the importance of leadership skills and skills in administrative and financial management, communication, negotiation and conflict resolution. Curtis, Nouhuys, Robinson and Mackay (2000) in a review of the research literature associated with organisational effectiveness amongst Landcare groups and other similar environmental and non-profit groups, found the availability of adequate resources and funding, willingness of participants to negotiate and compromise in decision making and effective leadership as important attributes contributing to the effectiveness of these organisations.

Table 1 provides a description of possible headline indicators associated with management capacity within regional bodies.

Table 1. Headline Indicators: Management Capacity	
Organisational Structure and Composition	
1. Representativeness	How representative is the composition of the group to ensure representativeness of knowledge and information for decision making. (ie., interest groups, subregional groups, sectors, NGOs, community etc)?
2. Decision making structures	Does the regional body have decision making structures (ie., a Board, specific committees – management, finance and planning committees)?
3. Quality of the decision making processes	What protocols, procedures and rules exist for decision making? Are these protocols and procedures used when decisions are made?
4. Number and type of staff and support staff	Does the regional body have the required number and type of staff and support staff necessary to support decision making within the regional body?
Skills and Abilities	
5. Skills and abilities in financial management	This includes skills and abilities in financial and accounting systems, contracts, taxation, reporting etc

<p>6. Skills and abilities in human resource management <i>This includes skills and abilities in negotiation and conflict resolution; access to and provision of training; team and group processes – inc. coordination, delegation, roles and responsibilities, performance reviews</i></p>
<p>7. Quality of leadership Includes reference to the Chair, CEO or manager and may include communication, leadership competency and leadership continuity.</p> <p>8. Organisational cohesion Includes having a shared vision and objectives within the regional group, and low conflict and high cohesion within the group.</p> <p><i>Note: The initial headline indicators identified in this table are based on a literature review and review by Social and Economic Working Group (SEWG) members</i></p>

6.2. Management Outcomes

Management outcome or performance within organisations has most typically been based on an assessment of financial outcomes or in terms of personnel management issues related to staff turnover and job satisfaction.

Table 2 identifies indicative management outcome indicators for regional bodies, which include voluntary turnover of staff and job satisfaction amongst staff which have previously been identified and used by Sheldon and Sowa (2004). In addition financial performance is included as a management outcome, not only as it is a common management outcome indicator used by organisations, but it is identified in the bilateral agreement between the Commonwealth and States and Territories⁴, as an important indicator for assessing the performance of foundation funding and priority action proposals developed by regional bodies.

<p>Table 2. Headline Indicators: Management Outcomes</p> <p>Financial</p> <p>9. Maintenance of balanced budget and expenditure commensurate with budget</p> <p>Personnel</p> <p>10. Staff turnover within the regional body</p> <p>11. Job satisfaction amongst staff within the regional body</p>

6.3. Program Capacity

A program is a specific service provided by the organisation, with program capacity referring to those processes and structures directly related to the delivery of program outcomes. For example in Seldon and Sowa's (2004) study, which centred on those organisations providing early childhood care and educational services, program capacity indicators included the quality of the classroom, the quality of the teachers and the educational level and experience of teachers.

⁴ <http://www.nht.gov.au/nht2/bilaterals/nt/attachmentg.html>

Regional groups, depending on their developmental stage are involved in the development of two core programs, namely NRM plan development and plan implementation. In terms of program capacity, the identification of key indicators are based on identifying those processes and structure within the organisation which are directly related to the achievement of program outcomes. For example, Aslin, Mazur and Curtis (2002) on the basis of discussions with NRM regional groups identified the importance of specialised scientific knowledge in the delivery of NRM program outcomes amongst regional groups. Curtis et al (2000) has also identified the employment of specialised program staff as an additional and important outcome of the effectiveness of Landcare groups. Table 3 identifies potential ‘headline indicators of program capacity within regional bodies.

Table 3. Headline Indicators: Program Capacity	
12. Planning and Management Knowledge	Does the regional body have sufficient knowledge of natural resource management and planning to develop and implement the NRM plan?
13. Scientific Knowledge	Does the regional body have access and is it making use of the required scientific knowledge (biophysical, social and economic) which forms the basis for NRM planning and decision making?
14. Use of Technical Advisory Panels or other Expert Reference Panels	Are technical advisory panels or other expert advisory panels used to assist in program decision making?
15. Developing Funding Submissions and Investment Strategies	Does the regional body have the necessary knowledge, skills and abilities to develop funding submissions to develop programs to address NRM issues?
16. Employment of Specific Program Staff	Does the regional body employ specific program staff including program leaders, facilitators and coordinators?
<i>Note: The initial headline indicators identified in this table are based on a literature review and review by Social and Economic Working Group (SEWG) members</i>	

6.4. Environmental Controls

Indicators associated with management and program performance have focussed on the internal structures and processes occurring within the regional body. However, the relationship of the regional body to other groups and organisations also influences management and program performance.

Groups and organisations external to the regional body have been classified using a similar system of classification as described by Kingma and Beynon (2000) in their description of NRM groups and organisations. This includes groups which interface with regional bodies such as (i) government and semi-government organisations including Australian Government, State and Local Government agencies and departments; (ii) local groups including other

subregional groups, community groups, industry bodies and organisations; and (iii) the general community, including residents and businesses within the region.

The headline indicators described in Table 4 provide a basis for more specifically describing the relationship between regional bodies and external groups that may influence the management and program performance of the regional body. Several of the headline indicators of organisational performance, including those associated with consultation, communication and the quality of the relationship between the regional body and external groups and organisations have been identified by Kingma and Beynon (2000). In addition the headline indicators identified in Table 4 are also found in much of research and practice associated with developing social capital and how networks, norms or reciprocity and trust contribute to more effective decision making and learning within groups (Falk & Harrison, 1998; Falk & Kirkpatrick, 1999).

In addition a survey of the effectiveness of Landcare groups in Victoria found that frequency of contact with a Government contact officer, communication between stakeholders groups and the existence of networks amongst groups and organisations were significant determinants of the effectiveness of Landcare organisations (Curtis, et al 2000).

Table 4. Headline Indicators: Environmental Controls	
Interaction with (i) government and semi-government organisations, (ii) local groups and (iii) community	
17. Inclusiveness in Decision Making	Do formal and informal processes and structures exist for including other groups in decision making (i.e., board membership, committee membership)?
18. Information Exchange and Communication	What formal processes exist for communication and information exchange (i.e., public forums, exhibitions, displays, website hits etc)?
19. Knowledge of Information Sources and Networks	What is the level of knowledge about other groups and organisations, including sources of information and networks?
20. Use of Knowledge and Information	Is information and knowledge from local groups used in decision making (ie., NRM issues, project submissions, priority setting for NRM projects etc)?
21. Use of Networks	What is the frequency of exchange and interaction with other groups and organisations?
22. Quality of Networks	In the reciprocal interaction with other groups and organisations what is the level of trust, support, and consistency of information exchange?
23. Conformity or 'fit' to Institutional Norms	To what extent does the regional group conform to institutional norms in its interaction with Government and other organisations?
24. Community Engagement and Communication Strategy	Does the regional group have a community engagement and communications strategy?
<i>Note: The initial headline indicators identified in this table are based on a literature review and review by Social and Economic Working Group (SEWG) members</i>	

7. INSTITUTIONAL CHANGE

An additional objective of the current project was to develop an understanding of institutional change in the context of the performance or effectiveness of regional NRM bodies⁵.

As Connor and Dovers (2002) have noted, a significant impediment to any inquiry into institutional change is the divergent uses and meanings of the term ‘institutions’ in everyday language and within the research literature. For the purpose of the current paper, the term institution does not refer to a specific social entity; such as a regional body, Government agency or department. Such entities are more appropriately defined as organisations. The term “institution” is defined as “an underlying, durable pattern of rules and behaviour” (Connor and Dovers, 2002) and consists of “formal constraints (eg. rules, laws, constitutions), informal constraints (eg. norms of behaviour, conventions, self imposed codes of conduct), and their enforcement characteristics.”(North, 1994)

Institutional theory, in which much of the work on institutional change is embedded, is always considered at an organisational level and defined in relation to the characteristics of organisations. The attributes and characteristics of regional NRM bodies described in the capacity framework discussed in Section 6, represent the institutional characteristics of these organisations, as they are enduring and normative patterns of organisational behaviour underpinning performance. Furthermore, while indicators of the performance of regional bodies may be defined, organisational performance is itself also defined on the basis of organisational norms of what constitutes ‘good’ and ‘bad’ performance.

In institutional theory there has been some limited consideration given to how the institutional characteristics of organisations, through the operational of an organisational field, may influence organisational performance. An ‘organisational field’ consists of a “community of organisations that partakes of a common meaning system and whose participants interact more frequently and fatefully with one another than with actors outside of the field” (Kondra & Hinings, 1998, p.24) The term has a similar meaning to other terms in current use including ‘networks’ and ‘communities of interest’. In the current context, an organisational field may consist of a community of organisations with a common interest in NRM issues and include Commonwealth, State, Local Government agencies; non Government organisations; regional bodies; sub regional groups and organisations.

⁵ While the focus of this report is on institutional change amongst regional NRM bodies, it should be noted that future frameworks should include an assessment of institutional change as it occurs within other organisations, including for instance State and Commonwealth agencies

Within the organisational field there is likely to be considerable diversity in the function and type of organisations. Organisations will also vary in terms of the level of 'fit' to institutional norms as is evident in how organisations operate and the principles of operation underpinning the organisation (Hinings & Greenwood, 1998).

As a relatively simple example, regional bodies must develop a regional NRM plan, on the basis of Commonwealth and State planning guidelines and criteria and in doing so the plan will be accredited and regional bodies will be funded for the delivery of NRM plan. Within the organisation field, in which regional bodies are represented, there are clearly coercive practices (DiMaggio & Powell, 1983) used by Government to ensure regional bodies conform to normative planning outcomes. For the most part the organisational field will be reasonably 'isomorphic' (DiMaggio & Powell, 1983) in so far as Government is able to coerce the majority of regional bodies, through the plan accreditation process, to conform to planning guidelines. Nevertheless there will be some diversity in fit or conformity to these institutional norms.

The diversity in fit that is apparent in the organisational field provides a basis for institutional change, as without diversity institutional change is unlikely to occur. In addition, the diversity in fit or conformity to institutional norms by an organisation may be a useful indicator of organisational performance. In relation to the fit between institutional norms and the performance of the organisation Kondra & Hinings (1998) have suggested a typology to define these organisations which may be useful in any assessment of institutional change.

Institutional Operators are those organisations within the organisational field that conform to existing institutional norms and also have an acceptable level of performance.

Equifinalists are organisations which operate somewhat outside of the acceptable range of institutional norms but nevertheless their performance is within normative standards prescribed by organisations within the field. They are referred to as equifinalists in so far as all the organisations within this group may achieve an acceptable level of performance, but they may do so using very different means.

Dogs are those organisations within the field that do not conform to institutional norms and do not perform to an acceptable standard. These organisations may have developed as they have decided to operate outside of institutional norms; they have unknowingly deviated from the prevailing institutional norms or have failed to change as the normative institutional environment has changed.

Renegades are organisations which through voluntary or involuntary actions operate outside of institutional norms and which at the same time perform above normative and acceptable levels. It is these organisations which often create significant institutional change within the organisational field; however there is also often considerable coercive action on the part of other organisations to ensure the organisation complies with prevailing institutional norms. Where coercive action fails, other organisations within the organisational field (institutional operators more specifically) may mimic the actions of the renegade, providing a basis for the process institutional change within the organisational field.

The capacity and performance framework described in this paper recognises the ‘organisational field’ in which regional NRM bodies are embedded where the performance of regional bodies is influenced by ‘environmental constraints, and as shown in Table 4 ‘conformity with institutional norms’ is identified as a headline indicator in this context.

The paucity of information and limited theoretical and conceptual structure underpinning the concept of institutional change in this context, suggests that developing headline indicators of institutional change is likely to be exceedingly difficult. However, it may be possible through structured interview processes with regional bodies and other NRM stakeholders to develop specific psychometric scales which can be used to define a typology of regional bodies based on conformity to institutional norms and which at the same time may be used as indicators of the performance of regional bodies.

8. DATA SOURCES AND INFORMATION

Although the study brief refers to the development and use of qualitative indicators as a basis for measurement, this approach pre-empts the type of indicators that may be defined and overemphasises methodological rather than conceptual criteria as a basis for indicator selection. In other words, indicators should be selected on the basis that they are meaningfully grounded in the conceptual framework and not selected on purely methodological grounds such the type and level of indicator measurement.

When examining the indicators identified in the proposed framework, it is perhaps more appropriate to consider how each of the headline indicators may be measured using primary and secondary data sources. For example, is there a need to directly describe the indicator in the context of the proposed framework using survey or interview research (primary data) or can the indicator be described using existing data and information sources (secondary data)?

A discussion of primary and secondary data sources is similar to the distinction made between perceptual and objective indicator data described by Seldon and Sowa (2004), where it is emphasised that both objective and perceptual measures are needed to fully describe organisational performance. For instance, and in the context of the performance of regional bodies, an objective indicator of program capacity may be the existence of technical or scientific advisory panels (Table 3). However, while objectively the panel may exist within the structure of the regional body, the panel may rarely meet or rarely inform the regional body on technical and scientific matters and as a consequence this indicator may need to be also assessed and evaluated through a perceptual measure. As Seldon and Sowa (2004) note:

“Including both perceptual and objective measures enables scholars to better capture the full picture of the actual construct of organizational performance being studied. Merely having a state-of-the-art management system does not necessarily indicate that it functions effectively. An organization may have a sophisticated and integrated information technology system, but may continue to process forms, such as program attendance sheets manually” (Seldon & Sowa, 2004 p. 400)

In relation to the collection of indicator data and further development of the framework that has been proposed it is recommended that the following methodological stages and steps be developed.

Stage I: Profile of regional bodies

Secondary data sources held by Australia Government and State agencies and departments should be accessed to develop a ‘baseline’ profile of regional bodies throughout Australia. The information may not only be used to describe regional bodies but may also provide immediate information that can be used in the development of objective indicators of organisational performance. The baseline profile may include retrospective and current information such as:

1. The number and location of regional bodies
2. Year of commencement
3. Stage in plan development, accreditation and implementation
4. Composition (i.e., of Board) and structure of the regional body
5. Legal standing of regional body
6. Level of Government (Commonwealth and State) funding
7. Existence of independent chair
8. Staffing and facilitators (number, level, roles and responsibilities)

Stage II: Case study interviews with regional bodies

Qualitative interviews should be undertaken with several selected regional bodies that vary in stage of development and performance. The purpose of the qualitative

interviews is to further develop and refine the ‘desktop’ material that has been presented in this report. Case study interviews will (i) confirm existing headline indicators, (ii) identify additional ‘headline’ indicators, (iii) assist in the development of operational measures of all headline indicators and (iv) identify macro and micro goal achievements within the regional body and their temporal sequence.

Stage III: Literature review of organisational performance indicators

This stage may be completed concurrently with Stage II. The current project has identified a significant body of research in organisational performance and effectiveness which has been undertaken in both profit and non-profit organisations. The capacity to review this research is beyond the scope of the current study but needs to be undertaken in order to identify additional ‘headline’ indicators and assist the development of operational measures of these indicators.

Stage IV: Development of pilot interview schedule

A pilot interview schedule should be developed for use with regional bodies. The interview schedule should include items which operationalise the indicators that have been identified. In addition, and for the purpose of the pilot research, the interview schedule should include (i) perceptual judgements of the performance of the regional body and (ii) psychometric scales to assess conformity to institutional norms. In this context an attempt should also be made to develop retrospective and current capacity and performance indicators.

Stage V: Pilot data collection

Data collection for the purpose of the initial study would be based on selected interviews with staff and representatives from regional bodies using the interview schedule developed in Stage IV. Objective indices and measures of management and program capacity and performance would have also been developed and collated in Stage I.

Stage VI: Analysis of pilot data

Regression based analyses (i.e., path analysis and causal modelling) would be used to identify the most significant indicators of the performance of regional groups.

Stage VII: Identification of final indicators and monitoring methodology

On the basis of the analysis of primary and secondary data sources and the use of objective and perceptual judgments the proposed performance framework may be modified and specific indicators identified for use in monitoring the performance of regional bodies.

GLOSSARY

Environmental Controls	Environmental controls are those external groups and organisations that influence management and program outcomes within an organisation. They may include, for example, Government agencies, community groups and the general community.
Institution	An institution is “an underlying, durable pattern of rules and behaviour” (Connor and Dovers, 2002) and consists of “formal constraints (eg. rules, laws, constitutions), informal constraints (eg. norms of behaviour, conventions, self imposed codes of conduct), and their enforcement characteristics.”(North, 1994)
Management Capacity	These are the systems and processes within an organisation that maintain the function of the organisation. They include, for example, a capacity to manage human resources and financial systems within an organisation.
Management Outcomes	Management outcomes focus on specific systems and processes within the organisation that maintain the function of the organisation. Management outcomes may be understood as a component of organisational performance and include for example financial performance, levels of staff turnover and job satisfaction.
Organisational Performance	Organisational performance and organisational effectiveness are considered as synonymous and indicate the extent to which the organisation is able to achieve specific goals or outcomes. In a systems approach organisational performance may be understood in relation to management and program outcomes.
Organisational Field	An organisational field consists of a group of organisations with similar objectives, interests or meaning systems. The terms ‘networks’ or ‘communities of interest’ as used in the NRM context has a similar meaning, although the dimension of reciprocity is not as apparent in an organisational field.
Program Capacity	Program capacity includes those processes and structures directly related to the delivery of services. Amongst regional bodies it includes those processes and structures, within the organisation which will permit the delivery and implementation of NRM plans.
Program Outcomes	A program is a specific service provided by the organisation, and in the case of regional bodies includes NRM plan development and implementation.
Regional Bodies	A regional body is a community organisation established under the NAPSWQ or NHT for the development and implementation of NRM plans within a specific region.

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