

**ASSURANCE OF AUSTRALIAN NATURAL RESOURCE MANAGEMENT:  
ENVIRONMENTAL AUDIT FRAMEWORK**

*Angela Hecimovic, Associate Professor Nonna Martinov-Bennie,  
Professor James Guthrie,*

*Discipline of Accounting, Faculty of Economics and Business, The University of Sydney*

Acknowledgements: The authors are indebted to the Natural Resources Commission for their invaluable assistance and for providing ongoing access to data, staff and stakeholders. The authors are also grateful to Fiona Crawford, the University of Sydney and Julz Stevens for their editorial support.

## INTRODUCTION

The heightened interest in, and practice of, sustainability reporting by private and public sector organisations in recent years has been accompanied by an increase in the use of independent assurance of these reports (Dumay et al, 2009). Issues surrounding sustainability reporting are widely debated, including the very definition of the concept of sustainability. Similarly debated is the assurance aspect of reporting and the auditing practice. While the research and literature examining assurance of sustainability reports is not as extensive as that examining the amount and type of sustainability reporting, it has nonetheless considered a variety of issues.

One of the issues debated in regard to sustainability reporting is its potential susceptibility to managerialism or managerial capture (Dumay et al, 2009; Gray, 2006; O'Dwyer and Owen, 2005; Adams and Evans, 2004; Deegan, 2002; O'Dwyer, 2001; Deegan et al, 2002; Bebbington et al, 1999). Various claims are made that organisations are using 'sustainability' reports to selectively report on certain aspects of their economic, environmental and social performance in order to boost their reputations in their pursuit of economic benefit (Gray, 2006). Several authors have called for the use of independent external assurance to mitigate the potential for managerial capture (O'Dwyer and Owen, 2005; Deegan, 2002; Ball et al, 2000).

A further issue in the debate about assurance is the question of who should be conducting and providing the assurance on sustainability practices and reports (O'Dwyer and Owen, 2007; Deegan et al, 2006). The issues examined by these studies relate to technical competency and expertise, as well as independence of the assurance provider. Accounting firms, particularly the 'Big 4', various specialist consulting firms, and certification bodies are the three primary providers of sustainability assurance for private companies (CorporateRegister.com, 2008).

Although unresolved issues remain, such as whether providers of assurance services are (or can be) truly independent or capable of providing assurance on sustainability reports, there is general consensus that engaging assurance adds (or has the potential to add) to the (perceived) credibility and quality of these sustainability reports (O'Dwyer and Owen, 2007). The potential for assurance services to drive change and improvement in the operations and risk management practices of an organisation's sustainability

practices has been discussed in relation to private sector sustainability reporting (CorporateRegister.com, 2008), but less so in relation to public sector organisations (Farneti and Guthrie, 2009). This is particularly the case for assurance of environmental audits within the public sector. The public sector is, by definition, the custodian of large tracts of public land, the guardian of air and water quality and also the stock of native flora and fauna within defined boundaries.

The aim of the study is to provide insights into the challenges faced when a public sector organisation embarks on creating an assurance framework to guide its environmental audits. The assurance provider needs to determine the audit framework with specific guidance to the audit objectives, the scope, audit criteria, an understanding as to what constitutes audit evidence, audit processes and methodology as well as reporting context and format. The experience of the Australian public sector organisation reported in this case study suggests that development of an environmental audit framework is a complex process. Not only was the organisation confronted with an array of International standards and guidelines on sustainability and assurance, but also by a lack of consensus as to what constitutes ‘best practice’. More importantly, the focus of the existing guidelines was on sustainability reporting in the private sector and this was of limited relevance. Even more problematic was the process of translating these into actual practice given this case study organisation’s complex natural resource management (NRM) responsibilities.

This chapter is structured as follows. Section 2 provides general background to International standards and guidelines on sustainability assurance. In Section 3 the research methods are outlined, including details about the case study organisation. Section 4 provides an analysis and discussion of the meaning of “audit” and also challenges associated with the development of the assurance framework. The final section provides a summary and conclusion to the Chapter.

## **2. BACKGROUND TO INTERNATIONAL STANDARDS AND GUIDELINES ON SUSTAINABILITY ASSURANCE**

There is no doubt that there is a growing interest in sustainability reporting in both public and private sector organisations. Dumay et al, (2009) report several initiatives that have been undertaken to develop guidelines for the reporting of sustainability

practices and outcomes, the most notable to date being the Sustainability Reporting Guidelines of the Global Reporting Initiative (see GRI, 2006). Other organisations such as AccountAbility (2008a; b), OECD (2006), United Nations (UNCG, 2008), and the World Bank (WBG, 2007) have undertaken guideline exercises, but from differing perspectives and using different processes. The purpose of these initiatives can be summarised as the need to develop organisational sustainability practices that are cognisant of the needs of the present, without compromising the needs of future generations (GRI, 2006, p.2).

It is no surprise that accounting and auditing technologies have emerged as a potential means for progressing sustainability development. Adams (2004) identifies the development of authoritative consistent standards or frameworks to guide the process of assurance as a critical issue in order to ensure that organisational, stakeholder and public expectations are met, lending credibility to the reports.

However, when guidelines alone are relied on to form an assurance opinion this may be limiting. For illustration, the GRI published its 'Reporting Framework' in 2002 (which built upon its initial guidelines released in 2000), which was further revised in 2006 to include the G3 Guidelines and Principles, Indicator Protocols, Sector Supplements and Technical Protocols (GRI, 2007). The G3 Guidelines are primarily a reporting tool targeted towards the preparers of sustainability reports. G3 does not provide any specific practical guidance for environmental auditing and does not consider critical criteria of audit engagements such as independence. Accordingly, assurance providers who refer to the G3 Guidelines in their assurance statements have generally evaluated or assessed (or verified) the preparer's adherence to these guidelines, rather than used these guidelines as an assurance standard.

There are national guidelines concerning private sector auditing and several international attempts at providing guidance on assurance. Two of these are now discussed briefly and then an analysis is undertaken on two important issues. The first issue is the levels of assurance to be provided. The second is the value of the assurance in a public sector context.

The two assurance standards to be discussed are the International Federation of Accountants' (IFAC's) *International Framework for Assurance Engagements*

(Framework) and *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information* (2003) (ISAE) 3000, the Institute of Social and Ethical Accountability's (AccountAbility) AA1000 Assurance Standard (AA1000AS 2003, 2008).

### ***INTERNATIONAL STANDARD ON ASSURANCE ENGAGEMENTS (ISAE) 3000***

International Auditing and Assurance Standards Board (IAASB) released ISAE 3000 and the Framework in December 2003 to provide (mandatory) guidance for professional accountants for performing assurance on non-financial engagements. The focus of the Framework and ISAE 3000 is not specific to sustainability assurance engagements and is consequently broad in order to accommodate the inherent complexities of various subject matters, criteria and evidence in non-financial information assurance engagements. There is growing recognition that such a broad standard may be of limited use to specific types of assurance, such as environmental audits, and it is likely that future standards will specifically target assurance of sustainability reports (IFAC, 2004). The work currently being undertaken by the IAASB's International Task Force to develop an assurance standard on global carbon emissions is a move in this direction (Simnett et al, 2008).

### ***ACCOUNTABILITY AA1000 ASSURANCE STANDARD***

AccountAbility's AA1000AS was the first internationally published sustainability assurance standard, in 2003, with a recent update in 2008. The assurance standards are part of the AA1000 Series, which also include the AA1000 AccountAbility Principles Standards (AccountAbility, 2003, 2008) and the AA1000 Stakeholder Engagement Standard (AccountAbility, 2005). These standards revolve around the principles of materiality, responsiveness and the underlying foundation principle of inclusivity.

A brief analysis of the two important issues concerning assurance is now presented in the next two sub-sections. The first issue concerns the levels of assurance. While traditional audits of financial statements are thought to provide high levels of assurance (Roebuck, 2000), there is arguably less ability to provide such levels of assurance on sustainability reports, as demonstrated by the various approaches taken by the different standards discussed above. The IAASB standards identify two levels of assurance (i.e.

high or reasonable for audits and moderate or limited for reviews), whilst the AccountAbility standards propose two types of engagements: Type 1 (AccountAbility Principles) with a conclusion as to the nature and extent of adherence to AA1000APS; and Type 2 (AccountAbility Principles and Performance Information),<sup>1</sup> which also includes a conclusion as to the reliability of the sustainability information disclosed. This lack of consensus and common terminology is compounded by the fact that sustainability reports often contain non-financial qualitative information on which it is inherently more complex to provide higher levels of assurance. Further, the information systems used to capture the information in these sustainability reports are not geared towards reliable measurement of the information required.

Furthermore, while the key International reporting guidelines outlined in this section have been put forth as complementary to one another rather than mutually exclusive, they have often been applied in “a ‘pick and mix’ manner without following the full guidance of either but referencing both [AA1000AS and GRI]. This may be considered progress by some, “but falls short of the rigour many stakeholders might expect” (CorporateRegister.com, 2008, p.13). Consequently, it has been suggested that “the proliferation of guidelines and standards, and their inconsistent coverage of the core principle of sustainability, remain a key reason why many organisations have opted to create their own principles” (Coyne, 2006, p.29).

### ***VALUE OF ASSURANCE IN PUBLIC SECTOR***

The second issue concerns the value of assurance in the public sector. While traditional financial audits are typically audits of compliance, assurance of sustainability reports tend to involve both compliance and performance components, which is more in line with the broader scope of any assurance engagement in the public sector.

In the Australian public sector, the Auditor-General and the Australian National Audit Office (ANAO) have the mandated responsibility to undertake performance audits (Guthrie and Parker, 1999; Parker and Guthrie, 1991), which has in recent years extended to the provision of assurance in sustainability reporting (McPhee, 2007). In

---

<sup>1</sup> These were an addition in the revised AA1000AS 2008 in an effort to bring the standard in line with ISAE 3000 (see AccountAbility (2008) *Changes between the AA1000AS (2003) and the AA1000AS*, London, AccountAbility).

outlining the role of the ANAO in providing assurance on public sector sustainability reporting, it was noted by the (then) Auditor-General that the main issues for the department are the “lack of mandated standards for a systematic process as well as the paucity of evaluation criteria for verification of this information” (ANAO, 2005, p.7).

In summary, there are no universal international frameworks or standards that are used for the preparation of sustainability reports and there is presently no single authoritative framework or a set of auditing standards for providing assurance on these. This research contributes to contemporary debate by providing insights into the journey taken by one public sector organisation in developing its environmental audit framework. The research method and the background of the case study organisation are outlined in the next section.

### **3. RESEARCH METHOD**

The research method is discussed from two perspectives. First, the use and justification of the case study as a method of inquiry. Second, the use of various methods of data collection (e.g. observation; semi-structured interviews; documentation examination) as a primary source for the empirical data used.

Case studies are an appropriate method of qualitative research with a long tradition in the social sciences (Fontana and Frey 2005) and more recently in accounting (Bedard and Gendron 2004) and auditing studies (Humphrey 2008). There are multiple and single case study methods (Leonard-Barton 1990). The current study uses a single longitudinal case study method and the advantage is that it provides a frame around a specific phenomenon being examined within a context, place and time. In the case of the case study organisation, Natural Resources Commission (NRC), the phenomenon being studied is the development of an environmental audit framework and the time span of the case is from 2006 until early 2009. A single case study method is suited to this study because it has flexibility and importantly, within the limits of the study we can use (but are not limited to) internal documentation, observations, semi-structured interviews, external documentation, etc (Yin, 2003), thereby enabling the researchers access to rich empirical data within an organisational setting (Fontana and Frey 2005).

In the case of NRC, the researchers have been given full access to internal and external documents and permission to attend commission planning and audit meetings. Also, the NRC allowed the researchers unrestricted access to the corridors and the field for observations and discussion with participants. The data collection in this research includes observation of critical NRC meetings and audits, interviews with key stakeholders (e.g. government agencies, NRC staff, external consultants and auditors) and informal discussions with NRC staff during the period from late 2007 to early 2009. This data is supplemented by review and analysis of documentation (e.g. minutes of critical meetings, management reports, audit working papers, publicly available reports) for periods 2006 to 2009 inclusive. The case study organisation is an Australian public sector organisation, located in the NSW public sector. The organisation was created in 2003 to specifically manage the natural resources of the State of NSW in the interests of the community. NSW is the most populous and heavily industrialised state in Australia, occupying an area approximately three times the size of the UK.

The data collected from these multiple sources allows ‘exploration’ and ‘description’ of the NRC’s experience and provides an empirical frame for understanding the development of the meaning of ‘audit’ and ‘audit framework’ up to early 2009.

The background to the NRC and its mandated assurance responsibility is outlined in the next sub-section.

## **NRC CASE STUDY**

The NRC was created by the *Natural Resources Commission Act 2003 (NSW)* (the Act) to establish a scientific basis for the informed management of natural resources in the social, economic and environmental interests of the people of the State of New South Wales (NSW), Australia. The primary role of the NRC under the current legislation is to provide the NSW Government with independent advice on NRM concerns and decisions on waste, native vegetation, salinity, soil, forestry and biodiversity. The primary purpose of the Act was to establish an independent body with broad investigating and reporting functions. Some of the specific NRC functions under the Act include:

- to recommend statewide standards and targets for NRM issues;

- to recommend the approval, under the *Catchment Management Authorities Act 2003 (NSW)*<sup>2</sup>, of catchment action plans (CAPS) of catchment management authorities (CMAs) that are consistent with statewide standards and targets adopted by the Government for NRM issues;
- to undertake audits of the effectiveness of the implementation of CAPS in achieving compliance with those statewide standards and targets; and
- to undertake audits of CAPS and other NRM issues as required by the responsible Minister.

Given the scale of its responsibilities, the NRC has a significant role in the context of Australian NRM. In exercising its responsibilities, the NRC states it considers many factors, including the principles of ecologically sustainable development, the social and economic implications of its recommendations, integrated approach to NRM issues, regional variation in the environment, indigenous knowledge of NRM, state and national legislation and policies relevant to NRM (NRC, 2007a).

As indicated by the above NRC functions, it should undertake audits of the effectiveness of CAPS, that is, the environmental reporting against statewide standards and targets for NRM of the whole state of NSW.

The NRC, the NRM bodies and the various Acts (Federal, State and Local Government) make this a unique and complex context in which standards, practices and audit of environmental reporting is being constructed within NSW. The NRC is a unique research site as it is required to audit the effectiveness and performance of each CMA. The NRC and its audit responsibility are relatively contemporary. This makes the research organisation an ideal site for contributing to the understanding of the dynamics involved in developing an audit framework for sustainability performance reporting given its mandated responsibility in providing assurance on NRM to the NSW government and the public. The ambiguity and lack of agreed objectives, standards, processes and ‘best practice’ in sustainability assurance allows for in-depth exploration by the researchers of motivations, challenges, complexities and tensions faced by the NRC in developing its formal environmental audit framework.

---

<sup>2</sup> The *Catchment Management Authorities Act 2003 (NSW)* established the 13 Catchment Management Authorities (CMAs) across the State to ensure that regional communities have a significant say in how natural resources are managed in their catchments.

Central to the NRM in NSW was the establishment of 13 CMAs covering the entire state of NSW, with each individual CMA responsible for an ecologically based region. Each CMA generally covers an area directly associated with a river basin; however, each of the 13 CMAs is unique. For example, the ‘Western’ CMA encompasses a whole series of river systems as well as diverse areas of natural rangelands used for grazing, dryland cropping, irrigated cotton production, mining, tourism and natural conservation. CMAs are the primary means for the strategic delivery of funding from the NSW and Commonwealth Governments to help land managers improve and restore the natural resources of the State<sup>3</sup>. The aim is to meet the Standard and Targets (NRC, 2007d) recommended by the NRC and the funding requirements of both the NSW and Commonwealth Governments (CMA, 2004).

During 2005, the NRC developed (in collaboration with CMAs) statewide standard and targets to guide the work of the CMAs in managing their natural resources<sup>4</sup>. The purpose of the standard and targets is to provide a consistent approach to NRM and to achieve the NSW government’s overarching goal of “landscapes that are ecologically sustainable, function effectively and support the environmental, economic, social and cultural values of our communities” (NRC, 2007d, p.1). The standard and targets also provide criteria against which CMA’s performance is to be measured (i.e. criteria to be included in the audit framework). However, it needs to be noted that CMA performance of delivery and contribution to the statewide standard and targets in terms of measurable outcomes in NRM may not be observable for many years. The NSW statewide Standard and Targets are briefly outlined next.

The *Standard for Quality Natural Resource Management* (the Standard) (NRC, 2007d) recommended by the NRC in 2005 and adopted by the NSW government in 2006 aims to promote “quality practice” in NRM. The CMAs are required to meet the Standard in all areas of their business including the development of its strategic plan for NRM of their region referred to in the Standard as the ‘Catchment Action Plan’ (CAP). The

---

<sup>3</sup> National Action Plan (NAP) and Trust are jointly funded by NSW and Australian Governments.

<sup>4</sup> A healthy landscape under a NRM approach has the ability to adapt to climate change, promotes thriving rural, coastal and metropolitan communities, healthy river supplies for agricultural and urban usage, primary production that is competitive in national and international markets and the promotion of an ecologically sustainable environment.

Standard sets out seven auditable outcomes of quality NRM for CMAs to meet (see Table 1).

(Insert Table 1 about here)

The Targets for NRM (see Table 2) embedded in the NSW State Plan<sup>5</sup> set out agreed long term aspirational goals and activities adopted by the NSW government in 2006.

[Insert Table 2 about here]

The regional CAPs contain targets to suit the individual needs of each of the thirteen catchments, which subsequently contribute to implementation of the statewide Targets. Under the Act the NRC is required to audit the effectiveness of the implementation of CAPs as measured by each CMA's compliance with the Standard and contribution towards NRM Targets. The complexity of NRC's role as an independent body in monitoring CMA's performance of NRM is now discussed.

The NRC organisational structure includes leading experts in sustainable development, agriculture, auditing, environmental science and education, providing solid foundations for independent perspectives, knowledge and advice on natural resource management.

The NRC is independent from both the NSW government and the CMAs with the responsibility of delivering a 'Standard for Quality NRM (the Standard) and the 'Statewide Targets' for NRM which the NSW government has embedded into the NSW State Plan. The NRC complements its internal knowledge and expertise by engaging with other stakeholders including CMAs, various other government agencies, environmental groups, landholders, scientists, academics, practitioners and consultants. NRC's role and consequent engagement and dialogue with various stakeholders including its audit role is illustrated in Figure 1.

**[INSERT FIGURE 1 ABOUT HERE]**

---

<sup>5</sup> The NSW State Plan sets out clear Targets for all of NSW government's responsibilities, and the Statewide targets for NRM make up Priority E4 of the State Plan.

For a successful, sustainable conservation and management of Australia's environment and natural resources multiple stakeholders including farmers, irrigators, forest operators, public utility managers, local government officers, catchment authority officers, regional NRM bodies, community volunteers and many other stakeholders must be involved (NRC, 2007). Within the Australian context the federal government's coordinated effort and investment in NRM relies upon the co-operative efforts of federal, state and local governments governed by a series of agreements on the National Action Plan for Salinity and Water Quality (NAP) and the Natural Heritage Trust (the Trust). These agreements and how each State/Territory delivers and implements the agreements vary according to their regional models of NRM. The NSW model for NRM is unique in its approach and the involvement of the 13 CMAs and the independent role of the NRC. This arrangement ensures involvement of regional communities in NRM and also makes the CMAs accountable for their NRM decisions (NRC, 2007).

#### **4. ANALYSIS AND DISCUSSION**

This section provides an analysis and discussion of the development of the NRC environmental audit. This is undertaken by focusing on two important aspects. First, the meaning of 'audit' within the specific context of the NRC legislation and the various international and national guidelines is outlined. Secondly, the challenges confronted by the NRC in developing the assurance framework are discussed. In more detail, the first analysis associated with the meaning of 'audit' follows.

As outlined above, NRC's legislated responsibility, enacted in 2003, includes audits of the effectiveness of the implementation of CAPs in achieving compliance with the Standard and the Targets (the Act, Section 13(c)), as well as other NRM issues as required by the Premier of NSW (Section 13(d)).

During its first year of operations, in 2004, NRC developed its recommendations for the Standard and Targets without giving any specific in-depth consideration to the role of audit. This is not surprising as such a Standard and Targets have never been developed before within the NRM context in Australia and required considerable effort in terms of NRC's available resources. The limited attention early on to the role of audit was compounded by a lack of audit expertise within NRC and a limited understanding of

CMAs operations given their early level of maturity. The approval process of the Standard and Targets by the NSW Government involved preliminary consideration of the audit aspect in their submission to the government. NRC engaged an outside consultant, in late 2004, to provide input on the audit function for the purpose of the government submission.

As part of the initial recommendation to the government, the 'Draft Consultation Paper, NRC Framework for Audits' (NRC, 2004) mapped out a 10 year audit process plan. The objective of the early audits was to focus on reviewing each CAP's compliance with the Standard and assessing the likelihood of the CAP's contribution to the Targets. The discussion paper recognised that the audit process would involve compliance, performance auditing and evaluations of the CMAs by the NRC. However, given the early stage of CMAs' activities, there was an acknowledgment that the performance component would not be able to be undertaken until a later stage.

The initial audits, during 2005 and 2006, focused on CMA compliance against the Standard including corporate governance, adaptive management, risk assessment, systems in place, as well as review of the CAP and recommendation for its approval. These compliance audits were in the form of reviews and checklist based. Furthermore, given the CMAs' negative reaction to the term 'audit', as well as NRC's uncertainty of the audit process, a decision was made to "*use a more friendly terminology*" (interview with NRC staff member A) of 'Systems Reviews' rather than audit. These system reviews were conducted by external systems experts (i.e. not audit experts) in conjunction with NRC staff (i.e. experts on the Standard) resulting in 12 out of the 13 CMAs' CAPs being approved. These allowed the NRC to become familiar with the content and scope of the CAPs, identify the most significant types of risk to the implementation of CAPs, and to establish a baseline assessment of the quality of each CMA's business systems and CAP.

Although these initial systems reviews provided a detailed risk profile of each CMA and progress ranking scale against each component of the Standard, it also presented challenges. There was a realisation within the NRC that the audit construct and the draft audit framework required further development. From the documents it can be gauged that issues such as the thin level of audit skills within the NRC, different stages of maturity of CMAs, different stakeholder expectations of the 'systems review', and

CMAs'/stakeholders' feedback in the process all required further consideration. In addition, a lack of understanding of the risk-based audit approach, the need for a wider audit scope to include performance audits (which would examine the effectiveness of CAP implementation), evaluation reports and use of selected 'best-practice' audit principles applied consistently across all audits also needed to be addressed (interview with NRC staff member B). It appears that NRC formally recognised these issues for the first time during 2006 and embarked on designing a framework to withstand external scrutiny and build acceptance of their approach and confidence in the outcomes of the various types of audits.

Subsequent to the 2005/2006 systems reviews, with a new appreciation of the complexity of the audit function under the Act, and the uniqueness of the CMA context, the NRC appointed its own audit experts to progress 'audit' within the NRC context. It was not until this point in time, in September 2006, that the NRC formally recognised the importance of developing its own internal expertise and the need to take control of its audit framework, audit methodology, overseeing the choice of audit providers and of the audits themselves.

The motivation behind developing a formal audit framework was to operationalise 'audit' in the Act with a strategic NRC focus (interview with NRC staff member B). The framework was to provide a statement of concepts and assurance standards to be applied across all NRC audits. In order to achieve this, there was an immediate need to, in the words of (NRC internal documentation) "*define the NRC audits*". The framework was initially informed through various existing international and national assurance standards. Some of the professional standards considered by the NRC were Institute of Internal Auditors Australia Standards (2007), International Standards for the Professional Practice of Internal Auditing and related Practice Advisories effective 2007; Standards Australia (2003) ISO 19011:2003 Guidelines for quality and environmental management systems auditing; Standards Australia and Standards New Zealand (2006); Delivering assurance based on AS/NZS 4360:2004 Risk Management, Handbook 158-2006; Auditing and Assurance Standards (ASAs, AUSs)<sup>6</sup> and Guidance Statements. However, it became quickly evident to the NRC that none of these

---

<sup>6</sup> Australian Auditing and Assurance Standards and Guidelines (ASAs, AUSs, AGSs) are adapted from the International Federation of Accountants (IFAC's) Standards (ISAs).

standards could be directly adopted for the purpose of auditing the effectiveness of the CAPs implementation against the Standard and Targets.

Faced with this dilemma, NRC internal audit experts opted to identify the key audit concepts in existing assurance standards and to develop an ‘Assurance Standard’ (i.e. NRC Audit Framework) to fit the NRC unique context. The key concepts abstracted from the various standards (including ASAs, AUSs, GRI and AA1000AS) were risk, materiality, auditability, auditor competence, evidence, procedural fairness of reporting, stakeholder involvement and collaboration. However, many of these concepts were developed with financial statement audits in focus. As discussed above, the remit of the NRC included effectiveness, compliance and performance auditing.

These seven key concepts were debated within the NRC and externally with consultants. Through the internal consultation process, which also examined an appropriate alignment with the Standard, several adjustments were made, including replacement of ‘materiality’ by the term ‘significant’.

The tailoring of the concepts was also a much more involved process than initially anticipated given the NRC’s unique legislative responsibilities. Although the various standards were useful in providing the NRC with suitable initial concepts around which to construct its ‘audit framework’, in practice the NRC had to further consider how to operationalise these, for example “*what does stakeholder collaboration mean and at what level?*” (interview with NRC staff member B). The process of the finalisation and approval of the framework proved laborious as the NRC internal audit experts needed to consult with the rest of the NRC who had no audit skills and lacked understanding of the processes of audit. In addition, the framework development involved several workshops and input from key stakeholders and public sector audit experts including CMAs, NSW and Australian Governments and their respective agencies (e.g. ANAO, Department of Environment and Conservation and Department of Natural Resources Auditors).

Further to the extensive consultation with stakeholders, the draft audit framework was peer reviewed (in late 2007) by leading practitioners in internal auditing, environmental performance audit reporting (including academics), in addition to public consultation through the NRC’s website and distribution lists. This extensive external consultation

raised several questions revolving around parameters of stakeholder involvement, the need to integrate the concept of ‘materiality’ into risk assessment/evaluation process, audit timetabling, audit scope and the frequency of the audit framework review (NRC internal documentation). Feedback received was considered and addressed in the final draft of the audit framework as evidenced by the comparison between the draft exposed for peer review, submissions received and the final document ([www.nrc.nsw.gov.au](http://www.nrc.nsw.gov.au)).

The final ‘*Framework for Auditing the Implementation of Catchment Action Plans*’ was formally approved in December 2007. It outlines the NRC’s overall approach to auditing the implementation of the CAPs including four key features, the first that audit work will be designed to assess whether the implementation of CAPs is leading to on-ground improvements in natural resource condition by assessing compliance with the Standard and using hard data to verify progress towards statewide targets. The second, that a risk-based approach will be used to focus and tailor the nature of audit work, and to inform the frequency of audits. The third, that each CAP will be audited at least once every three years; however, audits may be more frequent where the risks to effective CAP implementation are assessed as high. The fourth feature was that commonly accepted audit methods will be adopted to ensure the rigour of the audit process and effective communication of audit findings and conclusions. Audit teams will include appropriate NRC staff, audit experts, and natural resource experts.

The challenges faced in applying the assurance framework are now briefly discussed. First, it should be noted that the audit framework at this stage only addresses the mandated audits under Section 13(c) of the Act. The relevance and appropriateness of the use of the Standard, the Targets and Audit have been tested during the first audits of 7 of the CMAs during 2008. They have proved to be relatively resilient and remain the three pillars that currently continue to underlie the NRC’s operations. However, the use of the audit framework proved challenging in the context of external providers, who did not understand its application to field audits in meeting the needs of the NRC.

Second, the main concerns with the external audit providers applying the specific concepts of the audit framework relate to the application of risk, materiality, auditability and audit evidence. The 2008 audits also revealed that the skill set of audit providers, the meaning and availability of evidence and mixed functionality and the use of NRC

staff with external audit consultants bring additional complexities, not previously identified, which need to be further considered.

Third, the application of the audit framework during the audits in 2008 also highlighted a further need to revisit the concepts of performance versus compliance audits, as well as the applicability of the word 'audit' under the Act within the NRC context. The use of 'audit' under the Act is problematic and too narrow given the nature of NRM. The NRC can provide only limited assurance or an assessment on some matters and is unable to provide 'audit' (i.e. reasonable/high assurance) across all NRM issues. Whether the language of the Act needs to change from 'audit' to 'assessment' or 'assurance' is debatable and an issue to be considered during the review of the audit framework upon completion of all thirteen individual CMA audits in late 2009.

Fourth, although the audit framework has been criticised by the external audit providers and some NRC project analysts, it is clear that, as with other current sustainability/non-financial information assurance standards, it was never meant to be a standalone product and needs to be supported by a rigorous audit methodology/manual tailored specifically to NRM and CAP context. An audit framework should be broad enough to provide the overall meaning and audit context, meet the changing needs of the NRC audit requirements, provide scope and basic guidelines that will withstand the changing maturity of the CMAs, the political processes and the diverse stakeholder needs.

Finally, in this section the journey undertaken by NRC in understanding its audit role as mandated by the legislation, and in developing its environmental audit framework to guide the fulfilment of this role, has been analysed. This case study is based on data from interviews with NRC staff and on the review of the various NRC and public documents.

## **5. CONCLUSIONS**

The purpose of this chapter was to provide insights into a number of issues emerging in the area of environmental auditing. The specific issues analysed are the meaning of 'audit' and the development of a relevant 'audit framework' within a specific organisational context. The methodology utilised is a real time longitudinal (three year) case study of a public sector body responsible for NRM in the state of NSW in

Australia. The case study data suggests that the various International standards and guidelines on sustainability assurance are of some usefulness in providing broad principles but are of limited assistance in operationalising these principles within a specific environmental audit context. The case study analysis suggests that the current quest by various international bodies to provide universal assurance standards and guidance is perhaps not realistic in relation to complex and organisation specific environmental subject matter. The experience of the case study organisation studied indicates that the regulators' and standard setters' future efforts need to clarify the key underlying concepts, namely the meaning of assurance in terms of environmental reporting and whether the levels of assurance, concepts of audit evidence, materiality, risk, etc universally accepted and applied for financial information audits are in fact relevant and transportable to the environmental assurance context.

**TABLE 1 THE SEVEN COMPONENTS OF THE STANDARD**

**Collection and use of knowledge**

*Required Outcome: Use of the best available knowledge to inform decisions in a structured and transparent manner.*

**Determination of scale**

*Required outcome: Management of natural resource issues at the optimal spatial, temporal and institutional scale to maximise effective contribution to broader goals, deliver integrated outcomes and prevent or minimise adverse consequences*

**Opportunities for collaboration**

*Required outcome: Collaboration with other parties to maximise gains, share or minimise costs or deliver multiple benefits is explored and pursued wherever possible.*

**Community engagement**

*Required outcome: Implementation of strategies sufficient to meaningfully engage the participation of the community in the planning, implementation and review of natural resource management strategies and the achievement of identified goals and targets.*

**Risk management**

*Required outcome: Consideration and management of all identifiable risks and impacts to maximise efficiency and effectiveness, ensure success and avoid, minimise and control adverse impacts.*

**Monitoring and evaluation**

*Required outcome: Quantification and demonstration of progress towards goals and targets by means of regular monitoring, measuring, evaluation and reporting of organisational and project performance and the use of results to guide improved practice.*

**Information management**

*Required outcome: Management of information in a manner that meets user needs and satisfies formal security, accountability and transparency requirements.*

Source: [www.nrc.nsw.gov.au](http://www.nrc.nsw.gov.au) (Source accessed June 2009)

**TABLE 2 STATEWIDE TARGETS FOR NATURAL RESOURCE MANAGEMENT**

**Biodiversity**

**1** By 2015 there is an increase in native vegetation extent and an improvement in native vegetation condition.

**2** By 2015 there is an increase in the number of sustainable populations of a range of native fauna species.

**3** By 2015 there is an increase in the recovery of threatened species, populations and ecological communities.

**4** By 2015 there is a reduction in the impact of invasive species.

**Water**

**5** By 2015 there is an improvement in the condition of riverine ecosystems.

**6** By 2015 there is an improvement in the ability of groundwater systems to support groundwater-dependent ecosystems and designated beneficial uses.

**7** By 2015 there is no decline in the condition of marine waters and ecosystems.

**8** By 2015 there is an improvement in the condition of important wetlands, and the extent of those wetlands is maintained.

**9** By 2015 there is an improvement in the condition of estuaries and coastal lake ecosystems.

**Land**

**10** By 2015 there is an improvement in soil condition.

**11** By 2015 there is an increase in the area of land that is managed within its capability.

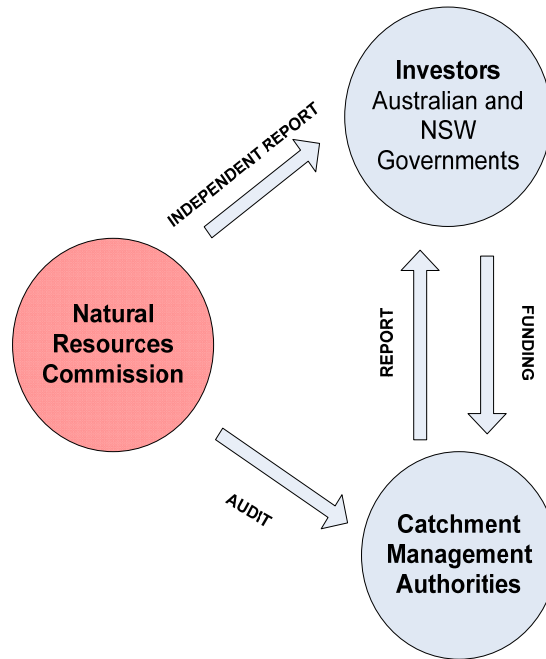
**Community**

**12** Natural resource decisions contribute to improving or maintaining economic sustainability and social wellbeing.

**13** There is an increase in the capacity of natural resource managers to contribute to regionally relevant natural resource management

Source: [www.nrc.nsw.gov.au](http://www.nrc.nsw.gov.au) (Source accessed June 2009)

**FIGURE 1: NRC Audit of CMAs provides Independent Perspective to Investors**



## List of Acronyms

ANAO	Australian National Audit Office
ASA	Auditing Standards
AUS	Assurance Standards
CAPS	Catchment Action Plan
CMA	Catchment Management Authority
IAASB	International Auditing and Assurance Standards Board
IFAC	International Federation of Accountants
NRC	Natural Resources Commission
NRM	Natural Resource Management

## REFERENCES

- AccountAbility (2003). AA1000 Assurance Standard. London, AccountAbility.
- AccountAbility (2005). AA1000 Stakeholder Engagement Standard: Exposure Draft. London, AccountAbility.
- AccountAbility (2008a). AA1000 AccountAbility Principles Standard 2008. London, AccountAbility.
- AccountAbility (2008b). AA1000 Assurance Standard 2008. London, AccountAbility.
- Adams, C. A. (2004). "The ethical, social and environmental reporting-performance portrayal gap." *Accounting, Auditing & Accountability Journal* 17 (5): 731-757.
- Adams, C. and Evans, R. (2004). "Accountability, completeness, credibility and audit expectations gap". *The Journal of Corporate Citizenship*, Summer: 97-115.
- Australian National Audit Office (ANAO), (2005). *Sustainability Reporting –The Role of Auditors*, Commonwealth Auditors-General Conference, Wellington, New Zealand, 1 February 2005.
- Ball, A., Owen, D. L. and Gray, R. H. (2000). "External transparency or internal capture? The role of third party statements in adding value to corporate environmental report". *Business Strategy and the Environment*, 9 (1):1-23.
- Bebbington, J., Gray, R. H. and Owen, D. L. (1999). "Seeing the wood for the trees: taking the pulse of social and environmental accounting". *Accounting, Auditing and Accountability Journal*, 12 (1): 47-52.
- Bedard, J. and Gendron, Y. (2004), "Qualitative research on accounting: some thoughts on what occurs behind the scene", in C. Humphrey and B. Lee (eds), *The Real Life Guide to Accounting Research: A Behind the Scenes View of Using Qualitative Research Methods*, Oxford, Elsevier (pp.191-206).
- CorporateRegister.com (2008). *Assure View: The CSR Assurance Statement Report*. London, *CorporateRegister.com*.
- Coyne, K. L. (2006). "Sustainability Auditing." (Winter): 25-41.
- Deegan, C. (2002). "The legitimising effect of social and environmental disclosures - a theoretical foundation". *Accounting, Auditing and Accountability Journal*, 15(3): 282-311.
- Deegan, C., Cooper, B. and Shelley, M. (2006). "An investigation of TBL report assurance statements: UK and European evidence". *Managerial Auditing Journal*. 21(4): 329-371.

- Deegan, C., Rankin, M. and Tobin, (2002). "An examination of the corporate social and environmental disclosures of BHP from 1983-1997. A test of legitimacy theory". *Accounting, Auditing and Accountability Journal*, 15(3): 312-343.
- Dumay, J., Farneti, F. and Guthrie, J. (2009). *The Worth of International Guidelines for Sustainability Reporting in Public and Not for Profit Sector Organisations*. Paper to be presented at the Sustainable Management of Organisations Conference, Bologna, Italy, July 2009.
- Farneti, F. and Guthrie, J. (forthcoming), "Sustainability reporting by Australian public sector organisations: Why they report?", *Accounting Forum*.
- Fontana A. and Frey, J.H. (2005). "The interview: from neutral stance to political involvement", in N.K.Denzim and Y.S. Lincoln (eds) *The Sage Handbook of Qualitative Research* (3<sup>rd</sup> ed) California, Sage Publications.
- Global Reporting Initiative (GRI). (2006). *GRI Sustainability Reporting Guidelines (G3). Sustainability Reporting Framework*. Accessed 19 January 2009, <http://www.globalreporting.org/ReportingFramework/ReportingFrameworkDownloads/>.
- Guthrie, J. and Parker, L. (1999). "A quarter of a century of performance auditing in the Australian federal public sector: a malleable masque". *Abacus*, 35(3): 302-332.
- Humphrey, C. (2008). "Auditing research: a review across the disciplinary divide", *Accounting, Auditing & Accountability Journal*. 21(2): 170-203.
- International Auditing and Assurance Standards Board (IAASB) (2003). International Standard on Assurance Engagements 3000
- International Federation of Accountants (IFAC) *International Framework for Assurance Engagements (Framework) and Assurance Engagements Other Than Audits or Reviews of Historical Financial Information* (2003) (ISAE) 3000
- International Federation of Accountants (IFAC). (2004). "IAASB Issues a New Framework and Standard for Assurance Engagements." Retrieved 15 January, 2009, from <http://www.ifac.org/mediacenter/?q=node/view/324>.
- Leonard-Barton, D. (1990). "A dual methodology for case studies: synergistic use of a longitudinal single site with replicated multiple sites". *Organisational Science*, 1(3): 248-266.
- McPhee, I. (2007). *Panel Discussion: Performance Audit Reports - An Auditor-General's Perspective*. Canberra, Australian National Audit Office.
- Natural Resources Commission (2004). *Draft Consultation Paper: NRC Framework for Audits*, NRC, Sydney.
- Natural Resources Commission (2007a). *An Introduction to the Standard for Quality Resource Management for everyone involved in NRM*, December 2007, Document No. D07/2826, NRC.

Natural Resources Commission (2007b). *The NRC: Past, Present and Future*, November 2007, Document number D07//3389, NRC.

Natural Resources Commission (2007c). *Framework for Auditing the Implementation of Catchment Action Plans*. Accessed 13 June 2009, <http://www.nrc.nsw.gov.au/content/documents/Audit%20framework.pdf>

Natural Resources Commission (2007d). *The Standards and Targets Guide*. Accessed December 2008, [www.nrc.nsw.gov.au](http://www.nrc.nsw.gov.au).

O'Dwyer, B. (2001). "The legitimacy of accountants' participation in social and ethical accounting, auditing and reporting". *Business Ethics: A European Review*, 10(1): 27–39.

O'Dwyer, B. and Owen, D. (2007). "Seeking stakeholder centric assurance: an examination of recent sustainability assurance practice". *Journal of Corporate Citizenship*, Spring: 77-94.

O'Dwyer, B. and Owen, D. (2005). "Assurance statement quality in environmental, social and sustainability reporting: a critical evaluation of leading edge practice". *British Accounting Review*, 37(2): pp.205-229.

OECD (2006), *Intellectual Assets and Value Creation: Implications for Corporate Reporting*, Corporate Affairs Division, Directorate for Financial and Enterprise Affairs, Organisation for Economic Co-operation and Development, Paris.

Parker, L. and Guthrie, J. (1991), "Performance auditing: the jurisdiction of the Australian auditor general — de jure or de facto?", *Financial Accountability and Management*, Summer Issue: 107-116.

Roebuck, P. (2000). "Understanding assurance services reports: a user perspective." *Accounting and Finance*, 40(3): 211-232.

Simnett R., Nugent, M. and Huggins, A. (2008). *Developing an International Assurance Standard on Carbon Emission Disclosures*. Working paper, University of New South Wales.

United Nations Global Compact (UNGC) (2008), *Corporate Citizenship in the World Economy*, United Nations, New York.

World Bank Group (WBG), (2007), *Environmental, Health, and Safety (EHS) Guidelines*, Environment and Social Development Department, International Finance Corporation, Washington, DC.

Yin, R. (2003). "Introduction" in R. Yin (ed) *Case Study Research*, Thousand Oaks, CA, Sage (pp. 1-18).

