



TOWARDS SUSTAINABILITY INDICATORS FOR MUSEUMS IN AUSTRALIA

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A research project submitted in partial fulfilment of the coursework requirements for the degree of Master of Arts in Curatorial and Museum Studies in the Faculty of Humanities and Social Sciences, University of Adelaide.

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ABSTRACT

Sustainability is a goal for many institutions, including museums, but as yet there are no museum-specific methods for measuring sustainability. Museums can be both sustainable businesses and vital parts of sustainable communities. In this report it is proposed that the role of the museum in a sustainable community be considered under the four pillars of sustainability: culture, society, the environment and the economy. The pillars are then used to form the themes of a pilot set of sustainability indicators for museums. In consultation with some major Adelaide-based collecting institutions about the pilot indicators, it was found that there was interest in having an effective, directed and efficient measurement system available. The consultation helped to refine a model for such a system, and to develop recommendations for future directions.

DECLARATION

This work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution to Eleanor Adams and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

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PART I: INTRODUCTION

According to Museums Australia, ‘museums are established in the public interest as permanent, not-for-profit organisations that contribute long term value to communities’.¹ It is, in part, through preservation and presentation of their collections that museums make this contribution to society. As responsible custodians of their collections, museums must recognise the principle of sustainability in order to preserve the past for the future, and to be a part of a sustainable community.² Many museums appear to be searching for ways to advance their sustainability, yet the methods to progress towards and measure sustainability are still under debate.³ Organisations working with and for the natural environment have developed indicators that help measure progress towards environmental sustainability. A parallel system of indicators developed for the collections sector would help government, communities and collecting organisations themselves ascertain whether increased sustainability is being achieved. This report will focus on museums and galleries (i.e. art museums); however, the outcomes should be broadly applicable to all collecting organisations.⁴

Part 1 of this report will discuss in a theoretical manner, definitions of sustainability, the application of sustainability principles to museums and the role of sustainable museums in sustainable communities. Part 2 reviews current general and sustainability-related guidelines for Australian museums, suggested models for measurement of processes in museums and, models for measurement of sustainability, as well as commenting on the sustainability practices already in place. Part 3 outlines the methodology used in this report for the development of a set of pilot sustainability indicators. It also includes the outcomes of consultations with relevant major Adelaide-based institutions on the pilot indicators. Part 4 makes

¹ Museums Australia, <http://www.museumsaustralia.org.au/site/page13.php>, viewed 26/3/09. The full definition of a museum taken from Museums Australia can be found in Appendix 1.

² M Birtley, *The Collections Council of Australia*, paper prepared for the 2006 Australian State of the Environment Committee, Department of Environment and Heritage, Canberra, p. 3.

³ Museums Australia, *Museums and Sustainability: Guidelines for policy and practice in museums and galleries*, 2003, p. 2. Accessible at www.museumsaustralia.org.au

⁴ The word ‘museum’ in this instance refers only to science and history museums as opposed to cultural centres, heritage sites, zoos, botanic gardens and so forth as found in the Museums Australia definition of a museum (Appendix 1).

several recommendations for the further research and development of sustainability indicators for museums.

1.1. Towards a Definition of Sustainability

The terms ‘sustainability’ and ‘sustainable development’ have become popular buzzwords in the twenty-first century. Although not strictly synonymous, in common and academic language they have become so. Tim Flannery observes “‘sustainability’ is a word that can mean almost anything to anyone’ and it is ‘bandied about as if it were the essence of virtue’ by anyone from travel agents to t-shirt manufacturers.⁵ In order to arrive at an acceptable definition, it is useful to understand when and how the enthusiasm for sustainability began.

The concept of living in a sustainable manner is by no means a new idea, however, the notion and the terms for it became popularised in 1987 with the release of *Our Common Future*.⁶ This report by the World Commission on Environment and Development examined the world’s development issues such as poverty and environmental degradation from a collective point of view, and proposed ways in which they could be solved globally. It emphasised the relationship between the social, environmental and economical aspects of human existence, and promoted the use of sustainable development theories in all future decision making. This report contains the often-cited definition of sustainable development which states: ‘sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs’.⁷

While this definition is succinct, it is an extract from a substantial document that discusses more fully the inter-relationship of the environment, society and economy with sustainable development. The definition may, in isolation, seem oversimplified when taken out of context. However, with so many people, cultures, contexts and different disciplinary schools of thought concerned with sustainability, all defining it to suit their own needs, as well as the relatively rapid evolution of the concept over a short period of time, it is necessary to have a broad definition that encapsulates

⁵ T Flannery, ‘Now or never: A sustainable future for Australia?’, *Quarterly Essay*, 31, 2008, p. 2.

⁶ World Commission on Environment and Development, *Our Common Future*, Oxford University Press, Oxford, 1987.

⁷ World Commission on Environment and Development, *op. cit.* p. 43.

not only the inter-relationship of environment, society and economy, but one that applies to many situations.

Tasmania Together 2020 is a 'long-term social, environmental and economic plan ...' based on community consultation about Tasmanians' own perceived needs and desires for the future.⁸ Their definition for sustainable development states:

Managing the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural wellbeing and for their health and safety while:

- a) Sustaining the potential of natural and physical resources to meet the reasonable foreseeable needs of the future generations;
- b) Safeguarding the life supporting capacity of air, water, soil and ecosystems; and
- c) Avoiding, remedying or mitigating any adverse effects of activities on the environment.⁹

This definition moves towards a broad, all-encompassing characterisation of sustainable development but its focus is drawn to the natural environment. While natural and physical resource management is an essential part of sustainability, factors such as employment, industry and education are also vital. The concept of quality of life is introduced in this definition by the inclusion of 'social, economic and cultural wellbeing', and by references to the health and safety of a community. This builds on the 1987 *Our Common Future* definition's use of the term 'needs' to shape the concept in ways that are more congruent with the 'perceived' needs of western lifestyles. Also, quality of life is a concept that, in theory, can be measured and reported on.¹⁰ Its presence in this definition gives the Tasmanian Government a way to assess whether changes in policy and practice that take them towards sustainability are still meeting the needs of the current society.

As is becoming apparent, to define sustainable development in broad terms, while incorporating the inter-relationship of all aspects of human existence, is a

⁸ Tasmania Together Progress Board 2006, *Tasmania Together 2020 Five Year Review*, Report to the Tasmanian Premier and Parliament, November 2006, Hobart, p. 2.

⁹ Tasmania Together Progress Board 2008, *Tasmania Together 2020 Progress Report 2008*, Report to the Tasmanian Premier and Parliament, August 2008, Hobart, p. 197. This definition can be found in all Tasmania Together documents containing a glossary of terms.

¹⁰ E Diener and E Suh, 'Measuring quality of life: economic, social and subjective indicators', *Social Indicators Research*, 40, 1997, pp 189-216; F Fahy and M Ó Cinnéide, 'Developing and testing a framework for assessing quality of life', *Environmental Impact Assessment Review*, 28, 2008, p. 375.

complicated task. In 2007, Phillip Lawn proposed that sustainable development should be defined by the following:

A nation is achieving sustainable development if it undergoes a pattern of development that improves the total quality of life of every citizen, both now and into the future, while ensuring its rate of resource use does not exceed the regenerative and waste assimilative capacities of the natural environment. It is also a nation that ensures the survival of the biosphere and all its evolving processes while recognising, to some extent, the intrinsic value of sentient non-human beings.¹¹

Although this definition successfully captures all that is important to sustainable development, it is complex and specific to the development of a nation. Sustainable development concepts can equally be applied to cities, communities and individual institutions, and even extend to households. Lawn's definition can be easily adapted to all groups or individuals wishing to become sustainable. It has, however, a disadvantage in that the role of society, economy and culture in becoming sustainable is only implied rather than explicitly stated.

The many ways of defining sustainability mean that it is unlikely there will ever be one perfect definition. It is more important to have a working definition relevant to the situation being considered to create an understanding of sustainability, rather than developing a strict characterisation of its components. Therefore, this report will use a definition employed by Museums Australia in *Museums and Sustainability: Guidelines for Policy and Practice in Museums and Galleries* that

Sustainability means using, developing and protecting resources at a rate and in a manner that enables people to meet their current needs and also provides that future generations can meet their own needs. Sustainability requires simultaneously meeting environmental, economic and community needs.¹²

1.2. Sustainability as a System

One of the most important things to consider about sustainability is that all its components are inter-dependent and related. Sustainability, and the institutions to which it is applied, are systems and are 'so finely balanced ... that change to any one

¹¹ P Lawn, *Frontier Issues in Ecological Economics*, Edward Elgar, Cheltenham, 2007, p. 29.

¹² This definition was originally published by the State of Oregon, USA in *Development of a state strategy promoting sustainability in internal state government operations*, Executive Order EO-00-07, May 2000, accessible at www.oregonsolutions.net and cited by Museums Australia in *Museums Australia, Sustainability Guidelines... op. cit.* p. 1.

element will ultimately require compensating and sometimes wholly unanticipated changes to many others.¹³ One popular representation of sustainability that relies on 'systems thinking' is the Venn diagram wherein the key components of sustainability are each represented by a circle that crosses every other circle at some point, and at the centre, all components overlap (figure 1).¹⁴ The illustrated key components vary from theorist to theorist, some choosing the common 'economy, society and environment', while others add or substitute principles such as equity, efficiency or culture, and others concoct their own principles such as intellectual life, community support, energy and money.¹⁵ Regardless of the components chosen, this representation emphasises and illustrates simply the systematic nature of sustainability.

¹³ S Weil, *Making Museums Matter*, Smithsonian Books, Washington, 2002, p. 41.

¹⁴ This view of sustainable development is can be found in many documents including the following: M Eichler, 'Sustainability from a feminist sociological perspective: A framework for disciplinary reorientation', in E Becker and T Jahn (eds), *Sustainability and the Social Sciences: A Cross Disciplinary Approach to Integrating Environmental Considerations into Theoretical Reorientation*, Zed Books, London, 1999, p. 198; T Link, 'Models of Sustainability: Museums, Citizenship and Common Wealth', *Museums and Social Issues*, 1(2), 2006, p. 178; R Lozano, 'Envisioning Sustainability Three-dimensionally', *Journal of Cleaner Production*, 16, 2008, p. 1839.

¹⁵ GD Lord, *Museums and Sustainability: Economy, Culture and Community*, web article available at www.lord.ca/Pages/Lord_LordAcademy_LordArticles.htm, p.2; T Link *ibid.*; J Hawkes, *The Fourth Pillar of Sustainability: Culture's Essential Role in Public Planning*, Common Ground Publishing, Australia; R Clift, 'Climate change and energy policy: The importance of sustainability arguments', *Energy*, 32, 2007, p. 263.

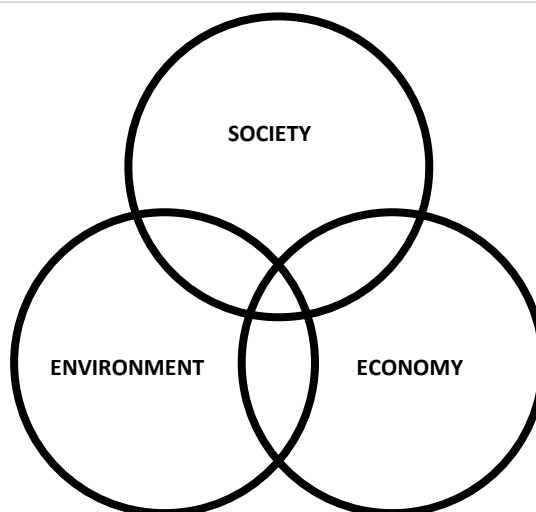


Figure 1: Venn diagram model of sustainability featuring the key components of economy, environment and society although these are changeable and more can be used. The inter-related nature of each component can be seen. Source: E Adams.

Other diagrammatic, and arguably improved, representations of systems-based models of sustainability exist. For example, the concentric circles representation (figure 2), the non-concentric circle representation (figure 3) and the AMOEBA model (figure 4).¹⁶ The AMOEBA model, based on the concept of sustainable development presented in *Our Common Future*, was designed to ‘describe and assess marine ecosystems’ in the Netherlands.¹⁷ It illustrates an integrated approach to representing information on sustainability and collects data from many sources together in one diagram. Since its development, AMOEBA has been adapted for application to other systems and provides a holistic approach to sustainability factors relevant to a particular scheme.¹⁸ The AMOEBA provides a picture of sustainability in a system; however, in order to apply the AMOEBA model, sound sustainability indicators and reference points are required.

¹⁶ R Lozano, *ibid*; M Hart, *A better view of a sustainable community*, web page accessible at <http://www.sustainablemeasures.com/Sustainability/ABetterView.html>, viewed 18/04/09.

¹⁷ BJE ten Brink, SH Hoesper and F Colijn, ‘A Quantitative method for description and assessment of ecosystems: The AMOEBA approach’, *Marine Pollution Bulletin*, 23, 1991, p. 265.

¹⁸ S Bell and S Morse, *Sustainability Indicators: Measuring the Immeasurable?*, Earthscan, London, 2008, p149-150.

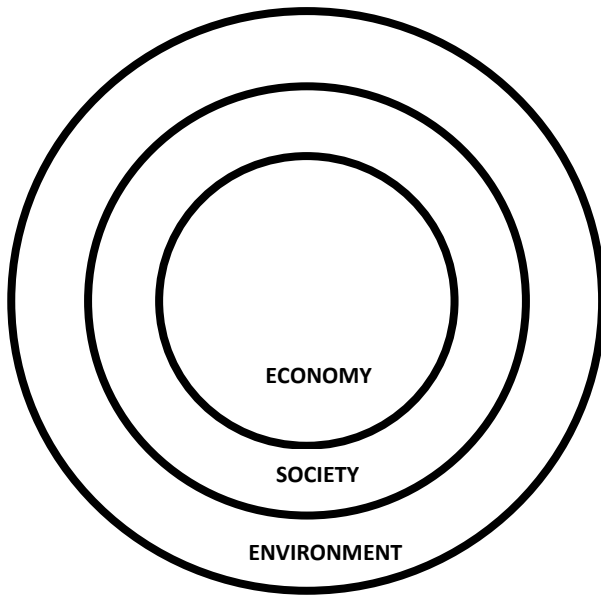


Figure 2: The concentric circles model of sustainability. A variation on the Venn diagram, it again illustrates the inter-relatedness of the principles of sustainability but shows the reliance of society and economy on the environment. Source: E Adams.

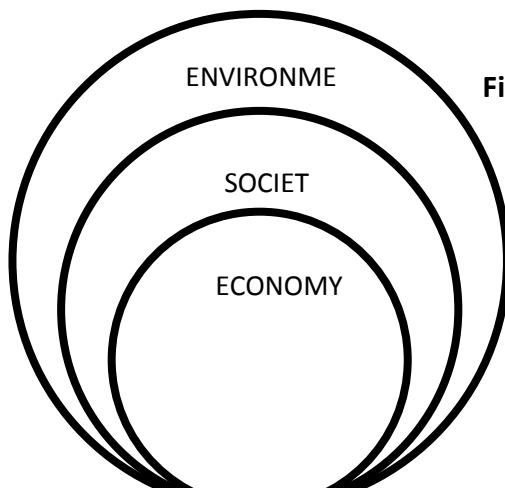


Figure 3: The non-concentric circles model of sustainability showing that while there is a relationship between the aspects of sustainability, it is not necessarily balanced and that the economy and society rely on the environment for survival. Source: E Adams.

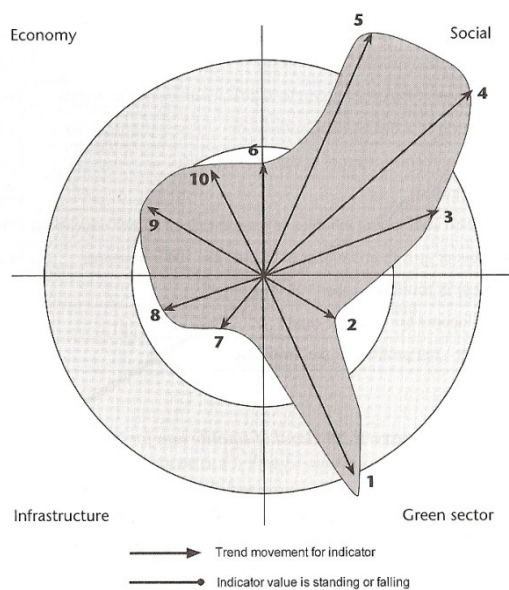


Figure 4: The AMOEBA model of sustainability. Again, the principles of sustainability interact to make a whole system and a band of equilibrium is created (grey band on diagram). Indicator trends are then placed onto the system to form a diagrammatic representation of the system's sustainability and when viewed over time, these diagrams can reveal change around a base line. Source: S Bell and S Morse, *Sustainability Indicators: Measuring the Immeasurable?*, Earthscan, London, 2008, p. 182.

1.3. Museums and Sustainability

In 1992 at the Rio de Janeiro United Nations conference, governments pledged to incorporate sustainable development into their policies when they ratified the establishment of Agenda 21.¹⁹ Since then, the museum sector has moved to discuss, although not necessarily apply, relevant issues concerning sustainable development. Australia and the United Kingdom lead the way, from a western perspective, in developing a holistic approach to sustainability within museums. In 2003 Museums Australia released the first (and currently only) set of English language guidelines outlining how to approach sustainability across all aspects of a museum.²⁰ More recently the Museums Association (UK) has held consultations and a conference dealing specifically with sustainability issues for museums.²¹

Whether they acknowledge it or not, museums are inextricably linked to sustainability principles. Through the practice of maintaining a collection in perpetuity, the task of a museum becomes to serve both current and future generations through the display and interpretation of objects now, and to pass on the collections, knowledge and information to the future.²² However, 'most museums seem to be inherently unsustainable organisations'.²³ One problem relates to the nature of collecting. The policy of acquiring objects at a rate far exceeding the number of objects that are deaccessioned, in combination with poor collections management and future vision for that collection is unsustainable.²⁴ Museums Australia has acknowledged this problem with the statement '[collections] may become a future liability if we fail to collect, conserve and document with our long-term obligations and liabilities in mind'.²⁵ Also, some

¹⁹ United Nations, *Agenda 21*, Results of the World Conference on Environment and Development, UNCED United Nations Conference on Environment and Development, Rio de Janeiro, United Nations, New York, 1992.

²⁰ Museums Australia, *Sustainability Guidelines... loc. cit.*

²¹ Museums Association, *Sustainability and Museums: Report on consultations*, January 2009, accessible at www.museumsassociation.org/sustainability

²² Museums Association, *Sustainability and Museums*, 2008, web page at www.museumsassociation.org/sustainability viewed 26/03/09; M Davies, 'A Sustainable Future', *Museums Journal*, 108/6, June 2008, pp. 28-31.

²³ M Davies, 'A Sustainable Future', *loc. cit.*

²⁴ N Merriman, *Museum Collections and Sustainability*, Clore Leadership Program Thesis, 2006 ; M Davies, 'A Sustainable Future', *loc. cit.*

²⁵ Museums Australia, *Museums and Sustainability...loc. cit.*; M Birtley, *The Collections Council... loc.cit.*

museums fall prey to the common conception that sustainability is only about 'being green' and this is perceived as 'marginal to the core work of museums'; whereas in reality it is necessary to see sustainability for what it really is: a combination of economic, environmental and social factors.²⁶

It is important for museums to be (or become) sustainable institutions because they are considered to be a part of creating and maintaining a sustainable community on both a local and global scale.²⁷ It is partly through their care of collections and partly through the provision of resources to the community that museums become a 'powerful means of achieving cultural, social, environmental and economic sustainability'.²⁸ Museums can provide the tools for a community to achieve sustainability for themselves. It, therefore, follows that if a museum is unsustainable, then it cannot fully (and perhaps ethically) participate in a sustainable society. To achieve sustainability, museums need to be aware of how factors such as culture, society, the economy and the environment impact on their sustainability as organisations, and incorporate this awareness into their decision making. 'Many companies are recognising that economic goals can be complemented by environmental and social targets and that all three areas can contribute to an organisation's own sustainability'.²⁹

1.4. Museums and the 'Four Pillars' of Sustainability

Sustainability is often thought to have three components: ecological sustainability, social sustainability and economic sustainability.³⁰ These are sometimes referred to as 'pillars', and generate the concept of 'triple-bottom-line reporting'. In 2001, Jon Hawkes expanded the idea of a 'fourth pillar' (cultural sustainability) in the belief that 'cultural vitality is as essential to a healthy and sustainable society as social equity, environmental responsibility and economic viability'.³¹ The fourth pillar emphasises the interdependent nature of culture and sustainable development,

²⁶ M Davies, 'A Sustainable Future', *loc. cit.*

²⁷ T Link, *op. cit.* p. 181; Working Group on Museums and Sustainable Communities, *Museums and Sustainable Communities: resource document*, March 2007, p. 19.

²⁸ M Birtley, *The Collections Council... loc. cit.*

²⁹ Museums Australia, *Museums and Sustainability... loc.cit.*

³⁰ D Yencken & D Wilkinson, *Resetting the Compass: Australia's Journey towards Sustainability*, CSIRO Publishing, Collingwood, 2000, p. 9.

³¹ J Hawkes, *op. cit.*, p. 23

intimating that 'if a society's culture disintegrates, so will everything else' (figure 5).³² Museums play a role in helping communities maintain and create their system of values or their 'culture', and this in turn inevitably affects the making of decisions about sustainable development and ultimately their sustainability.

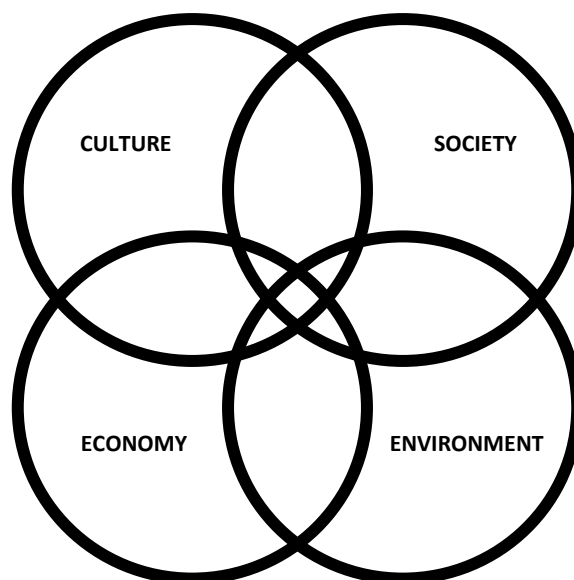


Figure 5: The four pillars of sustainability diagrammatically expressed to emphasize the interdependent nature of culture, society, the economy and the environment. Source: E Adams.

In deliberating on sustainability for museums, the role or the objective of the institution becomes subject to renewed questioning and rethinking.³³ Museums and their contribution to society and sustainability can be considered under the four pillars, as can their progress towards sustainability. To become sustainable a museum will need 'long-term clarity about its objectives' and 'what it aims to offer society'.³⁴ It will also need to make sure these objectives parallel the needs and wants of society. By contemplating a museum in this 'four-pillars' manner, the holistic nature of its influence on a sustainable community, and the community's influence on it, can begin to be understood; as can the importance of maintaining these services for the community by becoming a sustainable institution.

³² *ibid.*, p. 12.

³³ Museums Association, *Sustainability and Museums: Your chance to make a difference*, 2008, p. 11, accessible at www.museumsassociation.org/sustainability.

³⁴ M Davies, 'A Sustainable Future' *loc. cit.*

1.4.1. Museums and Community (The Social Pillar)

Kenneth Hudson wrote of museums that ‘the now almost universal conviction [is] that they exist in order to serve the public’ as opposed to the ‘old-style museum’ whose ‘prime responsibility was to its collections, not its visitors’.³⁵ Since the Second World War, the number, variety and size of museums has expanded, and their nature has veered away from the ‘cabinet of curiosity’ style of institution, to one which focuses on learning, leisure-time and community involvement.³⁶ Museums in the post war era aim to contribute to society through engagement with the community around them in a variety of ways.

In a broad sense, museums respond to society’s need for greater global awareness. They provide a sense of stability in times of turmoil. They have the power to present information and the expertise to help the community understand why wars, financial crises, epidemics and other such ‘disasters’ occur based on what has happened in the past. For those who source their information on such events from the internet, museums have the reputation and the knowledge base to be able to validate or refute the massive amount of data available.³⁷ In this increasingly virtual world, museums are also a ‘real’ place in which to engage the senses, intellect and emotions.³⁸ Museums provide a ‘safe place’ to present controversial or sensitive ideas in today’s knowledge-based society.³⁹ They can also be a place of inspiration for artists, educators, researchers or any other person seeking enlightenment and a place to learn new skills from infancy to old age. Perhaps most importantly, museums hold moveable cultural heritage, and thus the identity of the community, in the presumption of permanence.

³⁵ K Hudson, ‘The Museum Refuses to Stand Still’, *Museum International*, vol. 50, no. 1, 1998, p. 1. Hudson uses the term ‘old-style’ to mean a museum before the notion of serving the public was introduced into the International Council of Museums’s definition of a museum. He declares of an old-style museum that ‘it existed, it had a building, it had collections and a staff to look after them, it was reasonably adequately financed, and its visitors, usually not numerous, came to look, to wonder and to admire what was set before them. They were in no sense partners in the enterprise.’

³⁶ SE Weil, *Making Museums Matter*, *op. cit.* p. 31.; K Hudson, *loc. cit.*

³⁷ J Chung, S Wilkening and S Johnstone, *Museums and Society 2034: Trends and Potential Futures*, Version 1.0, American Association of Museums Centre for the Future of Museums, December 2008, p. 16.

³⁸ *ibid.*

³⁹ EH Gurian, *Civilizing the Museum*, Routledge, London, 2006, p. 93.

Collections aside, museums can serve the public in many ways. They are, for example, places where communities come together and share an experience. This experience may be based on the collection, or it could be through attending an event (including social events as well as educational gatherings) hosted by or held at the museum. It could also be through meeting for coffee at the institution's cafe, or picnicing on the grounds. Museums maintain the well-being of a community by providing a place that is socially inclusive and encourages unity, and a place where knowledge can be shared in a specialised environment. 'Generally museums have a positive impact on society.'⁴⁰ In terms of their own sustainability, 'their main challenge is to ensure that they deliver their social benefits in ways that are environmentally and economically stable.'⁴¹

One of the keys to becoming sustainable is to become more socially responsible. This can be achieved in part by designing programs that respond to the 'particular social environment' in which a museum operates.⁴² Museums that are socially responsible can act as 'agents of social change' by encouraging community identity and unity by being a 'learning hub', as well as by empowering people and allowing them to 'choose their own destiny'.⁴³ They can help encourage communities to harmonise their views and values so as to make sustainable decisions for both the local and global populations. Through their own behaviour, museums can act as a model for sustainable living. By initiating community activities related to local culture and by being accountable to that same community, museums can strengthen society and further contribute to community sustainability.

Ecomuseums are a type of community museum founded on the idea that "sustainable" means not only reasonable management and consumption by the human population of Earth's renewable and non-renewable resources, but also the personal and collective commitment to recognise the value of our common natural

⁴⁰ Museums Association, *Sustainability and Museums: Your chance to make a difference*, *op. cit.* p. 12.

⁴¹ *ibid.*

⁴² *ibid.* p. 11; S Weil, *Making Museums Matter*, *op. cit.* p. 35.

⁴³ Museums Association, *Sustainability and Museums: Your chance to make a difference*, *op. cit.* p. 11; M de Lourdes Horta, 'Evolution and International Perspectives – Into the Future', *Museums for the New Millennium: A Symposium for the Museum Community*, Washington DC: Centre for Museum Studies, Smithsonian Institution and AAM, 1997, transcript available at <http://museumstudies.si.edu/millennium/proceed.htm>

and cultural heritage.’⁴⁴ Despite their name, ecomuseums are not solely dedicated to the interpretation and conservation of the natural environment but rather to ‘conserve and interpret all of the elements of the environment ... [natural and built landscapes] ... in order to establish the thread of continuity with the past and a sense of belonging.’⁴⁵ Ecomuseums are not constrained to one building, but identify a zone in which the community strives to preserve their culture and the natural environment, through memories, discussions and interaction. Often there is no material collection in the traditional sense, but rather the museum facilitates processes that re-discover and preserve the community and its environment.

As ecomuseums tend to originate from community cultural needs, the people who form it become the core of the museum, central to all its activities and processes.⁴⁶ In this way, ecomuseums are agreeably placed to help their communities adapt to a changing world and to encourage or even model sustainable practices. Their existence aids community sustainability by providing identity, a sense of place and cultural heritage as well as maintaining the natural environment.

1.4.2. Museums and Movable Cultural Heritage (The Cultural Pillar)

Museums are repositories for and caretakers of the heritage of a community and are a source of identity, education, inspiration and entertainment. They ‘bring meaning, context and consistency to our more fragmented and diverse twenty-first century cultural and community life’.⁴⁷ By being an access point to cultural heritage, and by emphasising the integrated nature of it, they encourage people to come together to experience their own and others culture.⁴⁸ Museum collections can help people ‘understand changes occurring over time in cultures, societies and the

⁴⁴ H de Varine, ‘Ecomuseology and Sustainable Development’, *Museums and Social Issues*, 1(2), Fall, 2006, p225

⁴⁵ P Davis, *Ecomuseums: A sense of place*, Leicester University Press, London, 1999, p. 5.

⁴⁶ H de Varine, *op. cit.* p. 226

⁴⁷ Museums Association, *Understanding the Future: Museums and 21st Century Life – The Value of Museums*, July 2005, www.museumsassociation.org/ma/11297&IXFPFX=full/mpf, viewed 26/03/09.

⁴⁸ E Crooke, *Museums and the Community: Ideas, Issues and Challenges*, Routledge, London, 2007, p. 21; UNESCO-CULTURE, *Movable Heritage and Museums*, web page accessible at <http://portal.unesco.org/culture/en>, viewed 07/05/09.

environment’ and they form an invaluable resource for making decisions based on these observable changes.⁴⁹

Cultural heritage is an invaluable tool for generating a sense of well-being, and for creating the foundations of increased ‘quality of life’. As discussed in Section 1.1, ‘Quality of Life’ is a cornerstone of many definitions of sustainability. Cultural heritage can be used to create community activities that encourage participation in another culture, and therefore facilitate a celebration of diversity and a fostering of acceptance and unity. It can also cultivate pride in one’s own culture and encourage self-directed learning. All of these activities provide an opportunity for accessible civic involvement and have the potential to promote other healthy-living behaviours such as outdoor activity at the same time, all of which serves to increase the ‘quality of life’.⁵⁰

In 1982, UNESCO’s *Mexico City Declaration of Cultural Policies* outlined the benefits of culture and values for the people of the world. It included the idea that cultural identity moved people to seek their past and to be influenced by the congruent pasts of other groups in order to evolve their beliefs for the future. It also identified a need for ‘cultural policies that will protect, stimulate and enrich each people’s identity and cultural heritage and establish absolute respect for and appreciation of ... the other cultures of the world’.⁵¹ Museums’ collections of cultural heritage and their interaction with the community play a major role in this. However, the nature of collecting and display imposes limits on the ability of a museum to successfully and wholly represent a culture.⁵² For example, women are often under-represented in cultural displays and the ‘sensitive’ nature of some material makes it unethical to display, or to collect in the first place.

⁴⁹ Collections Council of Australia, *The Collections Plan 2007-2010*, Collections Council of Australia, Adelaide, 2008, p. 5.

⁵⁰ Creative City Network of Canada, ‘Quality of Life, Quality of Place’, *Making the Case for Culture*, Creative City Network of Canada, Vancouver, 2005, p. 2, accessible at www.creativecity.ca/resources/making-the-case/

⁵¹ UNESCO, *Mexico City Declaration on Cultural Policies*, World Conference on Cultural Policies, Mexico City, 26 July- 6 August 1982, accessible at <http://portal.unesco.org/culture/en>, p. 2.

⁵² P Davis, *op. cit.* p. 27.

Despite imperfect practices in a museum, the collection and the items within it are the organisation's 'core business' and its principle basis for communication.⁵³ However, the way that institutions currently collect and manage their collections is unsustainable. For instance Nick Merriman has shown that in the United Kingdom, institutions' collections grow at a rate of approximately 0.1 percent per annum, even though there is a lack of proper storage facilities and documentation.⁵⁴ He also notes that 'relatively few museums know precisely what they hold in their collections'.⁵⁵ Given that 'typically less than ten percent of a museum's collection is on display' and that stored collections are a mostly under-used resource, there is a strong case for selective disposal of some objects from a collection to improve collection management and sustainability.⁵⁶ However, an effort to allow more active engagement of the public in stored collections may negate this need for disposal. Maurice Davies has stated that 'growth may not be a sustainable way for museums to develop', however, as long as resources for collection management (including funds and storage) are able to grow at a comparable rate to the collection, growth of the collection may be sustainable.⁵⁷

The creed of collecting in perpetuity and 'the strong presumption against the disposal of any items in the collections of a museum' inevitably leads to collections which 'outlive the people who made, gathered and used them'.⁵⁸ In parallel with the principles of sustainability, these collections are then passed to the next generation who must use their resources to maintain and add to them. Merriman summarises:

Museums whose collections continue to grow while their existing collections lack effective management ... seem not to be meeting the needs of the present in full because they are not able to realise the full potential of the collections they hold and they are compromising the ability of future generations to meet their needs by passing on these

⁵³ K Hudson, *op. cit.* p. 46.

⁵⁴ N Merriman, *op. cit.* p. 24, 26.

⁵⁵ N Merriman, *op. cit.* p.6.

⁵⁶ Museums Association, *Sustainability and Museums: Your chance to make a difference*, *op. cit.* p. 15; N Merriman, *loc. cit.*; S Keene, *Collections for People: Museums' stored collections as a public resource*, UCL Institute of Archaeology, London, 2008, p. 71.

⁵⁷ M Davies, *Growth May Not Be Sustainable*, media release, Museums Association, 4 March 2009, accessible at www.museumsassociation.org/18053&_IXFPFX=full/mpf, viewed 01/04/09.

⁵⁸ Museums Australia, *Caring for Our Culture: National guidelines for museums, galleries and keeping places*, Museums Australia, Canberra, 1998, p.1; Museums Australia, *Code of Ethics*, Museums Australia, Canberra, 1999, p.7.

collections to them to look after, having added even more material to them.⁵⁹

Therefore, in order to collect for the future in a sustainable way, it is important to embrace ethical and necessary deaccessioning of objects, especially in an inherited collection where the vision of the past may no longer align with the current collecting direction, as well as selective acquisition plans and good collection management.

1.4.3. Museums and Revenue (The Economic Pillar)

Many museums, including national, state-based and regional institutions, receive government funding from rates and tax-payers' money in the understanding that the movable cultural heritage of the region is being cared for, and is held in a permanent collection. However, when only ten percent of collections in most museums are easily accessible by the public, much of this understanding relies on the transparency of the museums' reports and research. By contributing rates and taxes, members of the community in which a museum is located become the financial providers of their own museum services.⁶⁰ Communities also support the museum in non-monetary ways such as volunteering, and directly through donations and bequests. Museums must, therefore, be accountable to those same communities for all their activities including financial and collection management in order to maintain or increase the level of support and funding they receive. Given that approximately seventy percent of the running costs of museums come from collection-related expenses, in order to have a sustainable museum, there must be sustainable funding.⁶¹

Economic factors are a good example of the reciprocal nature of the museum-community relationship. On one hand, the community supports the museum with money and time, and on the other, the museum stimulates the local economy by, for example, employing people and by purchasing local goods for their retail outlets or daily running needs. Museums also have a role in promoting a location as a

⁵⁹ Museums Association, *Sustainability and Museums: Your chance to make a difference*, loc. cit.

⁶⁰ J Dodd, 'Whose museum is it anyway? Museum education and the community', *Journal of Education in Museums*, 13, 1992, p. 31.

⁶¹ GD Lord, *op. cit.* p.3.

cultural destination, attracting tourists and potential inhabitants alike.⁶² In addition, museums can raise revenue for themselves through their gift shop, café, publications and other 'user-pays' activities - which in turn helps them to maintain their services to the community, and it also impacts on the local financial system.⁶³

Part of being a sustainable museum, therefore, is to be a part of a sustainable and stable community. Supporting the local economy, either directly or indirectly, is one way to achieve this. High quality cultural institutions can attract business and investments to stimulate the local economy and regenerate faltering towns. 'Blockbuster' exhibitions can similarly attract visitors and local residents to an area where they then spend their money on food, accommodation, souvenirs, transport and other retail opportunities.⁶⁴

Another important economic function of a museum, although it has no defined monetary value, is to create social capital. The generation of social capital is achieved by community activity in educated, unified and conscientious ways that lead to better 'quality of life' for all. The more knowledge that is shared, the more social action there is and the more integrated a community is, the higher its social capital and, in theory, the better the 'quality of life' for all. In order to benefit from museums' ability to create social capital, people do not have to visit the institution. Five external effects or 'non-user benefits' museums can produce by their presence in a community are:

- 1 *Option value*: People value the possibility of enjoying the objects exhibited in a museum sometime in the future.
- 2 *Existence value*: People benefit from knowing that a museum exists but do not actually visit it now or in the future.
- 3 *Bequest value*: People derive satisfaction from the fact that their descendents and other members of the community will in the future be able to enjoy a museum if they choose to.
- 4 *Prestige value*: People derive utility from knowing that a museum is cherished by persons living outside their community. They themselves need not actually like and visit the museum.

⁶² Creative City Network of Canada, 'Culture as an Economic Engine', *Making the Case for Culture*, Creative Network of Canada, Vancouver, 2005, p. 2, accessible at www.creativecity.ca/resources/making-the-case/

⁶³ C Scott, 'Measuring Social Value', in R Sandell (ed.), *Museums, Society, Inequality*, Routledge, London, 2002, p. 52

⁶⁴ M Cassar, 'Environment Special: Introduction', *Museum Practice*, 12, 1999, p. 61

5 *Education value*: People are aware that a museum contributes to their own or to other people's sense of culture and therefore value it.⁶⁵

Therefore the museum is beneficial for all members of a community, even if they do not engage with it. Also, through their generation of social capital, museums can be key drivers of urban regeneration and help deliver the economic benefits that come with it. Social capital has been shown to be directly proportional to levels of economic prosperity, health, happiness and levels of education in a community.⁶⁶

In terms of sustainability, economic factors are important. Of benefit to the museum is the potential to make financial savings through being a sustainable institution.⁶⁷ For instance, careful planning and use of resources could potentially lead to a reduction in costs. Conversely, if a museum is forced to close due to lack of funding, the collection, knowledge, skills and community service is also lost. Without money, the museum is unable to serve the needs of this generation, or the needs of future generations.⁶⁸

Museums are generally aware that the best solution to secure their economic future is usually to diversify their sources of income. 'Uncertainty about funding leads museums to think short-term, whereas sustainability requires a long-term approach.'⁶⁹ This statement by the Museums Association (UK) highlights one of the problems museums face when considering their future sustainability as an organisation. They suggest that to combat the uncertain nature of museum finances the answer is to 'do less, but do it better'.⁷⁰ They also propose that museums consider mergers, partnerships and the concept of the short-term museum. These ideas may also help avert the comparatively new crisis which museums face today which is the near-saturation of the cultural institution market, there are namely 'too many cultural institutions chasing too few visitors.'⁷¹ To avoid closure and to move

⁶⁵ This excerpt is from BS Frey and S Meier, 'Cultural Economics', in S Macdonald (ed.), *A Companion to Museum Studies*, Blackwell Publishing, Maiden, 2006, p. 403. However, similar ideas have been previously put forward by David Throsby his publications such as *Economics and Culture*, Cambridge, Cambridge University Press, 2001.

⁶⁶ E Crooke, *op. cit.* p. 66, when making this assertion Crooke was reviewing R Putnam's work *Bowling alone: The collapse and revival of American community*, Simon and Schuster, New York, 2000.

⁶⁷ M Cassar, *op. cit.* p. 60

⁶⁸ Museums Association, *Sustainability and Museums: Your chance to make a difference*, *op. cit.* p. 7.

⁶⁹ *ibid.*

⁷⁰ *ibid.*

⁷¹ JP Greene, 'Sustainability Issues and Museum Victoria', *Museum National*, 11(4), 2003, p. 13.

towards economic sustainability, J Patrick Greene recommends realistic visitor targets on which to base financial forecasts for continuing existence.⁷²

1.4.4. Museums and Planet Earth (The Environmental Pillar)

Like economic sustainability, in general, the basic ideals of being environmentally sustainable, for example using less energy and managing waste well, are not isolated to museums or to any industry or people in particular. However, there are environmental considerations and ways in which museums can contribute to 'being green' that are specific to their operations. 'Museums cannot claim to be serving the best interests of future generations if they have negative impacts on the environment that will make it harder for our descendents to live securely on the planet ...'⁷³ However, they must also find a balance between maintaining their internal environment and the natural environment to become wholly sustainable.⁷⁴

A key environmental factor to consider is air-conditioning as museums rely heavily on air-conditioned spaces for the display and preservation of their collection, and for the comfort of their staff and patrons. While maintaining the correct atmosphere is essential for protecting the collection, it is suggested that rather than using air-conditioning, museums begin to use building design, especially in new builds, to regulate the internal environment.⁷⁵ Another environmental matter that museums can consider is the way in which visitors arrive at the venue. It could be a role of the museum to encourage or to provide environmentally-friendly ways of arriving as a part of their sustainability plans such as shuttle buses, or information on public transport, or providing secure bicycle parking. One way of maintaining the museum's service to the visitor, but without the environmental transport costs, is to have a virtual museum available on-line, although this too has its energy-consumption pitfalls.

Through their relationship with the community, museums are well placed to teach visitors how to practice environmental sustainability at home, and also to convey why it is important to do so. Museums can (and do) model best practice by using energy efficient appliances, by purchasing 'green' energy, by installing energy

⁷² *ibid.*

⁷³ Museums Association, *Sustainability and Museums: Your chance to make a difference*, *op. cit.* p. 9.

⁷⁴ *ibid.*

⁷⁵ *ibid.*

generators such as solar panels and by harvesting rain water for appropriate re-use (for examples see further, Section 2.3.2). They can also demonstrate environmentally sound waste management programs and water use. Through their exhibitions and displays, museums can interpret the natural environment for visitors, and perhaps increase their appreciation of and desire to care for their environs. Exhibitions and public programs may also show people, step-by-step, how to care for their environment in a sustainable way.

At a more academic level, the field work, research and experiments carried out by these institutions adds to the understanding and knowledge of how to best care for the environment, and what to prioritise, and this will eventually filter through to help the community. Museums can also react to current news and events by hosting debates, symposia, or exhibitions using their own or invited experts. For example, issues such as climate change may trigger a public lecture on the topic, an exhibition and a debate featuring both sides of the argument (i.e. that human beings contribute to climate change, or that they do not). All these events help the public to understand, to form their own opinion on these issues and to respond in a practical, rational manner.

PART II: MEASUREMENT AND THE STATE OF SUSTAINABILITY IN MUSEUMS

Any institution which sets out to serve the public will inevitably have to measure its success. In terms of sustainability, any institution which sets out to become sustainable will eventually have to assess its progress.⁷⁶ Indicators are just one way of measuring performance. According to Museums Australia ‘the question of sustainability, how it can be incorporated into all areas of government and society, and how progress towards sustainability can be made and measured, is the subject of ongoing debate, particularly in regard to culture.’⁷⁷ As it stands, there has been much work on indicators for communities, environments and economies, but not necessarily focused on the measurement of progress towards sustainability.⁷⁸ Currently, there are no sets of indicators of sustainability that are widely available and specific to museums or other collecting institutions.

2.1. Australian National Guidelines and Standards

Guidelines and standards are useful starting points for measuring performance, whether it is success, growth or sustainability. Often the benchmarks or goals within these documents can evolve into indicators, or they provide an area on which to focus an indicator. As this report’s ultimate goal is to develop indicators for Australian museums, it is appropriate that the guidelines and standards outlined below are also Australian.

⁷⁶ K Hudson, *op. cit.* p. 44.

⁷⁷ Museums Australia, *Museums and Sustainability... loc. cit.*

⁷⁸ For example Tasmania Together 2020, *loc. cit.* has developed indicators for a community, in terms of economic measures, indicators such as Gross Domestic Product, Genuine Progress Indicator and Consumer Price Index exist, and indicators for environmental systems such as carbon footprint, and those developed by the OECD (Organisation for Economic Co-operation and Development, *OECD key environmental indicators 2004*, Organisation for Economic Co-operation and Development, Paris, 2004) are used to measure progress and occasionally sustainability.

In 1998 Museums Australia released a set of guidelines titled *Caring for Our Culture*. They were designed to primarily ‘help museums take stock of their current situation and set clear directions for the future’ but also to encourage small or local museums to access and use the same system as larger museums.⁷⁹ The document provides clear goals, an explanation as to why the goal should be achieved, questions to assess progress towards the achievement of the goal, examples and references. The goals encompass most aspects of a museum, from the collection and visitors to community diversity and programs. Although the guidelines do not contain indicators, the areas covered and the questions to assess progress towards a goal may provide a partial framework for a set of indicators. Similarly, the *National Standards for Australian Museums and Galleries*, released in 2008, does not contain indicators, but the principles, benchmarks and tips will serve as a solid grounding for the development of indicators.⁸⁰ Both of these documents are comprehensive and can be adapted to any size of institution with any amount of resources. Neither of them, however, openly advocates sustainability; instead they allow the user to direct how the standards and guidelines are applied to their institution.

For the museum that wishes to follow the principles of sustainability, Museums Australia has released a set of sustainability guidelines which could be used in conjunction with the *National Standards for Australian Museums and Galleries* and the *Caring for Our Culture* documents.⁸¹ The guidelines outline how museum practices in the areas of education and advocacy, decision-making, activities, policies, operations, and functions can contribute to community sustainability. The guidelines also contain practical applications for creating a sustainable museum in the areas of the economy, collection management, education, building, procurement, waste management, water management, energy management, motor vehicle management, pollution management and workforce education. Although they are not arranged under such headings in the document, these fields fall within the bounds of the four pillars (Table 1). It can be seen that there is still a heavy bias towards environmental issues when it comes to sustainability, and that some applications are relevant to more than one pillar.

⁷⁹ Museums Australia, *Caring for Our Culture...* loc. cit

⁸⁰ National Standards Taskforce, *National Standards for Australian Museums and Galleries Version 1.0*, National Standards Taskforce, Melbourne, 2008.

⁸¹ Museums Australia, *Museums and Sustainability...* loc. cit.

<u>ENVIRONMENT</u>	<u>SOCIETY</u>
<ul style="list-style-type: none"> • Waste management • Water management • Energy management • Motor vehicle management • Pollution management • Procurement • Building 	<ul style="list-style-type: none"> • Education • Workforce Education • Procurement
<u>CULTURE</u>	<u>ECONOMY</u>
<ul style="list-style-type: none"> • Collection management 	<ul style="list-style-type: none"> • Economic viability • Procurement

Table 1: Museums Australia’s practical applications for sustainability in museums categorised under the four pillars. It is evident from this table that the environment still has a strong bias in achieving sustainability and that some applications affect sustainability in more than one pillar. Source: E Adams.

The *Museums and Sustainability: Guidelines for policy and practice in museums and galleries* document also contains a list of fourteen general sustainability principles for museums. These principles provide a sense of what a museum must consider to become wholly sustainable and - in an abstract manner - provide ways in which to begin to attain these goals. There is a similar vision between Museums Australia and the Museums Association (UK), who have drafted eleven principles for sustainable museums due for completion in 2010.⁸² The drawback to any current national guidelines for sustainability (published in English) is the lack of included milestones, benchmarks or measurement facilities which would assist institutions assess their progress towards sustainability.

2.2. Models and Measurements

While policy documents define sustainability, institutions such as museums need to be accountable for their actions and decisions to ensure, amongst other things, continued funding and support from the government and the public. One way to be accountable is through measurement. There are many outcomes in a system and many ways to measure them. There are also many models and measurements that

⁸² Museums Association, *Principles for Sustainable Museums*, web page viewed 26/03/09, accessible at www.museumsassociation.org/17946

focus solely on the environment or the economy. The focus of this section will, therefore, be the exploration of metrics in museums and the cultural sector, sustainability reporting guidelines, current statistics and theories used by the Australian Bureau of Statistics (ABS) and some indicator-based reporting systems in place in Australia. By examining these models and measuring methods, some fundamentals for creation of a set of sustainability indicators for Australian museums can be discovered.

Most museums already have in place a system of performance indicators for scrutinizing their managerial decisions and for reporting their accountability. Some indicator sets may be as simple as the number of visitors to an exhibition and the amount of money they spent at the gift shop; others may be more complex and take into account the efficiency of the museum (e.g. were the returns in proportion to the expenditure?) or the impact of the museum on visitors. Performance indicators can also provide a way of comparing institutions' performance within a field of expertise, a locality or globally. However, these current metrics do not often deal with sustainability, cultural impact or sufficiently and objectively measure success.

Much of the measurement literature concerned with museums deals with the assessment of success. Maxwell Anderson's paper *Metrics of Success in Art Museums* is a prime example of the use of indicators to measure success in American art museums. Anderson debunks the existing appraisal of the three current leading factors of success in art museums (i.e. exhibitions, visitors and members) due to their lack of specificity and susceptibility to manipulation. Instead, he proposes 'new metrics of success that more accurately measure [a] museum's long-term health and relative standing.'⁸³ Although not dealing with sustainability of a museum, Anderson has created a set of three criteria and eleven 'features of an institution's activities' that the metrics are designed to measure. Some of the metrics, criteria and features, however, maybe adapted to measuring sustainability rather than success. Anderson's model relies on revealing the gaps 'between a museum's stated mission and its performance.'⁸⁴ If a museum's stated mission is 'to

⁸³ ML Anderson, *Metrics of Success in Art Museums*, Paper commissioned by the Getty Leadership Institute, 2004, p.9.

⁸⁴ *ibid.* p. 10

be sustainable', perhaps performance towards this goal can be assessed using an adaptation of Anderson's method.

However, Heath Fox deems the use of 'a list of statistical measures' as proposed by Anderson to be 'a narrow approach' and instead advocates the use of a balanced scorecard methodology for the assessment of art museums.⁸⁵ This method, in theory, comprehensively assesses the performance of an institution not just in a quantitative manner, but also by using judgements and opinions. A method such as this is likely to be best suited to sustainability in the long-term, but before qualitative approaches can be introduced, a set of indicators is required. For Fox, indicators still form the basis for the model, but they are chosen to align with the key aims of the business rather than to figure in a traditional 'triple bottom line' classification.⁸⁶

Stephen Weil has proposed a matrix for assessing the success (or failure) of a museum in terms of performance, although he does not suggest any specific metrics to accompany it. He argues that the public purpose of a museum must be at the centre of any attempts to measure performance. Based on four key dimensions of success in cultural institutions, purpose, resources, effectiveness and efficiency, the advantage of this model is its ability to be interpreted in several ways. Weil suggests its use as a diagnostic tool to aid in an institution's effort towards success.⁸⁷ Colin Mercer has also suggested the use of a matrix to measure cultural capital and capabilities in the cultural field, not only museums.⁸⁸ This matrix also features four key areas:

- cultural vitality
- cultural access
- lifestyle and identity
- ethics, governance and conduct.

Mercer accompanies each area with suggestions for what should be measured to analyse the cultural field. While Mercer chooses to call the key areas and their

⁸⁵ H Fox, *Beyond the Bottom Line: Evaluating Art Museums with the Balanced Scorecard*, Dissertation reprinted by the Getty Leadership Institute, 2006, p. 2.

⁸⁶ *ibid.*

⁸⁷ SE Weil, 'A Success/Failure Matrix for Museums', *Museum News*, January/February, 2005, p.5.

⁸⁸ C Mercer, 'Cultural capital and capabilities: Defining and measuring the cultural field', *Paper prepared for the Third Global Forum on Human Development: Cultural Identity, Democracy and global equality*, Paris, 2005, p. 4.

associated measures 'indicators', at the stage of development in which they presented, they are not yet to a point where quantitative data can be gathered. Both Weil and Mercer's matrix models, although claiming to be measures of success or culture, as they are presented, are more suited to being policy-forming tools rather than generators of reportable data. Further development of the models may change this.

In terms of assessing the cultural impact or the meaning of museums, Douglas Worts has discussed a critical assessment framework developed in Canada by the Working Group on Museums and Sustainable Communities.⁸⁹ This group aims to reposition museums and their function in society to help create sustainable communities. Worts notes that in most metrics, such as those suggested by Anderson, there are no measures of the cultural impact of a museum or its effect on the cultural wellbeing of a community.⁹⁰ The critical assessment framework was designed in part to correct this; however, it is deliberately not a statistical indicator model. The framework asks museums to rate their performance or intentions subjectively (on a scale of one to five) for a range of outputs that relate to individual members of the community, to the community as a whole, or to the employees of the museum and the museum itself.⁹¹ The proposed framework serves as a good aid for developing an institution's consciousness of how an activity of the museum will affect the community, and for encouraging or guiding museum workers to improve the cultural impact of their projects and initiatives, and therefore to move in a sustainable direction. However, given its subjective nature, it is inadequate as a set of indicators for measuring cultural impact over time, and by asking individual museums to create their own indicators if so desired, it encourages data collection that is not comparable across institutions.

The United Nations has released several documents containing indicators of sustainable development for countries, the most recent being a set of fifty core

⁸⁹ D Worts, 'Measuring Museum Meaning: A Critical Assessment Framework', *Journal of Museum Education*, 31(1), Spring 2006, pp 41-48; Working Group on Museums and Sustainable Communities, *op. cit.* p. 18.

⁹⁰ D Worts, *op.cit.* p.41.

⁹¹ Working Group on Museums and Sustainable Communities, *loc. cit.*

indicators taken from a fully developed set of ninety-six.⁹² The indicators developed by the UN are based on *Agenda 21*. They are the result of a collaborative effort of many experts and governments and are extensively tested and applied throughout many countries. The broad social application of this set of indicators means it deals with many themes such as poverty, biodiversity and economy. It is arranged in a thematic framework that reflects the practice of many countries, and indeed of many industries. While there are few indicators that can be considered as cultural in this set, the indicators for economy and the environment may be tailored to museum operations.

There are Australian based statistical indicator reports that use a theme/sub-theme framework similar to the UN for their indicators. *Tasmania Together 2020* is an example of a goal-based reporting model that measures transformation and change over time. Based on wide community consultation, *Tasmania Together 2020* aims to deliver to the community their desires for a better world through better decision-making based on the outcomes of the *Tasmania Together* reports. Their progress towards these goals is reported on a five-yearly basis using numerous indicators or 'benchmarks'. Each indicator is graphed over time and the report then summarises progress towards, achievement of or non-achievement of the goals. *Tasmania Together* is constantly reviewing its goals and benchmarks. Currently, amongst other goals, they have goals related to sustainability of the natural environment and goals related to providing a society where people respect each other and value diversity, all of which have the potential to be adapted to serve as sustainability indicators for museums.⁹³

Similarly, the *Australia State of the Environment* (SOE) reports are also based on thematic indicators that are measurable across time. In contrast to *Tasmania Together*, the reporting model used by the SOE reports is not based on progressing towards a goal, but rather on monitoring the environment in order to maintain stasis. The Australian SOE committees have recognised the importance of cultural heritage in maintaining Australia's environment and have developed an extensive

⁹² United Nations, *Indicators of Sustainable Development: Guidelines and Methodologies 3rd Edition*, United Nations, New York, 2007, p. 9.

⁹³ Tasmania Together Progress Board 2006, *Tasmania Together 2020*, Tasmania Together Progress Board, Hobart, 2006, accessible at www.tasmaniattogether.tas.gov.au

set of indicators for measuring natural and cultural heritage.⁹⁴ In 2001 a SOE theme report on natural and cultural heritage identified a lack of adequate tools for the assessment of cultural heritage and an absence of tested models of sustainability applicable to heritage places.⁹⁵ Since then, the legislation regarding natural and cultural heritage identification and management has been altered, and significance assessment guidelines have been developed. However, there is still a lack of data, especially concerning the condition of heritage, and there is still no tested model for sustainability, aside from the Sustainability Guidelines produced by Museums Australia.⁹⁶

The most recent SOE report (2006) identifies inadequate resources as a major problem for local-level institutions in regard to implementing essential activities such as the identification and protection of their heritage, and the collection of data about it. The report also notes that the protection of natural and cultural heritage is one of six key issues fundamental to the future sustainability of Australia, as is data and information management.⁹⁷ A continued effort to integrate social, economic and environmental policy was also identified as essential to Australia's sustainability.⁹⁸ In a technical paper published shortly after the release of the inaugural Australia SOE in 1996, the links between place, object and culture were discussed and a suggestion of nine possible indicators for future SOE reports was made.⁹⁹ In 1998, Pearson *et al* produced a comprehensive set of peer-reviewed

⁹⁴ M Pearson, D Johnston, J Lennon, I McBryde, D Marshall, D Nash and B Wellington, *Environmental Indicators for National State of the Environment reporting – Natural and Cultural Heritage*, Australia: State of the Environment (Environmental Indicator Reports), Department of the Environment, Canberra, 1998.

⁹⁵ J Lennon *et al*, *Natural and Cultural Heritage*, Australia State of the Environment Report 2001 Theme Report, CSIRO Publishing on behalf of the Department of the Environment and Heritage, Canberra, 2001, p. 142.

⁹⁶ Australian State of the Environment Committee 2006, *Australia: State of the Environment 2006*, Independent report to the Australian Government Minister for the Environment and Heritage, Department of the Environment and Heritage, Canberra, pp.77, 83 and 85; Heritage Collections Council, *Significance: A Guide to Assessing the Significance of Cultural Heritage Objects and Collections*, Commonwealth Department of Communications, Information Technology and the Arts, Canberra, 2001.

⁹⁷ Australian State of the Environment Committee 2006, *ibid*.

⁹⁸ *ibid*.

⁹⁹ M Anderson, 'Material Culture and the Cultural Environment: Objects and Places', *Australia: State of the Environment Technical Paper Series (Natural and Cultural Heritage)*, Department of the Environment, Sport and Territories, Canberra, 1997.

indicators for natural and cultural heritage, many of which can be adapted for use in museum sustainability measures.¹⁰⁰

The ABS publishes a set of statistics that can be used to assess arts and culture in Australia.¹⁰¹ By providing data on participation and attendance, expenditure, employment and voluntary work, cultural trade, government and business funding, tourism, and output of cultural industries, the ABS reports can give an indication of the impact of each aspect of cultural institutions on Australian culture. There is a section specific to Australian museums that details their use by the public, and their collective operations such as their income sources, number of objects held and number of museums in existence. Again, while these indicators were not developed with sustainability in mind, most can be adapted or interpreted in ways that will help to show progress towards sustainability.

The difficulty of producing a comprehensive report such as the statistical overview of arts and culture in Australia is the need to gather data from external sources. The ABS indicates that, while they have control over the data they collect and analyse for themselves, data from external sources does not always conform to their methodologies.¹⁰² This phenomenon is particularly evident in arts and cultural heritage organisations, and had prompted the ABS to call for consistency in the collecting and reporting of information across this sector. In publishing *Towards Comparable Statistics for Cultural Heritage Organisations*, the ABS has provided some key measures and methods for gathering data that can guide the development of statistical indicators for sustainability.¹⁰³ As statistical or measurable sustainability reporting is not yet embraced by all collecting institutions (discussed in Section 2.3.1), the early encouragement of consistency in its measurement may help to avoid the problem seen with other data.

Specific sets of guidelines for sustainability reporting are another way to encourage unified collecting and reporting of data. Already in existence are general guidelines

¹⁰⁰ M Pearson *et al*, *Environmental Indicators for National State of the Environment reporting – Natural and Cultural Heritage*, Australia: State of the Environment (Environmental Indicator Reports), Department of the Environment, Canberra, 1998.

¹⁰¹ Australian Bureau of Statistics, *Arts and Culture in Australia: A Statistical Overview*, ABS, Canberra, 2008.

¹⁰² Australian Bureau of Statistics, *Information Paper: Towards Comparable Statistics for Cultural Heritage Organisations*, ABS, Canberra, 2008, p. ix.

¹⁰³ *ibid.*

for reporting on sustainability for organisations.¹⁰⁴ The Global Reporting Initiative's sustainability reporting guidelines contain advice on what to include in a sustainability report, and how to contextualise it, as well as a guided report containing sample performance indicators under the banners of economy, environment and society. These guidelines have been successfully used by Australian companies such as VicSuper and Transurban to produce their sustainability reports.¹⁰⁵ Documents such as this could model and enhance any current and future sustainability reports for museums.

2.3. Current State of Sustainability in Museums

Part of being a sustainable museum is to provide value to society in a way that does not degrade the environment. Given that 'in the world of the future, every institution, including a museum, must be judged on its distinctive ability to provide value to society ... ', museums are in a unique position to add value to society through their collections and facilities as well as by helping people to make sustainable choices based on observing and learning the museums' good practices.¹⁰⁶ One way to judge the contribution of a museum to society or to assess their sustainability is through measurement and reporting.

2.3.1. State of Sustainability Reporting

A selection of the annual reports for the past year (2007/08) from some major museums of Australia reveals that, while many report on sustainability in terms of their activities and achievements, few report on their progress towards sustainability in a measurable way. Often the focus of sustainability is the environment. For example, Museum Victoria reported and substantiated a reduction of 'consumption and greenhouse gas emissions' through many environmentally friendly initiatives but did not consider in the main body of the report their achievements in economic, cultural or social sustainability.¹⁰⁷ Similarly, the National Museum of Australia detailed its compliance with the *Environment*

¹⁰⁴ Global Reporting Initiative, *Sustainability Reporting Guidelines Version 3.0*, Global Reporting Initiative, 2006.

¹⁰⁵ VicSuper, *The VicSuper Sustainability Report 2008: A Shared Future*, VicSuper, Melbourne, 2008, accessible at www.sustainabilityreport.vicsuper.com.au; Transurban, *Sustainability Report 2008*, Transurban, December 2008, accessible at www.transurban.com

¹⁰⁶ E Koster, 'The Relevant Museum: A Reflection on Sustainability', *Museum News*, May/June, 2006, p. 2, accessible at www.aam-us.org/pubs/mn

¹⁰⁷ Museums Board of Victoria, *07/08 Annual Report*, Museums Board of Victoria, Melbourne, 2008, p.19.

Protection and Biodiversity Conservation Act 1999 by pursuing ecologically sustainable development but does not report on sustainability as a whole.¹⁰⁸ In South Australia, institutions reported against the *South Australian Strategic Plan* which includes an objective to achieve sustainability.¹⁰⁹ However, most of the reports consist of activities such as installation of solar panels or communicating to the public about sustainable practices, rather than indicators of progress towards a target.

The Queensland Museum identified resources for maintaining the business and the environment as vital to its ongoing sustainability and summarises several exhibitions and community programs based on sustainability that used the collections, but sustainability measures did not feature in its annual performance indicators report.¹¹⁰ The Australian Museum acknowledged ‘a process to address sustainability within [their] operations’ with the results to begin being seen in the next year.¹¹¹ Currently, the Western Australian Museum is the only museum that uses sustainability as a key effectiveness indicator in their annual report, although its measurement in 2007/08 focussed solely on the cost of sustaining their collection. They are also the only museum to explicitly detail a holistic sustainability action plan for the coming years, although the results of its implementation are yet to be seen.¹¹² Other museums such as the Australian Museum have action plans but they are environmentally focused.¹¹³

Internationally, this scenario is repeated. In the annual reports of some major science and history museums of the United Kingdom (British Museum, National Museum of Science & Industry and Natural History Museum) and America (Smithsonian Institution, The Field Museum and American Museum of Natural History), there is, again, little mention of sustainability. The British Museum states

¹⁰⁸ National Museum of Australia, *07-08 Annual Report*, National Museum of Australia, Canberra, 2008, p. 72.

¹⁰⁹ SA Strategic Plan Update Team, *South Australia's Strategic Plan 2007*, Government of South Australia, Adelaide, January 2007.

¹¹⁰ Queensland Museum, *Annual Report 2007-08*, Queensland Museum, Brisbane, 2008, p. 60.

¹¹¹ Australian Museum, *Annual Report 2007-2008*, Australian Museum, Sydney, 2008, p. 52.

¹¹² Western Australian Museum, *Annual Report 2008*, Western Australian Museum, Welshpool, 2008, p. 75; Western Australian Museum, ‘Inter-connections: The Western Australian Museum’s Sustainability Action Plan 2008-2011’, unpublished, courtesy of Jason Fair, received 19/5/09.

¹¹³ Australian Museum *Environmental Sustainability at the Australian Museum*, web resource <http://australianmuseum.net.au/Environmental-Sustainability-at-the-Australian-Museum/>, viewed 02/06/09.

that ‘the Museum is committed to sustainable development throughout all aspects of its operations’ and that it has a sustainable development policy, but there is no further mention or measure of sustainability in the report.¹¹⁴ There is no reference to sustainability in the Smithsonian Institution’s report, the Natural History Museum’s report or the Field Museum’s report, while the National Museum of Science & Industry and the American Museum of Natural History only mention some sustainability-focused exhibitions and discussions.¹¹⁵ If a set of standard indicators were available to all of these institutions, then perhaps they would be encouraged not only to embrace holistic sustainability, but also to report on it.

Currently, it appears that while museums undertake activities to aid their sustainability, there are few measures that are being reported. However, many activities on which museums are gathering data and reporting could be re-interpreted as measures of sustainability. In an open question to CAN-talk subscribers about how many museums measure sustainability, there was one response from Museums Australia (Victoria) advising that they follow the Museum Accreditation Program standards and the National Standards for Museums and Galleries which promote sustainability, but that it is not explicit in their program.¹¹⁶ Museums Australia (Victoria) is also in consultation with RMIT’s Centre for Sustainable Design in order to develop environmental sustainability guidelines for Victorian museums.¹¹⁷ In light of the lack of museums’ sustainability measurement and subsequent reporting of data, what is openly being done in museums in regard to sustainability?

2.3.2. State of Action

To use an example from South Australia, government-run museums and galleries, and indeed all government-run institutions, are required to follow the *South*

¹¹⁴ The British Museum, *Report and accounts for the year ended 31 March 2008*, British Museum, London, 2008, p. 7.

¹¹⁵ The Field Museum, *2007 Annual report to the board of trustees*, The Field Museum, Chicago, 2008; Natural History Museum, *Annual report and accounts 2007-2008*, Natural History Museum, London, 2009; American Museum of Natural History, *2007/2008 Annual Report*, American Museum of Natural History, New York, 2008; Smithsonian Institution, *Annual Report 2007: Explore Globally: Engage Locally*, Smithsonian Institution, Washington, 2008; National Museum of Science & Industry, *Annual Reports and Accounts 2006-2007*, The Stationery Office, Norwich, 2007.

¹¹⁶ M Cardamone, email communication, 18 May 2009.

¹¹⁷ M Cardamone, email communication, 24 December 2009.

Australian Strategic Plan.¹¹⁸ The current plan contains six objectives, one of which is to attain sustainability in the areas of biodiversity, climate change, ecological footprint, water, energy and Aboriginal lands. To meet this objective, the Art Gallery of South Australia 'exceeded targets for energy savings by ongoing use of solar panels and air-conditioning upgrades'.¹¹⁹ The South Australian Museum meets the same objective 'through the Museum's endeavours in energy and water conservation and the promotion of sustainability initiatives through its public programs.'¹²⁰ For example, rain water is harvested for use in fountains and gardens. In meeting the objectives of the plan, institutions also report on their achievements in building communities and cultural engagement. While these activities are not highlighted as sustainable practices, they form an integral part of becoming a sustainable institution.

In response to the State Sustainability Strategy released by the West Australian Premier in 2003, the Western Australian Museum has been able to develop a sustainability action plan.¹²¹ This plan acknowledges the Museum's unique position to recognise and act upon the relationships between social, environmental and economical impacts. It also emphasises the role of the Museum to 'inspire discovery across diverse audiences, offering a forum to engage in debate and to question issues that are important to, and that impact upon, society and the community.'¹²² To assess progress towards improved sustainability, the plan includes several outcomes with accompanying commitments.¹²³ Each commitment has a 'performance indicator' associated with it (although in the strictest definition of the term, many of them are in fact measures (see Section 3.1.1 for definitions and discussion)). Regardless, the Museum has a plan that takes into account its role in cultural as well as environmental, economic and social sustainability and provides a way to measure progress towards sustainability.

¹¹⁸ SA Strategic Plan Update Team, *loc. cit.*

¹¹⁹ The Art Gallery of South Australia, *Annual Report of the Art Gallery of South Australia for the year 1 July 2007 – 30 June 2008*, The Art Gallery of South Australia, Adelaide, 2008, p.7.

¹²⁰ South Australian Museum Board, *Annual Report of the South Australian Museum Board 2007-2008*, South Australian Museum, Adelaide, 2008, p.5.

¹²¹ Government of Western Australia, *Hope for the future: The Western Australian State Sustainability Strategy*, Department of the Premier and Cabinet, Perth, 2003.

¹²² Western Australian Museum, 'Inter-connections...', *op. cit.* p.5.

¹²³ *ibid.* p. 13-22

Overseas, the Museums Association (UK) has recently finished consultations on a discussion paper entitled *Sustainability and Museums: Your Chance to Make a Difference*.¹²⁴ The paper took a holistic view of sustainability (using economic, environment and social pillars) and included draft sustainability principles for museums and twenty-eight discussion questions. Meetings including workshops and round-table discussions were held in several locations over a year; written submissions were accepted to gather a wide variety of answers and thoughts on the information presented. The consultant found that, despite the enthusiasm of participants, the number of formal responses was around one fifth of the expected number, leading them to conclude that ‘people in museums are not in fact thinking and talking much about sustainability and are not seeing it as a core part of their work and planning.’¹²⁵

In other areas of the consultation, the Museums Association found that there are mixed-feelings towards the suggestion that institutions rationalise their collections and take a ‘quality over quantity’ approach.¹²⁶ Yet, many respondents expressed the view that growth is unsustainable.¹²⁷ There were also many ideas as to how museums could immediately improve their sustainability practice across all three areas, but no indication that these were being taken up. Ultimately, the consultation revealed that institutions want sector bodies ‘to continue work on sustainability, particularly in terms of providing practical help and guidance.’¹²⁸ The Museums Association (UK) is now working on reports dealing with the environmental impact of collections standards, the economic impact of cultural services and the political sustainability of a cultural offer.¹²⁹

After the first two ‘sustainability in museums’ consultation fora, the deputy director of the Museums Association (UK) stated that museums have ‘the lack of a long-term strategy for dealing with sustainability issues’ and that it was hard to change the direction of a museum, especially when their activities are constrained by buildings

¹²⁴ Museums Association, *Sustainability and Museums: Report on consultations*, *loc. cit.*

¹²⁵ *ibid.* p.5.

¹²⁶ *ibid.* p.6.

¹²⁷ *ibid.*

¹²⁸ *ibid.* p. 8.

¹²⁹ N Poole, email communication, 15 May 2009.

or funding.¹³⁰ While the consultation collected a wealth of information and opinion on sustainability in museums, it does not propose developing a system of measurement. The Museums Association's work seems to suggest that museums are enthusiastic about the theory of sustainability, but are at a loss as to how to apply it to their institution. The development of indicators may help institutions participate in sustainability practices by either showing them that their current practices are already partly sustainable or by providing new directions for thought and action.

¹³⁰ Museums Association, *Museums lack long-term strategy for sustainability*, media release, Museums Association, 25 March 2009, accessible at www.museumsassociation.org/18117&IXPOS=manews1.1, viewed 26/03/09.

PART III: THE FUTURE OF MEASURING SUSTAINABILITY IN MUSEUMS

The purpose for developing a set of sustainability indicators for museums is to provide a tool that may be used to measure their progress towards becoming a sustainable institution. The data gathered may also be used to advocate the ability of collections and collecting institutions to contribute to sustainable development in the wider community. Data is also a powerful way for institutions to lobby for funding to help them achieve sustainability goals. Ultimately, a set of indicators may lead to a pool of data being gathered that can help governing bodies identify any short comings with the keeping of cultural heritage in perpetuity. Also, indicators are way of keeping an institution balanced, and making sure the outcomes of decisions that improve one area do not make another unsustainable.

3.1. Creating a Model for Museums

As has become evident, many museums find the practical application of holistic sustainability principles to their operations challenging and do not make mention of them in detail in their annual reports. Also, in terms of measuring sustainability, there are no indicators that have been specifically designed for museums and are widely available. As such there is no general sustainability measurement model for museums. However, there are indicator-based models for measuring performance - both in museums and in other sectors of industry and society - which may be adapted.

3.1.1. Brief Discussion of Indicators in General

Before embarking on the development of indicators for Australian museums, it may be useful to briefly summarise some indicator history and theory. Relatively early in the quest for sustainability, *Agenda 21* recognised the need for the creation of sustainable development indicators, and the need for improvement of data

collection, analysis and use at national and international levels.¹³¹ Since then, indicators have been researched and developed by numerous people in many countries to become major means of assessing sustainability. However, there is debate as to whether indicators are effective measures of sustainability.¹³²

It is argued that the holistic nature of sustainability is contradicted when a reductionist method of measurement such as indicators are applied to it.¹³³ In other words, to disassemble a system in order to quantify it destroys the inter-related nature of the principles being measured. Also, there is the fear that the simplification of the system into parts comprehensible to those measuring it will limit the capacity to draw meaningful conclusions.¹³⁴ The alternative viewpoint is that indicators are useful tools not only for measuring sustainability but also for planning, learning, communication and collaboration¹³⁵. Given that, unlike natural systems, sustainability is of human construction, indicators can be developed to gauge and direct the achievement of particular goals.¹³⁶

Other criticisms of indicators include their potential to be misused in a way that falsely supports a particular idea or policy if their development and concepts are not transparent. Also, by the exclusion of areas or ideas which cannot be quantified, indicator sets may lead to inappropriate conclusions and misinformed decisions.¹³⁷ Following this, there is also the caution that a system of indicators may tempt users to 'work toward good indicator results at the exclusion of pursuing those less tangible ... goals that [are] not so easily susceptible to measurement or quantification.'¹³⁸ Nevertheless, indicators are an effective means of gaining a succinct understanding of a system and when applied properly, can help steer a system towards its goal.

¹³¹ United Nations, *Agenda 21*, *op. cit.* p. 347.

¹³² S Bell and S Morse, *op. cit.* p.41; F Fahy and M Ó Cinnéide, *op. cit.*, p. 370.

¹³³ S Bell and S Morse, *op. cit.* p. 42; A Gasparatos, M El-Haram and M Horner, 'A critical review of reductionist approaches for assessing the progress towards sustainability', *Environmental Impact Assessment Review*, 28, 2008, p. 286.

¹³⁴ S Bell and S Morse, *loc. cit.* quoting LB Slobodkin, *The connection between single species and ecosystems*, 1994.

¹³⁵ F Fahy and M Ó Cinnéide, *loc. cit.*

¹³⁶ S Bell and S Morse, *op. cit.* p. 43.

¹³⁷ A Gasparatos, M El-Haram and M Horner, *op. cit.* p. 302.

¹³⁸ SE Weil, 'Performance indicators for museums: Progress review from Wintergreen', *Journal of Arts Management, Law and Society*, 23(4), 1994, p. 347.

There are many ideas as to what makes a good indicator, such as those cited in Table 2. Most authors agree that a good indicator is simple and easily understood.¹³⁹ It is well defined and sensitive to change in a timely manner, and the data that supports it is of good quality and is gatherable in appropriate time increments.¹⁴⁰ In terms of practical applications, indicators need to be cost-effective, user-friendly and relevant to the policies or management needs of the environment they are to assess.¹⁴¹ Lastly, indicators need the flexibility to be able to undergo reappraisal and revision to maintain the set.

Attribute	No. of citations
Grounded in theory	9
Relevant (serve a practical or valued purpose)	6
Grounded in and/or linked to policy practice	5
Comparable across regions	5
Comparable across time periods	5
Measurable (able to be measured, and data available)	4
Easily understood	4
Unambiguous/clear	4
Able to be disaggregated by population subgroups	4
Consistent with purpose	4
Timely (up-to-date)	3
Measurable over time	3
Universal	2
Able to be benchmarked	2
Contextualised	2
Revisable	2
Methodologically defensible ('valid')	2
Reliable	1
Sensitive to cultural diversity	1
Realistic	1
Capture the essence of an issue	1
Designed through consultation	1
Trusted	1

Table 2: Summary of attributes of a good indicator developed by the International Federation of Arts Councils and Culture Agencies based on a literature review completed in 2005. Source: International Federation of Arts Councils and Culture

¹³⁹ Working Group on Museums and Sustainable Communities, *op. cit.*, p. 12; LD Chakrabarti, *op. cit.* p.20; JRE Harger and FM Myer, 'Definition of indicators for environmentally sustainable development', *Chemosphere*, 33(9), 1996, p. 1753.

¹⁴⁰ Australian Bureau of Statistics, *Measures of Australia's Progress: Reissue*, ABS, Canberra, 2006, p. 195; JRE Harger and FM Myer, *ibid.*

¹⁴¹ M Pearson, D Johnston, J Lennon, I McBryde, D Marshall, D Nash and B Wellington, *op. cit.*, p.9; United Nations, *Indicators of Sustainable Development...*, *op. cit.*, p. 29; J Chesson, *Sustainability Indicators: Measuring our Progress*, Australian Government Bureau of Rural Sciences, Department of Agriculture, Fisheries and Forestry, 2006, p. 1.

Agencies (IFACCA), *Statistical Indicators for Arts Policy*, D'Art report number 18, IFACCA, Sydney, 2005, p. 10.

Indicators can often be confused with measures and the terms are frequently used interchangeably, yet strictly they are two different assessment tools. An indicator has a reference point against which it is judged, and is a tool that reveals trends and evaluates progress over time. The data can be manipulated to reflect a ratio, mean or other statistical analysis of the absolute data, or the absolute data may be compared over time. Conversely, a measure uses absolute data to reflect more immediate performance and does not require any benchmark or reference point to be compared against. In many systems, measures are the subset of indicators used to gather raw data for manipulation. However, measures can also be interpreted as tools for directing planning and purpose and to evaluate achievement in regard to an objective, almost in the manner of a 'tick-box'. For example, measures can be phrased as yes/no questions such as 'do your records include a photograph of each item in the collection?' which do not lend themselves to being measured over time but are still useful tools.¹⁴²

3.1.2. Towards a Model for Australian Museums: Methodology

As there are several successful theme/sub-theme indicator-based systems for measuring progress and achievement already in place in Australia and internationally, and as four 'themes' for sustainability in museums have been identified (society, culture, economy and environment), the pilot model for museums prepared in conjunction with this research was based on the theme/sub-theme system. Some principles of sustainability were created or borrowed for each theme and then indicators for each principle were added. The majority of indicators were drawn from existing publications; these were supplemented with some new indicators based on concepts from documents such as the Museums Australia *Museums and Sustainability: Guidelines for Policy and Practice in Museums and Galleries*, *Caring for Our Culture*, *National Standards for Australian Museums and Galleries*, and *Significance*.¹⁴³ Then some indicators were accompanied by brief

¹⁴² Museums Australia, *Caring for our culture... op. cit.* p.8.

¹⁴³ *ibid*; Museums Australia, *Museums and Sustainability... loc. cit.*; Museums Australia, *National Standards... loc. cit.*; Heritage Collections Council, *Significance, loc. cit.*

interpretative statements. The wording of each indicator attempted to align with the current syntax used by data collection agencies and museum bodies. Some indicators from annual reports were included with the intention that if the data is already being collected but can be re-interpreted it will be beneficial to the institutions. The full pilot indicator model, including references, can be found in Appendix 2. An earlier version of the pilot model was sent to the directors, CEOs or managers of some major collecting institutions in Adelaide, the ABS Culture, Recreation and Migrant Statistics Unit in Adelaide, and Artlab Australia in Adelaide (see Appendix 3 for full list), to form the basis of a short consultation held with each of them. The consultations took the form of a conversation with the author.

3.2. Report on Consultations

The consultations on sustainability indicators with senior personnel from museums and other relevant organisations occurred between 29 May and 10 June, 2009. During the consultation period, it became apparent that the detail in which the initial model was attempting to measure sustainability was too fine. As each institution had different sustainability needs, many indicators were not applicable across the board and problems in gathering comparable data were seen. For example, there is less emphasis on exhibitions about sustainability at the Art Gallery of South Australia than at the South Australian Museum, due to the nature of the institutions. There was a lack of definition and purpose identified in many of the proposed indicators, and for some there was no understanding of what or why some things were being measured.

Many indicators were deemed to be meaningless, or measuring something that was out of the institutions' hands to control or affect. For other indicators, while the theory was adequate and provided ideas of how to achieve sustainability, the practical gathering of data to measure any progress towards these goals would be problematic. For example, the reduction of green house gas emissions is a good theory but will be difficult to measure for an institution. In those indicators that required a survey of public opinion, the general feeling was that data would be too subjective and the cost would outweigh the benefit of such analysis. Most of the respondents commented on the cost of implementing a measuring system like this and their lack of staff and funding to appropriately manage it.

However, most of the consultations revealed that there was an interest in having an appropriate and effective measuring system for sustainability available for collecting institutions (not necessarily the proposed one), especially if it enabled comparison to other institutions. Also, the need for indicators to align with current government policy was highlighted. For example, part of being sustainable is to support the local economy; however, the government tender process prevents the selection of service providers with local bias. Also, for sustainability purposes it is important to have a succession plan, but as there is no enforceable retirement age and, in general, a low staff turnover in cultural institutions, it is difficult to implement effectively and legally. A need to identify outcomes of indicators with state sustainability plans was also mentioned, as was the need to receive financial aid to achieve sustainability goals being imposed by 'external' bodies such as the government.

These consultations have led to the belief that the institutions are interested in sustainability, but the way they think about their role in being a part of a sustainable community, in some instances, could be refined. It is also apparent that the most important sustainability issue is different for each institution and it is often directly related to their operations. Also concerns were expressed about using recycled products for an industry that is trying to conserve items for a long period of time. Currently, recycled materials do not meet archival standards. Many of the people consulted expressed a desire for 'benchmarks' to make what they are achieving, or should be trying to achieve, more obvious. A summary of the consultation data can be found in Appendix 3.

3.3. Refining the Model for Measuring Sustainability in Museums

As a result of the consultations with relevant institutions in Adelaide, the pilot model has been simplified. The refined model remains a theme/sub theme system but it has been reduced to a set of suggested core indicators that, in theory, will be applicable to all museums and will provide a general overview of their progress towards sustainability. In the future, a pool of indicators should be created with

some being drawn from the fuller list provided in Appendix 2, to complement the core indicators and can then be selected to tailor to an institution or a situation.

At this early stage of development, the indicators in the refined model may be used by institutions to determine their own sustainability and to compare trends with like institutions. However, before these indicators are applied to real-life situations, indicator protocols should be developed (see example in Appendix 4). It is suggested that data be collected on a 12 monthly cycle and summarised or reported on every three years. In the instances where absolute data is being used, it is expected that the data will be compared to the data gathered in previous consecutive years to develop a trend. Once sufficient data has been obtained, it may be expressed as a percentage change to make comparison between institutions easier.

3.3.1. The Refined Pilot Model

Pillar: Environment

Sustainability Goal: To use resources in the most efficient way possible.

Suggested Core Indicators:

- Total energy from non-renewable sources used over 12 months
- Total water used over 12 months
- Ratio of waste recycled to waste sent to land fill in 12 months

Pillar: Culture

Sustainability Goal: To hold the collection in perpetuity and maintain its quality.

Suggested Core Indicators:

- At last assessment, the percentage of collection that rates '1' on its condition report, '2', '3' and so on (where '1' is top condition)
- Rate of growth of the collection in 12 months
- Proportion of collection surveyed for conservation in the last 12 months

Pillar: Society

Sustainability Goal: To engage the community.

Suggested Core Indicators:

- Total number of people to access the collection on-site in 12 months
- Total number of visits to the collection on-line in 12 months
- Total number of volunteers registered at the institution in 12 months

Pillar: Economy

Sustainability Goal: To have a balanced and diverse budget

Suggested Core Indicators:

- Ratio of Government funding to 'other sources' of income
- Number volunteer hours worked in 12 months
- Ratio of 12 month growth of collection to 12 month growth of income

It is important to remember that an indicator is just that, it will never capture the complexity of a system.¹⁴⁴ It is up to the people using the indicators to interpret the data. For example, if the indicator set is showing an increased number of visitors but the condition of the collection is declining, reasons for this will need to be investigated. Similarly, if visitor numbers begin to consistently fall when everything else seems to be in balance, the user will need to find out why. In terms of using indicators for sustainability, the user will first need to understand what is sustainable for their institution and apply some common sense to the data. For example, it may be beneficial for the collection not to have the highest number of visitors possible but this would not fulfil the social goals of a museum. Also, while it is environmentally sound to install solar panels and to use recycled materials where appropriate, this may not be economically viable or accord with conservation principles. The system needs to reach an equilibrium that suits the institution so that a sustainable balance can be found.

¹⁴⁴ D Pencheon, *The good indicators guide: Understanding how to use and choose indicators*, NHS Institute for Innovation and Improvement, Coventry, 2008, p. 8.

PART IV: RECOMMENDATIONS

This research has raised a number of issues that would merit further research and advocacy. In addition to encouraging museums and collecting institutions to adopt the model, the author recommends:

- That a survey be undertaken to ascertain, among other things, what the institutions deem important for their sustainability, what they consider important to measure and what sustainability-related activities they currently employ. This survey, in conjunction with a more thorough review of existing government policy and legislation, may be useful revising the current indicators, and it may be used as a tool to achieve consensus on sustainability issues between institutions.
- That a national sustainability policy be formed by Australian Government to encourage holistic sustainability in all practices. This would aid the development of a national action plan for sustainability in museums. If a national action plan can be developed, the gathering of comparable data would be made easier as, currently, most museums are required to follow their state laws in regards to sustainability.
- That a set of benchmarks or targets be established for museums to give the measurement system and the institutions a reference point, and to guide institutions on how to make their current practices sustainable.
- That other systems of indicators and of measurement are more fully considered before this one is further developed.
- That a sub-pool of more directed indicators and their associated protocols is created and a much larger consultation process takes place, involving a larger variety of collecting institutions from regional, state and national levels, as well as some private collections.

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- That a centralised point for information and data analysis is established.
 - That incentives are put into place such as funding to upgrade inefficient air-conditioning systems, and an accreditation scheme to encourage participation in a measurement program.
 - That initially funds are provided for institutions to undertake surveys and to train staff on data collection.
 - That further research is carried out on ways to find equilibrium in the museum system when analysed under the four pillars, and in creating guidelines based on the data collected for practical ways to keep all the processes in balance.

The author intends to advocate the recommendations of this report to the gallery and museum domains via their professional publications, and with the assistance of the Collections Council of Australia, to the collections sector as a whole. Measuring sustainability needs to be thought of as an essential practice in museums. Museums have successfully existed for many decades and it is acknowledged that people who seek to establish and sustain civil society aspire to establish museums.¹⁴⁵ To continue their success and civility into the future, museums must ethically, and for their own survival, endeavour to become sustainable institutions, not only environmentally, but culturally, economically and socially as well. In turn, they must also support the community in their pursuit of sustainability. A commitment by all collecting organisations to advance their sustainability will benefit Australia and the world.

¹⁴⁵ GD Lord, *loc. cit.*

PART V: APPENDICES

Appendix 1: Definition of a Museum

The definition of a museum used by Museums Australia states:

A museum helps people understand the world by using objects and ideas to interpret the past and present and explore the future. A museum preserves and researches collections, and makes objects and information accessible in actual and virtual environments. Museums are established in the public interest as permanent, not-for-profit organisations that contribute long-term value to communities.

Museums Australia recognises that museums of science, history and art may be designated by many other names (including Gallery and Keeping Place). In addition, the following may qualify as museums for the purposes of this definition:

- (a) natural, archaeological and ethnographic monuments and sites and historical monuments and sites of a museum nature that acquire, conserve and communicate material evidence of people and their environment;
- (b) institutions holding collections of and displaying specimens of plants and animals, such as botanical and zoological gardens, herbaria, aquaria and vivaria;
- (c) science centres;
- (d) Cultural centres and other entities that facilitate the preservation, continuation and management of tangible or intangible heritage resources (living heritage and digital creative activity);
- (e) such other institutions as the [Museums Australia National] Council consider as having some or all of the characteristics of a museum.¹⁴⁶

¹⁴⁶ Museums Australia, <http://www.museumsaustralia.org.au/site/page13.php>, viewed 26/3/09.

Appendix 2: Pilot Indicators

The following tables, without the sources of indicators, were submitted to the people listed in Appendix 3 for discussion and comments, along with the table of contents and the text of this document to the end of Section 1.1

Environment		
Indicator	Interpretation	Source
Principle of Sustainability: Efficient use of natural resources		
Percentage of materials used that are recycled input materials	E.g. office paper, maps/brochures, water for gardens etc	Global Reporting Initiative, <i>Sustainability Reporting Guidelines Version 3.0</i> , Global Reporting Initiative, 2006, p. 28.
Change in total energy consumption over last 12 months		
Percentage of energy that comes from 'green' sources	Solar panels on institution, bought from suppliers	Global Reporting Initiative, <i>Sustainability Reporting Guidelines Version 3.0</i> , Global Reporting Initiative, 2006, p. 28.
Amount of energy saved due to conservation and efficiency improvements		Global Reporting Initiative, <i>Sustainability Reporting Guidelines Version 3.0</i> , Global Reporting Initiative, 2006, p. 28.
Change in total water consumption over last 12 months		
Amount of water saved due to conservation and efficiency improvements		
Change in total direct and indirect greenhouse gas emissions over last 12 months		Global Reporting Initiative, <i>Sustainability Reporting Guidelines Version 3.0</i> , Global Reporting Initiative, 2006, p. 28.

(Appendix 2 continued...)

Environment		
Indicator	Interpretation	Source
Number of interstate or overseas trips taken by staff or collection objects with carbon offsets paid		Western Australian Museum, 'Inter-connections: The Western Australian Museum's Sustainability Action Plan 2008-2011'
Percentage of visitors and staff who a) drive to the organisation, b) use public transport or c) walk or ride a bike	Maybe think about increasing the number of sheltered bike racks in the vicinity of the organisation, so as to encourage cycling. Discussion with transport depts. Re location of bus stops; taxi rank and drop-off points; pedestrian crossings; park-and-ride services	Global Reporting Initiative, <i>Sustainability Reporting Guidelines Version 3.0</i> , Global Reporting Initiative, 2006, p. 29; and sus guidelines p9
Number of fleet cars using alternative fuels		
Percentage of total use of natural resources used to maintain display and storage areas		Inspired by Museums Australia, <i>Museums and Sustainability: Guidelines for policy and practice in museums and galleries</i> , Museums Australia, Canberra, 2003, p.7.
Number of appliances with a 4-star or better energy rating		Museums Australia, <i>Museums and Sustainability: Guidelines for policy and practice in museums and galleries</i> , Museums Australia, Canberra, 2003, p.8.
Change in the organisation's carbon footprint for the past 12 months		
Principle of Sustainability: Waste Management		
Percentage of products disposed that a) went to landfill b) were recycled c) were composted	Note that visitors can be involved in pre-sorting of their own rubbish if the right bins are provided	Global Reporting Initiative, <i>Sustainability Reporting Guidelines Version 3.0</i> , Global Reporting Initiative, 2006, p. 28.

(Appendix 2 continued...)

Environment		
Indicator	Interpretation	Source
Number of items mended or reused (where appropriate) instead of being disposed		
Amount of hazardous waste generated over past 12 months		United Nations, <i>Indicators of Sustainable Development: Guidelines and Methodologies 3rd Edition</i> , United Nations, New York, 2007, p. 14.

(Appendix 2 continued...)

Society		
Indicator	Interpretation	Source
Principle of Sustainability: Calibre and Diversity of Current and Potential Staff¹⁴⁷		
Number of workers with a PhD in their relevant field		Anderson, ML, <i>Metrics of Success in Art Museums</i> , Paper commissioned by the Getty Leadership Institute, 2004, p. 19.
Number of qualified applicants for the most recent curatorial opening		Anderson, ML, <i>Metrics of Success in Art Museums</i> , Paper commissioned by the Getty Leadership Institute, 2004, p. 19.
Percentage of staff involved in decision-making processes broken down into age, sex and cultural or minority group backgrounds	Diversity	Global Reporting Initiative, <i>Sustainability Reporting Guidelines Version 3.0</i> , Global Reporting Initiative, 2006, p. 31.
Ratio of staff who are within the first 10 years of their career to those within the last 10 years of their career	Succession	
Ratio of paid staff to volunteers	Diversity and engagement	
Number of staff attending training sessions in regard to the organisation's sustainability plans		
Rate of staff turnover	Too high and good principles can't be established, Too low and organisation runs risk of stagnating	
Rate of board turnover		Based on Museums Australia, <i>Caring for Our Culture: National guidelines for museums, galleries and keeping places</i> , Museums Australia, Canberra, 1998, p. 4

¹⁴⁷ ML Anderson, *op. cit.* p. 10

(Appendix 2 continued...)

Society		
Indicator	Interpretation	Source
How many times over 12 months has an external source (e.g. expert, thinker in residence, the community) been invited to contribute their knowledge, insights and expertise to museum planning, collection development and programs	Quantity is as important as quality	The National Standards Taskforce, <i>National Standards for Australian Museums and Galleries Version 1.0</i> , The National Standards Taskforce, Melbourne, 2008, p. 42
Number of unfilled positions		
Principle of Sustainability: Contribution to Education and Scholarship ¹⁴⁸		
Number of objects as a percentage of the whole collection published on-line		Anderson, ML, <i>Metrics of Success in Art Museums</i> , Paper commissioned by the Getty Leadership Institute, 2004, p. 18
Ranking by Educational facilities as an important resource for learning		Anderson, ML, <i>Metrics of Success in Art Museums</i> , Paper commissioned by the Getty Leadership Institute, 2004, p. 17
Number of new scholarly articles published by museum staff from research on the collection		Anderson, ML, <i>Metrics of Success in Art Museums</i> , Paper commissioned by the Getty Leadership Institute, 2004, p. 20
Number of scholarly articles that have been cited in other major publications or received press coverage in the last 12 months		
Number of permissions granted for use of images of the collection in publications		
Number of new catalogues or reference texts published on the collection	Also promotion of collection and another form of access	Anderson, ML, <i>Metrics of Success in Art Museums</i> , Paper commissioned by the Getty Leadership Institute, 2004, p. 20

¹⁴⁸ *ibid.*

(Appendix 2 continued...)

Society		
Indicator	Interpretation	Source
Number of on-site visits by students as part of an organised educational group		Australian Bureau of Statistics, <i>Information Paper: Towards Comparable Statistics for Cultural Heritage Organisations</i> , ABS, Canberra, 2008, p. 3
Number of training courses for current and potential museum staff (internal and external)		Pearson, M, D Johnston, J Lennon, I McBryde, D Marshall, D Nash and B Wellington, <i>Environmental Indicators for National State of the Environment reporting – Natural and Cultural Heritage</i> , Australia: State of the Environment (Environmental Indicator Reports), Department of the Environment, Canberra, 1998, p.92.
Principle of Sustainability: Community Engagement		
Number of on-site visits to the organisation	This can be sub-sectioned	Australian Bureau of Statistics, <i>Information Paper: Towards Comparable Statistics for Cultural Heritage Organisations</i> , ABS, Canberra, 2008, p. 1
Number of visits to the organisation's website		Australian Bureau of Statistics, <i>Information Paper: Towards Comparable Statistics for Cultural Heritage Organisations</i> , ABS, Canberra, 2008, p. 4
Ranking of Museum as a significant asset among local community members		Anderson, ML, <i>Metrics of Success in Art Museums</i> , Paper commissioned by the Getty Leadership Institute, 2004, p. 17

(Appendix 2 continued...)

Society		
Indicator	Interpretation	Source
Number of attendees at public program events such as lectures, tours, film nights etc	Community values and uses the facilities to their full extent	Anderson, ML, <i>Metrics of Success in Art Museums</i> , Paper commissioned by the Getty Leadership Institute, 2004, p.18
Number of mentions of the Museum on Google		Anderson, ML, <i>Metrics of Success in Art Museums</i> , Paper commissioned by the Getty Leadership Institute, 2004, p. 18
Number of 'friends' on social networking internet sites		
Number of exhibitions organized by the museum that are travelling to rural areas or other museums		
Percentage of audience who have visited once, twice, three, four, five, six-ten, eleven-twenty, twenty-one or more times in the last twelve months	Looking for repeat visits	Australian Bureau of Statistics, <i>Arts and Culture in Australia: A Statistical Overview</i> , ABS, Canberra, 2008, p. 13
Age group distribution of on-site visitors to the organisation	Is the 'next generation' getting involved?	Australian Bureau of Statistics, <i>Information Paper: Towards Comparable Statistics for Cultural Heritage Organisations</i> , ABS, Canberra, 2008, p. 6
Highest level of educational attainment distribution of on-site visitors to the organisation	Social inclusion	Australian Bureau of Statistics, <i>Information Paper: Towards Comparable Statistics for Cultural Heritage Organisations</i> , ABS, Canberra, 2008, p.8
Annual income distribution of on-site visitors to the organisation	Social inclusion	
Number of items repatriated or in the process of repatriation in a 12 month period		
Percentage of the collection on permanent loan to other institutions		Inspired by Museums Australia, <i>Code of Ethics</i> , Museums Australia, Canberra, 1999, p. 5

(Appendix 2 continued...)

Society		
Indicator	Interpretation	Source
Number of exhibitions or events in a 12 month period designed to teach the community about sustainability		Inspired by Museums Australia, <i>Museums and Sustainability: Guidelines for policy and practice in museums and galleries</i> , Museums Australia, Canberra, 2003, p.4.
Percentage of 'friends of the organisation' or members that are also members of the local community		Inspired by The National Standards Taskforce, <i>National Standards for Australian Museums and Galleries Version 1.0</i> , The National Standards Taskforce, Melbourne, 2008, p. 41
Number of community events the organisation has attended or participated in over the last 12 months	Royal show, festivals, celebrations. Participation may be providing resources such as copies or photos of collection objects without institution staff being present at the event	The National Standards Taskforce, <i>National Standards for Australian Museums and Galleries Version 1.0</i> , The National Standards Taskforce, Melbourne, 2008, p. 43
Number of new exhibitions or displays mounted in the last 12 months	Attracting repeat visits and maintaining interest	The National Standards Taskforce, <i>National Standards for Australian Museums and Galleries Version 1.0</i> , The National Standards Taskforce, Melbourne, 2008, p. 44
Percentage of displays accessible to a) disabled persons or b) people with special needs or c) young children	Mobility, visual, hearing etc	The National Standards Taskforce, <i>National Standards for Australian Museums and Galleries Version 1.0</i> , The National Standards Taskforce, Melbourne, 2008, p. 55

(Appendix 2 continued...)

Society		
Indicator	Interpretation	Source
Percentage of total visitors who are of racial/ethnic subgroups	Diversity of audience	Hawkes, J, <i>The Fourth Pillar of Sustainability: Culture's Essential Role in Public Planning</i> , Common Ground Publishing, Melbourne, 2001, p. 58
Number of free activities presented by the organisation in public places in last 12 months		Hawkes, J, <i>The Fourth Pillar of Sustainability: Culture's Essential Role in Public Planning</i> , Common Ground Publishing, Melbourne, 2001, p. 59
Survival rate of any associated clubs or social groups		Hawkes, J, <i>The Fourth Pillar of Sustainability: Culture's Essential Role in Public Planning</i> , Common Ground Publishing, Melbourne, 2001, p. 60
Number of current displays or exhibitions that encourage social engagement through visitor books or message boards or other means of sharing personal stories or feelings		
Change in number of complaints over last 12 months		
Change in number of programs that use 'non-traditional' methods for presenting information	e.g. dance, performance etc to engage with different learning styles and a greater portion of the community.	

(Appendix 2 continued...)

Culture		
Indicator	Interpretation	Source
Principle of Sustainability: Scope and Quality of Collection ¹⁴⁹		
Percentage of collection on display		Anderson, ML, <i>Metrics of Success in Art Museums</i> , Paper commissioned by the Getty Leadership Institute, 2004, p. 19
Percentage of collection not on display that is accessed a) frequently, b) moderately, c) infrequently by staff, researchers etc		
Rate of collection growth over 12 months	i.e. % increase/decrease of collection in relation to the overall size of the collection	Merriman, N, <i>Museum Collections and Sustainability</i> , Clore Leadership Program Thesis, 2006, p. 58
Percentage of objects in whole collection deemed worthy of display		Anderson, ML, <i>Metrics of Success in Art Museums</i> , Paper commissioned by the Getty Leadership Institute, 2004, p. 19
Percentage of collection stored appropriately		
Percentage of collection that cannot be displayed for cultural reasons		
Proportion of collection surveyed for conservation needs in last 12 months		Anderson, M, 'Material Culture and the Cultural Environment: Objects and Places', <i>Australia: State of the Environment Technical Paper Series (Natural and Cultural Heritage)</i> , Department of the Environment, Sport and Territories, Canberra, 1997, p. 14

¹⁴⁹ *ibid.*

(Appendix 2 continued...)

Culture Indicator	Interpretation	Source
Proportion of collection requiring preservation subsequently treated		Australian State of the Environment Committee 2001, <i>Australia State of the Environment 2001</i> , Independent Report to the Commonwealth Minister for the Environment and Heritage, CSIRO Publishing on behalf of the Department of the Environment and Heritage, Canberra, p.158.
Percentage of collection that underwent preventive conservation in the last 12 months		
Proportion of collection stored and exhibited in climate controlled areas	Has collection condition implications as well as environmental and economic implications	Anderson, M, 'Material Culture and the Cultural Environment: Objects and Places', <i>Australia: State of the Environment Technical Paper Series (Natural and Cultural Heritage)</i> , Department of the Environment, Sport and Territories, Canberra, 1997, p. 14
Percentage of core collection with complete documentation		Based on Museums Australia, <i>Caring for Our Culture: National guidelines for museums, galleries and keeping places</i> , Museums Australia, Canberra, 1998, p. 6
Percentage of storage space occupied	Room for expanding collection?	Based on Museums Australia, <i>Caring for Our Culture: National guidelines for museums, galleries and keeping places</i> , Museums Australia, Canberra, 1998, p. 7

(Appendix 2 continued...)

Culture		
Indicator	Interpretation	Source
Ratio of number of exhibits out of order to the total number of moving part exhibits		Chakrabarti, LD, <i>Managing Museums: A Study of the National Museum, New Delhi</i> , Sundeep Prakashan, Delhi, 2007, p. 19
Change in number of exhibits that have been updated to reflect a major event within one month of that event occurring	e.g. death of an artist, new valid discovery about the item or the display etc	
Principle of Sustainability: Significant Collection		
Percentage of the collection assessed for significance		Based on Heritage Collections Council, <i>Significance: A Guide to Assessing the Significance of Cultural Heritage Objects and Collections</i> , Commonwealth Department of Communications, Information Technology and the Arts, Canberra, 2001
Percentage of historically significant items a) in the collection and b) of those what percentage are on display		Based on Heritage Collections Council, <i>Significance: A Guide to Assessing the Significance of Cultural Heritage Objects and Collections</i> , Commonwealth Department of Communications, Information Technology and the Arts, Canberra, 2001, p. 25.
Percentage of the collection significant to the history of the organisation	e.g. collected by a prominent figure in the organisation	

(Appendix 2 continued...)

Culture Indicator	Interpretation	Source
Percentage of items with aesthetic significance a) in the collection and b) of those what percentage are on display		Heritage Collections Council, <i>Significance: A Guide to Assessing the Significance of Cultural Heritage Objects and Collections</i> , Commonwealth Department of Communications, Information Technology and the Arts, Canberra, 2001, p. 28
Percentage of items with scientific or research significance a) in the collection, b) of those what percentage are on display and c) what percentage are under research		Heritage Collections Council, <i>Significance: A Guide to Assessing the Significance of Cultural Heritage Objects and Collections</i> , Commonwealth Department of Communications, Information Technology and the Arts, Canberra, 2001, p. 30
Percentage of items with social or spiritual significance a) in the collection and b) of those what percentage are on display		Heritage Collections Council, <i>Significance: A Guide to Assessing the Significance of Cultural Heritage Objects and Collections</i> , Commonwealth Department of Communications, Information Technology and the Arts, Canberra, 2001, p. 32
Ranking of the value to the public of the collection by the public		
Number of objects in the collection identified as icons by the community	Developing community loyalty	

(Appendix 2 continued...)

Economy		
Indicator	Interpretation	Source
Principle of Sustainability: Balanced and Diverse Budget		
Number of years with a balanced budget over the last 5 years		Anderson, ML, <i>Metrics of Success in Art Museums</i> , Paper commissioned by the Getty Leadership Institute, 2004, p. 18
Ratio of budget that came from government sources to budget that came from other income sources		
Total number of 'other sources' that contribute significantly to the budget		
Ratio of funds raised or earned to total income	Efforts towards self-sufficiency	Australian Vice-Chancellors' Committee, <i>Cinderella Collections: University Museums and Collections in Australia</i> , Australian Vice-Chancellors' Committee, Canberra, 1996, p. 215
Ratio of 12 month growth of collection to 12 month growth of income	Is income growing at a similar rate to the collection? Decisions on sustainable growth	Australian Vice-Chancellors' Committee, <i>Cinderella Collections: University Museums and Collections in Australia</i> , Australian Vice-Chancellors' Committee, Canberra, 1996, p. 215
Ratio of income spent on acquisition to income spent on conservation		Australian Vice-Chancellors' Committee, <i>Cinderella Collections: University Museums and Collections in Australia</i> , Australian Vice-Chancellors' Committee, Canberra, 1996, p. 215

(Appendix 2 continued...)

Economy		
Indicator	Interpretation	Source
Size of any outstanding debts including interest		United Nations, <i>Indicators of Sustainable Development: Guidelines and Methodologies 3rd Edition</i> , United Nations, New York, 2007, p. 13.
Amount of money in reserve	For example in trust accounts	
Ratio of income spent on capital works to income spent on operational costs	Organisations need to be able to afford the staff to run the buildings. Conversely staff and visitors need a safe, well maintained place in which to operate	
Principle of Sustainability: Supporting the Local Economy		
Percentage of the budget spent at locally-based suppliers		Global Reporting Initiative, <i>Sustainability Reporting Guidelines Version 3.0</i> , Global Reporting Initiative, 2006, p. 26.
Percentage of wages paid to local employees		Global Reporting Initiative, <i>Sustainability Reporting Guidelines Version 3.0</i> , Global Reporting Initiative, 2006, p. 26.
Change in number of contra-relationships	i.e. the symbiotic relationships between museum and other local businesses eg hotels or coffee shops	
Principle of Sustainability: Supporting the Environment		
Percentage of suppliers to the organisation that aim to reduce their environmental impact		Inspired by Museums Australia, <i>Museums and Sustainability: Guidelines for policy and practice in museums and galleries</i> , Museums Australia, Canberra, 2003, p. 6.

Appendix 3: Summarised Consultation Data

The following people were consulted about their thoughts on sustainability in general and on the pilot indicators (as per Appendix 2), which were supplied before the consultation. The summaries below are a selection of points taken from each consultation. As the indicator set has been substantially modified (see Section 3.3 of this report), specific comments on individual indicators have been generally omitted.

Art Gallery of South Australia

Director: Christopher Menz

Consulted: June 10, 2009

- If there were national standards and measures a sustainability measuring system could be useful, especially if comparison between institutes could be made
- In-house policies exist to be conscious of the environment and to minimise resource consumption
- Consider environmentally friendly cleaning products, paints and floor sealers etc as there are health implications as well as environmental ones
- Some of the indicators were to do with the reputation of the institution as much as with sustainability
- Need to compare like with like for example big art museums to big art museums and big natural history museums to big natural history museums
- Indicators too detailed for overarching application
- Consider number of members of groups associated with the institution compared to number who walk through the door
- Consider amount of money available from foundations or other fundraising bodies
- Consider sponsorship both in-kind and those with a dollar value
- Consider number of people who have seen works loaned outside the institution as well as the number of works on loan
- Consider the number of surveys an institution carries out each year
- Consider the number of staff positions funded by sources other than the government
- Consider number of touring exhibitions rather than 'rural and other institution'

ArtLab Australia

Director: Andrew Durham

Consulted: June 3, 2009

- Consider condition surveys as a part of sustainability indicators
- Conservation of items is vital for long term sustainability
- Limitations in earning income when you have to fulfil the obligations of your grants etc
- Need to balance sustainability with viability and practicality
- Engaging people with a disability in the museum also engages them in society and adaptations to a museum may help broaden people's minds to all of society
- Museums that display items from a community rather than from their own collection increase their engagement with society
- Consider number of people who think more about sustainable practices after attending an exhibition or the institution
- Endowments and trust funds can fluctuate especially in economic climates such as the current one and are not a good indicator of sustainability
- Consider benefactors or politicians goodwill towards institution although it is difficult to measure

Australian Bureau of Statistics

Culture, Recreation and Migrant Statistics

Acting Director: Andrew Middleton, also present at the consultation were Jenny Dobak and Christine Heywood-Smith

Consulted: June 9, 2009

- Unified counting techniques and thresholds are important for these systems
- Consider what is going to be done with the information gathered
- Consider who is the target audience for this data
- Indicators need to be maintained so their structure needs to lend itself to that
- Need a core set of indicators that have generally achievable goals, longer term goals and may initially contain unachievable goals that are an ideal to work towards then have a sub-set of indicators specific the collecting sector
- Core themes are found in state sustainability plans
- Indicator sets need to be reassessed and changed to reflect current trends
- When developing an indicator ask 'is this a behaviour we want to (and can) change or is it a behaviour we want to monitor' if the answer is no, axe the indicator, don't measure something because you can.
- There needs to be a general theme for each heading

-
- Indicator development can take teams of people years to create
 - Perhaps better title is 'towards' sustainability indicators
 - Consider volunteers in economy as they are doing work that isn't being paid for

Botanic Gardens of Adelaide

Director: Steven Forbes

Consulted: June 4, 2009

- Sustainability of their business is separate from the sustainability of their grounds and environment
- Making a submission to museum accreditation scheme
- Undecided on the application of a measurement system
- The living collection takes lots of money to manage and therefore there are less funds to expand the collection, the static collection is opposite raising two different sustainability issues
- Dynamic prioritisation of living collection, what is efficient, effective, appropriate
- Water is Garden's biggest sustainability issue for the environment, in terms of business having partnerships with other institutions and organisations (such as Land Management Corporation and SA Water) is important
- Provided documents on strategic directions 2002-2005 (including sustainable gardens and collections management and sustainable business management), sustainable landscapes: conserving water in the garden, the Botanic Gardens of Adelaide strategy map 2009-2012 including sustainability themes and sustainable aspirations for collections, the Botanic Gardens of Adelaide Consolidated Monthly Report February 2009 and Key Performance Indicators 2008/09

Carrick Hill

Consultant, Art History: Jane Hylton

Consulted: June 2, 2009

- Measurement may be a good thing and could help the collection to be managed and used better
- Collection has limited growth due to its nature and there is limited purchasing, often items are received as gifts
- Ongoing conservation for objects is needed as well as the house
- Objects are often loaned to other institutions so they receive condition reports and conservation when this happens
- Good relationships built through loaning of objects
- Major issue for sustainability is storage

- Collecting policies need to be more stringent and tougher
- Deaccessioning is time and resource expensive and as it is unlikely someone else will want to acquire the object there is rarely any monetary gain
- Consider resources required for an exhibition in proportion to the length of the exhibition, there is usually a great imbalance that needs to be addressed in terms of resource management
- Many of the indicators are difficult to measure
- Registration is an essential section but is under-resourced
- Bureaucracy can make sustainability in cultural institutions hard work

History Trust of South Australia

Chief Executive Officer: Margaret Anderson

Consulted: June 10, 2009

- Archival implications of recycled material
- Capacity of institution to address indicators
- Need to make the underpinning assumptions for each indicator clear and detail what they are measuring
- Dilemmas in government policy and application of sustainability theory for example refreshment of staff
- A measuring system could be useful especially for lobbying government for extra resources
- Need for affordable, efficient air-conditioning systems and support from the government to install them in cultural institutions
- There is no 'one size fits all' solution

South Australian Museum

Director: Dr Suzanne Miller

Consulted: June 4, 2009

- A measurement system would be useful
- There is lack of understanding of what museums do
- Museums main role in sustainability is to provide trusted guidance and information to the public and they are seen as an independent source. Also they provide a community space and information on sustainability.
- Need for benchmarks
- Getting information is costly
- Concerned with validity and robustness of data collected by individual institutions
- Are internally reporting to South Australian Government on sustainability but there is no data collection. It is mostly subjective and qualitative
- Consider incentives for participating in sustainability measuring

-
- Danger of gathering superficial data with many of the indicators
 - The pilot indicators are better tools to help thinking processes than indicators
 - Have a mandated 20% reduction in energy – are they going to be expected to do more under a sustainability indicator system?
 - Already reporting to government and ABS, will a third body be added?
 - Need for centralised data collection and analysis as there is no one on staff who has the necessary skills to do it internally

State Library of South Australia

Director: Alan Smith

Consulted: May 29, 2009

- Many indicators are suggesting methods that are not economically viable
- Many indicators are vague
- Terms in the indicators are not defined
- Most are too hard to measure for an individual institution
- Many suggest methods that go against or that are already covered in jurisdictional policy
- Need to be comparable
- Need to be consolidated
- Some have safety issues
- High costs involved in surveys
- Most indicators not measuring meaningful things
- There should be no extra cost associated with gathering data and there shouldn't be a large imposition on time
- Many indicators are too dependent on the nature of the organisation, its buildings or collections and aggregating data will be hard
- The amount spent acquiring collection items does not correlate with growth of the collection as donations and gifts are not accounted for in the cost but are in the growth
- Consider what answer will you get and how meaningful is it?

The University of Adelaide

Arts and Heritage Collections

Manager: Mirna Heruc

Consulted: June 3, 2009

- Need for a sustainability audit and benchmarks
- Too many indicators and many too hard to answer
- Indicators could be based on benchmarks

-
- Consider having an area to focus on eg water then several indicators that measure water-related sustainability to choose from depending on what is relevant to your institution
 - Would a measurement system apply across all collections or to a particular collection?
 - Legal implication of documents and paper trails needing to be kept – recycled paper is not adequate
 - Are a part of 'Sustainable Adelaide' program at the university
 - Provided 'The University of Adelaide 2008 Pocket Statistics' which is an excerpt of data from their annual report

Appendix 4: Example of an Indicator Protocol

This protocol has been adapted from Pearson *et al*, *Environmental Indicators for National State of the Environment Reporting: Natural and Cultural heritage* and IFACCA *Statistical Indicators for Arts Policy* using a suggested core indicator from this paper as an example.¹⁵⁰

Name of Indicator: Environment 1: Energy Consumption

Description: Measure of energy consumption from non-renewable sources (coal, oil, gas etc opposed to solar, wind or 'green' energy) over 12 months based on billed amount from energy supplier. When compared over time will show trend in non-renewable energy consumption.

Rationale: Energy consumption is an important aspect of environmental sustainability. While no institution can exist without any energy, a goal of sustainability is to reduce the need for non-renewable resources such as oil and coal whose conversion to power contributes to atmospheric pollution and destruction of the environment. By gradually converting to 'green' energy such as solar or wind power and thereby reducing reliance on non-renewable sources of energy an institution can progress towards environmental sustainability.

Analysis and Interpretation: The purpose of this data is to assess the trend in consumption of non renewable energy over time. For sustainability, the ideal trend should be towards zero. However, if a trend plateaus or increases steadily from previous years, there is reason to explore why, and there may be a case to lobby for more funding to convert technology to more efficient systems and so on.

Outputs: Graphical representation of absolute data with trend lines. Once enough data has been gathered, there is the potential to express the graphed data as percent change to enable easier comparison to other institutions.

¹⁵⁰ M Pearson, D Johnston, J Lennon, I McBryde, D Marshall, D Nash and B Wellington, *Environmental Indicators for National State of the Environment reporting...*, loc. cit.; International Federation of Arts Councils and Culture Agencies, loc. cit.

Sensitivity: Define how much change/difference in the data is significant if known or describe how to assess for significant change in the data. For this example significant change may be related to the size of the organisation.

Data Sources and Technical Information: Meters, electrical bills, gas bills. No technical information for this example but may include sample sizes for surveys, particular instruments to be used etc

Issues and Limitations: May find problems with gathering data from shared meters

Links to Other Indicators: Balance with economic indicators as often environmentally friendly technology is also expensive (usually specific indicators would be listed but appropriate examples have not been developed in this report)

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GUIDELINES AND STANDARDS

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