Regional Sustainability Indicators Framework for South West Victoria

Milestone 3a: Workshop 1 - Defining the framework Outcomes

Michelle Graymore
Horsham Campus Research Precinct
University of Ballarat

Prepared by:
Michelle Graymore
Horsham Campus Research Precinct
University of Ballarat
April 2011

Contact details:
PO Box 300
Horsham VIC 3401
Email: m.graymore@ballarat.edu.au
Phone: 0417 109 813

Table of Contents

Background

In South West Victoria, the need for indicators to measure progress to sustainability was identified in the South West Sustainability Blueprint (South West Sustainability Partnership, 2001). To address this need, Deakin University Warrnambool and Glenelg Hopkins Catchment Management Authority (GHCMA), and the other partners in the South West Sustainability Partnership, carried out the project *Catchment to Regional Scale Indicators of Sustainability* to identify a set of indicators for assessing the sustainability of South West Victoria (Wallis and Wallis, 2004). This project identified a set of priority indicators for the region, which had data available to assess trend and condition at the sub-catchment scale, across three pillars of sustainability: environmental, social and economic. These indicators were used to produce a set of Sustainability Report Cards providing a baseline assessment of the region's sustainability (Wallis and Barrot, 2005). After this initial assessment, An Index of Regional Sustainability (AIRS) was developed to integrate the sustainability assessment by combining the indicators to produce an index of sustainability using multiple criteria analysis based on the relationships between the indicators and their impact on sustainability (Richards, et al., 2007). AIRS was combined with Geographical Information Systems (GIS) to enable mapping of sub-catchment sustainability to provide information to policy makers about the region's sustainability (Graymore, et al., 2007). However, an evaluation of the sustainability assessment revealed that no organisations in the region were using the assessment to inform policy or program development. The major barriers for adoption of AIRS included AIRS not being specific to industry and agency needs and the lack of clear guidelines for use (Wallis, et al., 2010).

The next stage for sustainability assessment in South West Victoria is the *Regional Sustainability Indicators Framework for South West Victoria* project is a partnership between University of Ballarat, Southern Grampians Shire Council and the Natural Assets Alliance of the South West Sustainability Partnership. The project is funded by the Victorian Local Sustainability Accord Round 4, through Department of Sustainability and Environment (DSE) and the South West Sustainability Partnership through the Natural Assets Alliance. This project is being conducted to further develop the sustainability assessment framework to ensure that it is more widely used in the region by local government, local industry and business and community to improve the sustainability of the region.

Research aim and objectives

The aim of this project is **to review, establish and communicate an agreed set of sustainability indicators and a framework to deliver them**. This will be achieved by delivering the following core objectives:

- **Develop an agreed set of indicators** built on research done by Deakin University (2003-2010)
- **Test and evaluate** the use of this set of indicators to assess sustainability of South West Victoria at various spatial scales;
- **Develop a sustainability indicators framework** for communication of the region's sustainability, including **protocols for use**.
- **Develop a shared understanding of sustainability** in South West Victoria through the participatory process and communication of findings.

The method for this project will follow *Getting Started: A guide to developing regional sustainability indicators in Victoria* (Byrne, et al., 2010) (developed by Dr Graymore and colleagues at Deakin University based on a review of over 30 sustainability indicator projects). *Getting Started*

recommends a participatory process for sustainability indicator development involving the region's stakeholders including potential end users of the indicators. The use of a participatory process helps build ownership of the sustainability indicators framework among participants increasing the likelihood of adoption of the framework developed (Gahin, et al., 2003). At the same time, the process will build the capacity of participants through social learning, building a shared understanding of sustainability and the steps required individually and collectively to progress the region's sustainability (Gahin, et al., 2003; Wallis, et al., 2010). The project will provide the region with a framework for sustainability reporting, and protocols for use, to enable ongoing sustainability reporting in the region. If adopted for use by the region's stakeholders, this will provide information about the sustainability of the region that can be used to inform policy, collective action and individual behaviour change to progress the sustainability of South West Victoria. Furthermore, the project will provide a case study on how to develop and report on regional sustainability indicators for other regions across Victoria.

Milestone 3a: Defining the Framework

This stage of the project defined the main purpose, audience and framework of the sustainability assessment following Module 1 of *Getting Started* and reviewed the sustainability assessment framework developed for South West Victoria, called An Index of Regional Sustainability (AIRS) in terms of its suitability sustainability reporting in South West Victoria. A half day workshop with the Project Reference Group and the Project Executive Group was used to get stakeholder agreement on the framework to be used for the South West Sustainability Indicators. The workshop included a presentation on the background of the project including the previous sustainability assessment of South West Victoria, commonly used sustainability frameworks, presentation styles and aggregation methods, as well as the vision for the region and key issues for sustainability identified by previous work, such as the Great South Coast Regional Strategic Plan. Participants were asked to decide on the purpose, audience, framework and reporting methods for the sustainability assessment, and identify additional key issues for the region. The framework, as agreed to by the workshop participants, is described in the following section.

The Sustainability Indicators Framework

Proposed method

The potential reasons AIRS has not been adopted for use in South West Victoria suggested by participants included the method does not fit into the organisational structure or reporting requirements of the organisation, already using Global Reporting Initiative (GRI) reporting at the institution scale, language used not accessible, boundaries not applicable and some results not palatable. This project attempts to overcome these issues by including stakeholders and the community in the process of developing the indicator set, its assessment framework and communication to ensure the assessment framework produced is used by regional stakeholders and community to inform decision making.

The proposed methods were presented to the participants of the workshop for feedback. It was suggested that the Jacksonville Community Council Inc Quality of Life Indicators process be used as a basis for this project since it has been running for 26 years producing a quality of life report each year (Jacksonville Community Council Inc, 2010). Using a community participative process of

indicator identification, the report is widely used for planning and evaluation by government, business and community groups. They have three reporting formats, a summary document, a reference document and a interactive online community snapshot where indicators are updated live as information becomes available (see http://www.jcci.org/jcciwebsite/snapshot/atlas.html).

Like the Jacksonville Quality of Life Indicators, participants felt the strength of the current project would be its use of stakeholder engagement at each stage. It was suggested that this could be problematic if not done well. Therefore, it was recommended that engagement needs to be timely and effective with plans on what to do with the data once it is obtained. It also needs to include a process of acknowledgement of participation and response after each engagement process to the people involved and the wider community. The importance of communication via the media and internet with the community and stakeholders throughout the project was stressed. A website for the project will be set up before the next workshop series and launch of the survey to facilitate communication. Further, the communication plan included in the Working Project Brief includes regular media releases via local print and radio to keep the community up-to-date with the project.

The need for the development of an implementation plan for the sustainability assessment at the local, state and national scales 12 months into the project was discussed with agreement that it should be included in the project method. An implementation plan will help facilitate the transition of the Sustainability Indicators Framework from a research project to an ongoing assessment of the region's performance. Protocols for use of the framework will form part of the implementation plan providing a 'how to guide' for the sustainability indicators framework. The protocols will include information on where to get the data, how to carry out the analysis and put together the reports and how it fits into, or with, local government reporting obligations like the Essential Services Commission. The other objective of this project and the implementation plan will be to encourage other regions to take up the method for sustainability assessment and ensure that the framework and its use links in with state and national initiatives, such as State of the Environment (SoE). This will take the form of tailored messages, reports and presentations developed for different audiences including SoE and other regions.

The project method has been updated (see Figure 1) to reflect the participants' ideas for improvement. Also, the Jacksonville Community Indicators process (see http://jcci.org) will be reviewed and incorporated into this project's methods where appropriate (e.g. the potential use of interactive online indicator reports see Figure 2).

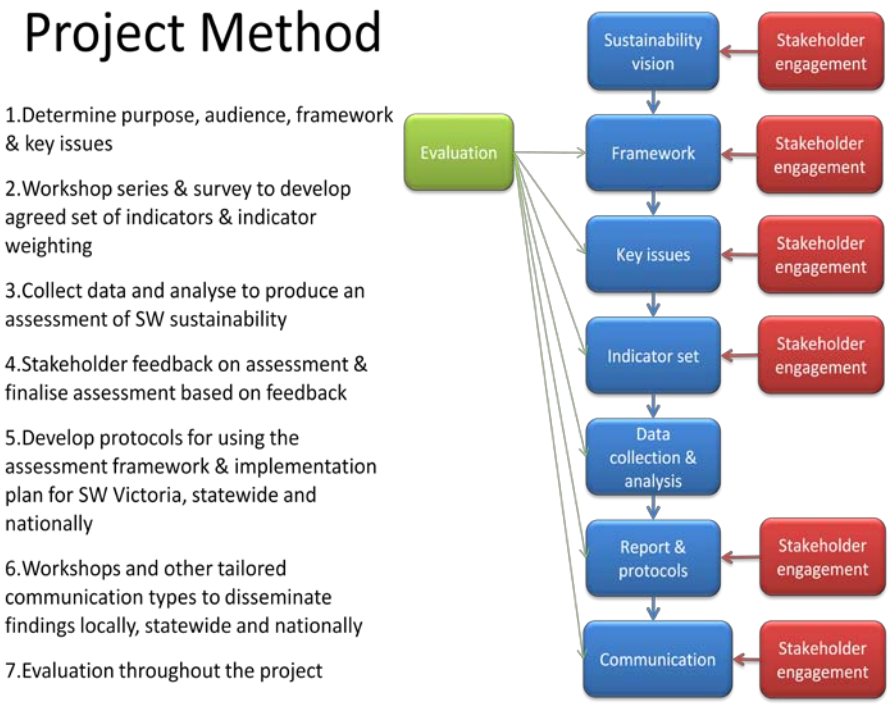

Figure 1: Revised project methods

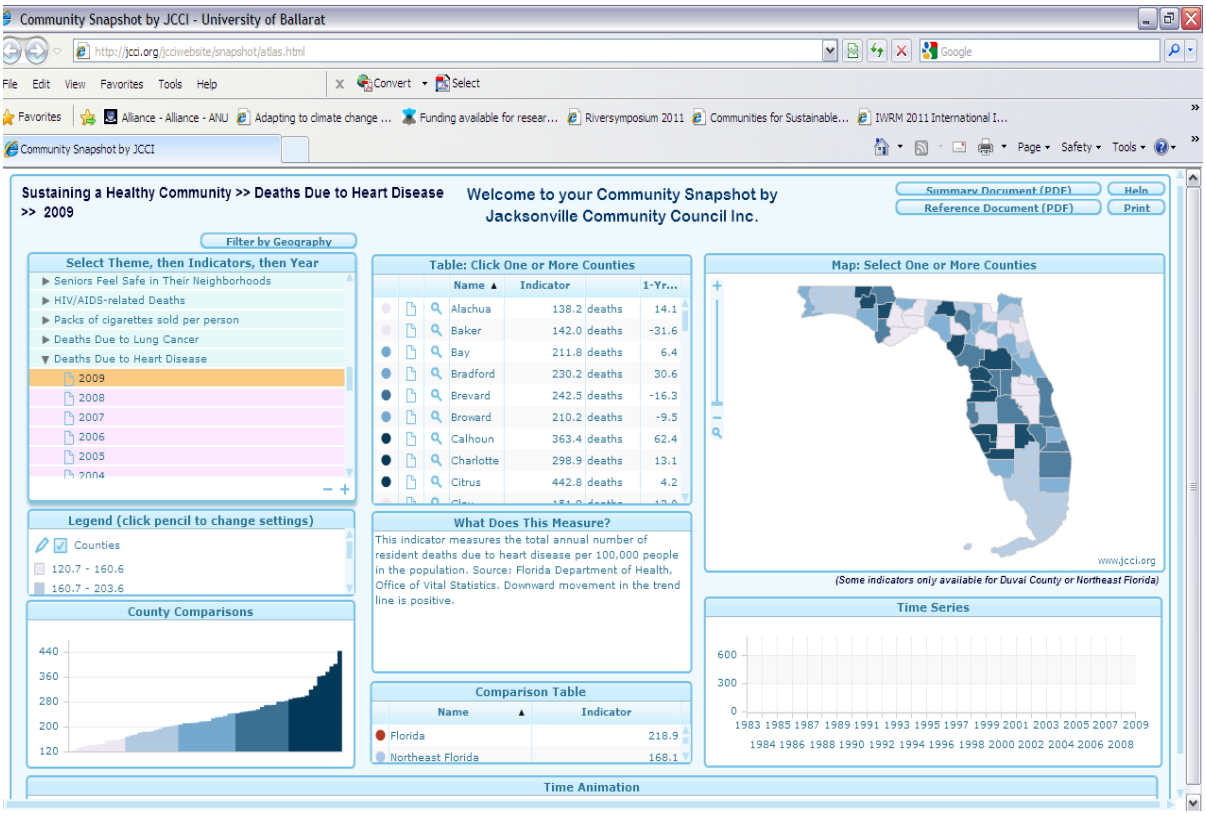

Figure 2: Jacksonville Community Council Indicators Online (Source: http://jcci.org/jcciwebsite/snapshot/atlas.html accessed 28/2/2011)

The Vision for South West Victoria

Neither the South West Sustainability Partnership (SWSP) or the Great South Coast Regional Strategic Plan 2010 Vision presented to the workshop participants was thought to be attention grabbing enough to be used as the vision for this project. Participants felt that the vision needs to resonate with people's thoughts, with no temporal boundary and be related to the performance of the region. The use of 'great lifestyle choices' in the Great South Coast Plan Vision was thought to be positive, making people think about the things that can be done in the region. It was decided that the vision should be a mix of the two presented, as well as the visions from the region's local government environmental or sustainability strategies. Developed from these visions, the following vision will be adopted for this project:

> *"The Great South West is a great place to live, work and visit with great lifestyle choices. We are happy, healthy and well educated, and engaged in a thriving, multifaceted and resilient economy with a focus on 'clean green' goods. We value our environment and act together to ensure a healthy and beautiful environment for our community, and its visitors, to enjoy now and into the future."*

Purpose

The purpose for the *Regional Sustainability Indicators Framework for South West Victoria* agreed to by workshop participants was:

> *'To report on the sustainability of the region to Local Governments, local organisations, industry and community enabling informed decision making to enhance the region's sustainability'*

The assessment produced from the framework will be a tool to inform all stakeholders about the sustainability of the region, at the indicator scale and overall sustainability scale, with direct links into local government planning and the regional catchment strategies of GHCMA and CCMA. It will highlight areas and aspects of the region that need improvement to achieve the region's vision of sustainability. In this way, it can drive change in the region, including policy for sustainability, organisational change, collective and individual action. The assessment will also contribute to developing a common language for sustainability in the region.

Target audience

The primary audience for the sustainability assessment is the Local Governments (LGAs) in the region, since this is a Victorian Sustainability Local Accord funded project. The secondary audience are the local governments' customers, the CMAs, the region's institutions including Wannon Water, industry and businesses and state government. The tertiary audience is the community of South West Victoria, including local sustainability groups and coast action groups.

Sustainability model for South West Victoria

The model that was agreed upon to be the framework for the sustainability assessment was the Wackernagel and Yount (1998) human-ecosystem linked model (Figure 3). This model was chosen

to represent sustainability in South West Victoria as it represents the interaction of the human system with the natural system, making it easy for everyone in the community to understand their role in the sustainability of our region.

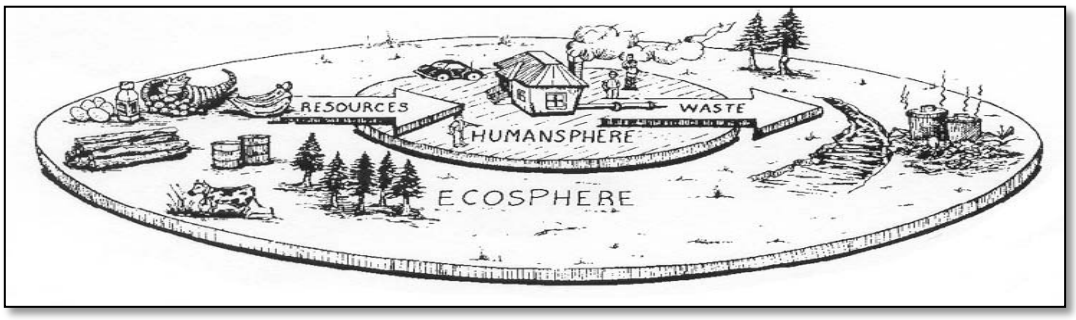

Figure 3: Human-ecosystem linked model of sustainability, the basis of the sustainability indicators framework for South West Victoria.
(Source: Wackernagel and Yount, 1998 p.513).

Boundary for the assessment

The boundary for the sustainability assessment was chosen to be the boundary of the six Local Governments that make up the Barwon South West - Great South Coast region of Regional Development Victoria. That is, Glenelg Shire Council, Southern Grampians Shire Council, Moyne Shire Council, Warrnambool City Council, Corangamite Shire Council and Colac Otway Shire Council (Figure 4). The sustainability assessment will be reported at the local government scale. It was agreed that this region be called '*The Great South West'* for this project and the sustainability assessment, as this takes in both the Great South Coast and Barwon South West region names for which the councils involved are a part.

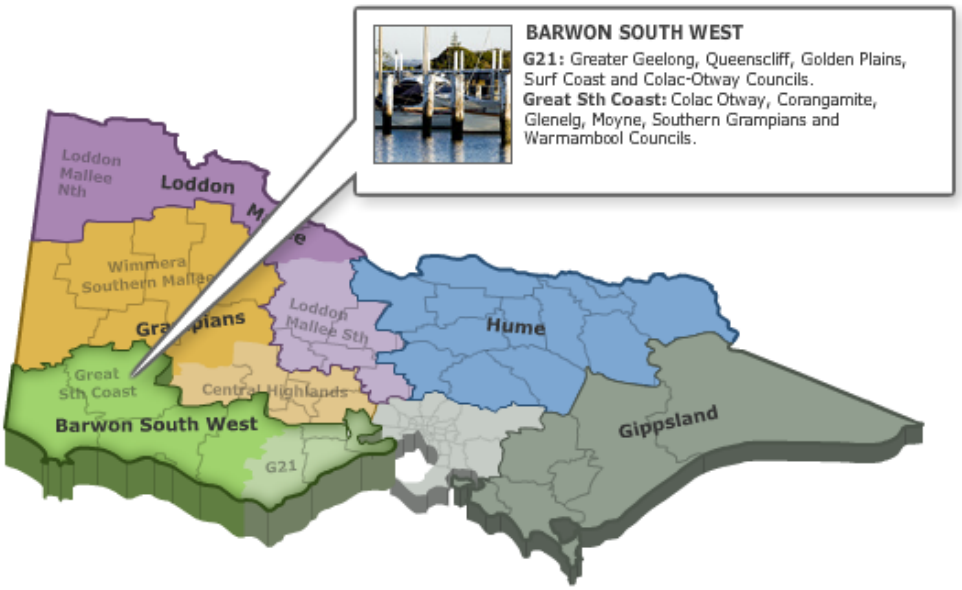

Figure 4: Boundary for the Sustainability Indicator Framework for South West Victoria shown in the darker green
(Source: Regional Development Victoria http://www.rdv.vic.gov.au/victorian-regions accessed 8/4/2011)

Communication: reporting styles

The participants agreed that the sustainability assessment produced will be reported using three communication products:

1. One page summary 'report card' including a mosaic of the region similar to GIRNF's Natural Resource Report Card and a summary ranking of all indicators for each LGA (see example Figure 5). This will be called the *Great South West Community Report Card* using the name for the region suggested by participants, and also taking on board comments by participants that the word 'sustainability' as lost meaning in the community.
2. Technical report including the results for each indicator for all LGAs as well as explanation about the indicator's link to sustainability and what the results mean for the region's sustainability
3. Website with interactive indicator reports where indicators are updated live as data is available and people can chose the LGA and indicator they want to look at. This will be similar to the Jacksonville Community Council Community Snapshot (see Figure 2) and Community Indicators Victoria's (CIV) Data Maps (see Figure 6 and http://www.communityindicators.net.au/data_maps).

A graphic designer will be engaged (dependent on funds available) to develop the one page summary to ensure that it presents a clear message that is visually appealing to the community and stakeholders.

In terms of the products this project will produce, for South West Victoria, there will be a master dataset and data analysis framework linked to a website, which will form the basis of future sustainability assessments. For other regions, there will be a template for using this process of indicator development in other regions.

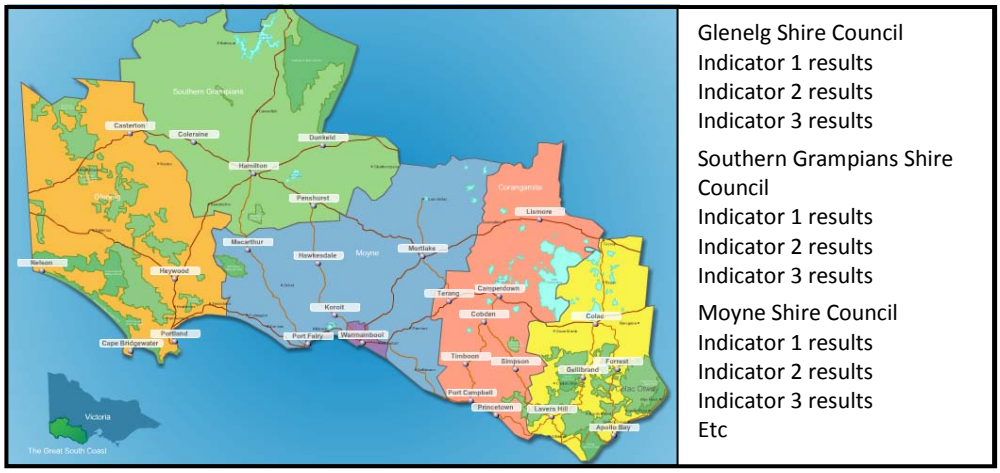

Figure 5: Format for the Great South West Community Report Card

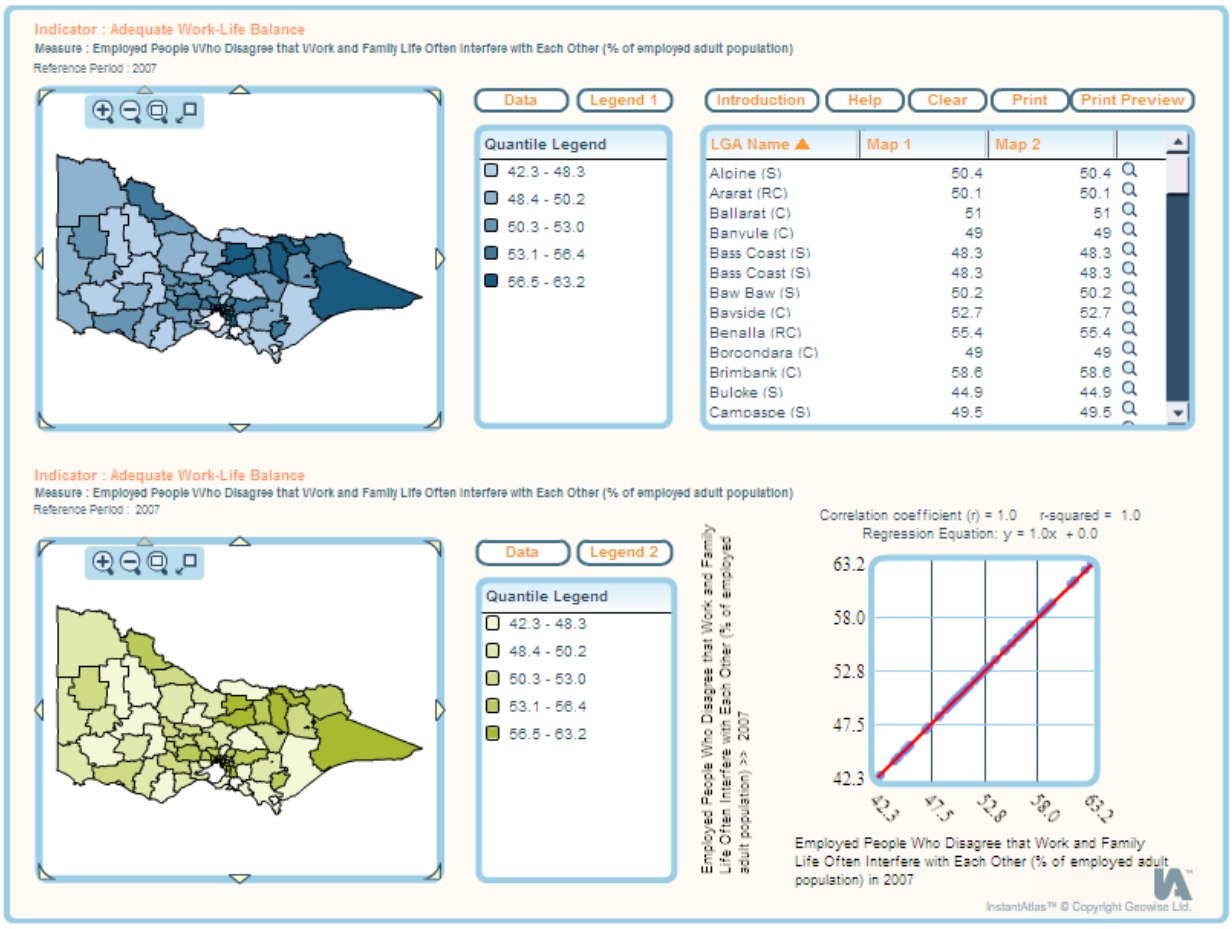

Figure 6: Community Indicators Victoria Data Maps
(Source: CIV website http://www.communityindicators.net.au/files/civ/instant_atlas_double/atlas.html accessed 8/4/2011)

Snap shot or trend assessment

The assessment will aim to present both a snapshot of the sustainability of the region, as well as trend, dependent on the data available and types of indicators included in the assessment. If it is unable to present trend in this first assessment due to time, data or indicator constraints, the protocols will outline the development of trend information in ongoing reporting. This could include up or down arrows on the one page summary to indicate a positive or negative trend for the indicator or the LGA.

Regularity of reporting

Every year an updated assessment should be produced to keep sustainability in the front of the community's minds. This will also provide trend data for future assessments and critical data required for response to climate change. However, it is recognised that some indicators will not have updated data available every year (i.e. indicators using Census data which is only updated every 5 years). The regularity of data updates for each indicator will be described in the protocols.

Level of aggregation and type of data analysis

There was some debate during the workshop about the usefulness of an aggregated index and the issue of the loss of information about individual indicators due to this aggregation. Transparency is increased if there is no aggregation, but the advantage of an index is that it is easier to compare the sustainability of one LGA to another. These comparisons can push competition and drive change, as has been seen with the Sustainable Cities Index with its use in the UK where communities aim to improve their ranking in the index (i.e. Newcastle). It was agreed, to some extent, that to address the loss of information caused by aggregation, that the report card show both a mosaic of the region with aggregated index values for each LGA, with a side panel that described the ranking of each indicator for each LGA for direct and easy comparison of both overall and indicator scale performance for each LGA (e.g. Figure 5).

The type of aggregation that was discussed for this assessment was the Wellbeing Index (Prescott-Allen, 2001) aggregation. This will provide a Human Wellbeing Index, an Ecosystem Wellbeing Index and an overall Wellbeing index. This method of data analysis fits into the human-ecosystem linked model of sustainability chosen to frame the sustainability assessment for South West Victoria. The Wellbeing Index process asks local community to choose indicators relevant to their community. The indicators performance is then assessed against targets or goals to determine performance. This performance scale is used to produce performance scores for each indicator which can then be combined to produce the above mentioned indices. These indices can then be graphed to show the sustainability of the community (see Figure 7 for example). With this approach, community can be involved to choose indicators and set targets and goals for each indicator. Targets can also be set based on an expert panel or current targets.

To develop an index (either using the Wellbeing Index method or multiple criteria analysis like that used in An Index of Regional Sustainability (AIRS)), the indicators need to be weighted based on either community perceptions or current scientific understanding of the most important indicators for the region's sustainability, or by using statistical methods, such as Analytical Hierarchy Process. It was recommended by the participants of the workshop that the community be involved in the weighting of indicators, this will be done using the results of the community indicator survey and workshop series (Milestone 3b). This will be compared to the current understanding of the importance of the indicators on regional sustainability, and if time and funding permits, a statistical process will also be used and the weightings compared to provide scientific grounding for the indicator weightings used.

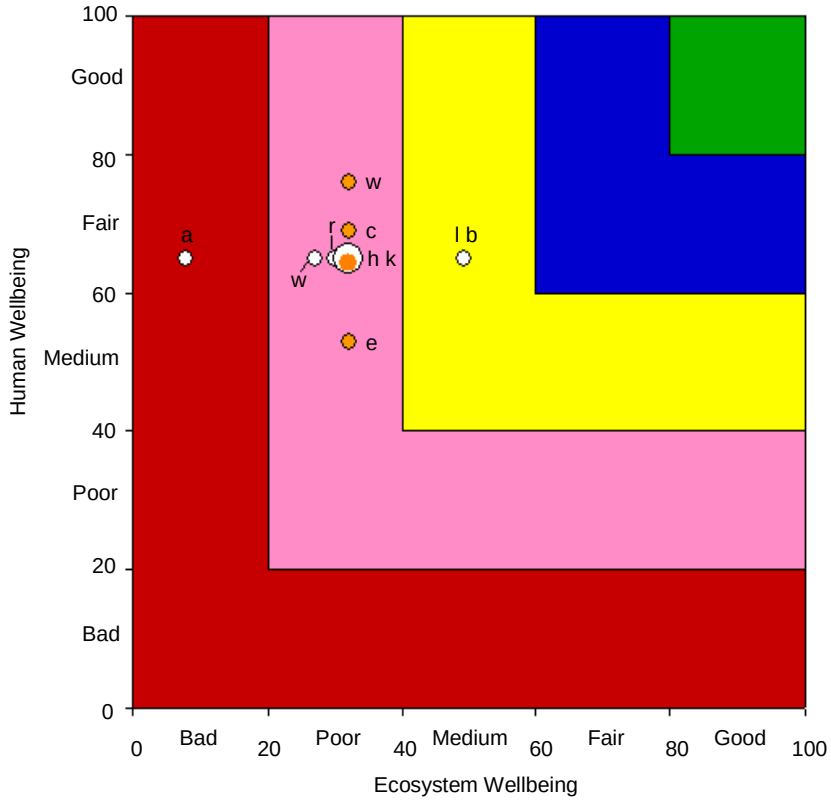

Figure 7: Barometer of Sustainability developed from the Wellbeing Index for South East Queensland in 2001. Shows the scores for each dimension and system, with the ecosystem dimensions shown as white dots (on the horizontal axis) a = air, w = water, r = resource use, l = land and b = biodiversity, and the human system dimensions shown as yellow dots (on vertical axis) w = wealth, c = community, h = health and population, k = knowledge and culture and e = equity. The 'egg of wellbeing' shows the ecosystem (the egg white) surrounding the human system (the yellow egg yolk), with the Human Wellbeing Index as the yolk and the Ecosystem Wellbeing Index as the egg white. The place where these intersect is the Wellbeing Index, which is in the poor (pink) range, showing that the region is almost unsustainable.
(Source: Graymore et al., 2008)

Key issues

The key issues presented at the workshop were identified by the region's stakeholders through the development of strategic planning documents developed for the region, like the Great South Coast Regional Strategic Plan 2010 (see Appendix 2 slide 37 for table of key issues). Participants identified the following additional key issues for the region:

- Impact of changing governments on priorities and funding options often with no alignment to the previous government's priorities
- Insufficient community capacity
- Resilience to natural disasters
- Transport including roads, rail and ports
- Impact of climate change on health and farm productivity

These issues have been included in the updated key issue list (see Table 1).

Participants of the workshop felt that the key issues list needs to be condensed to be more engaging for the next stage of the project. Several ideas for how to do this were floated, from including only those indicators that have direct implications for the sustainability of the region or those that have tipping points, group key issues into themes, only include issues directly linked with indicators chosen in the next stage, or only include those that can be measured. The key issue list has been condensed for the Workshop 2 series by grouping key issues into themes (see below and Table 1). The key issues will be re-addressed after feedback from stakeholders during the Workshop 2 series is completed.

The summarised key issues for the Great South West are:

1. Degradation of natural ecosystems health and functioning
2. Changes in population
3. Impacts on economic wellbeing of labour and skills shortages and ability to retain staff
4. Community wellbeing issues such violent crime and family violence, health and resilience
5. Climate change impacts on the region
6. Services and infrastructure provision issues
7. Lack of strong regional planning and resultant land use change impacts
8. Resource issues including water, green energy, organic waste, food security, community capacity and education

The key issues for the region can change quickly, as such the framework developed needs to be able to deal with changes in key issues. This will be done through regular review of the key issues and indicators used, through community engagement. The methods for this will be outlined in the protocols.

Table 1: Key issues for the Great South West identified by workshop participants and from the Great South Coast Regional Strategic Plan 2010, GHCMA Regional Catchment Strategy, Towards Environmental Sustainability in the South West: Priorities Direction Statement 2010-2012.

Themes	Key Issues
Natural ecosystems health & functioning	Loss of native vegetation, including riparian vegetation
	Loss & degradation of wetlands
	Highly fragmented ecosystems including highly modified coastal landscapes threaten biodiversity
	Saltmarsh, estuarine and tidal systems threatened
	Significant areas of dryland salinity, acidification, soil degradation & erosion
	Pest species threaten biodiversity
	Farming, fisheries and aquaculture practices impacting on catchment health & biodiversity
Population changes	Population growth/development pressure on coastal areas
	Declining population in inland small towns
	Loss of rural youth to urban centres
	Ageing population/increasing demands on support services
Economic wellbeing	Labour and skills shortages in industry and service sectors
	Ability to attract and retain staff
Community wellbeing	High levels of violent crime & family violence
	High levels of obesity, diabetes, smoking, alcohol consumption, unhealthy eating and low levels of physical exercise
	Resilience to natural disasters
Climate change impacts	Many areas, some groups in community & biodiversity vulnerable to the impacts of climate change
	Climate change impacts on water availability
	Climate change impacts on community health
	Climate change impacts on farm productivity
Service and infrastructure provision	Inequitable access to services, education, employment in some inland areas
	Transport including roads, rail and ports
Planning issues	Regional planning undeveloped
	Land use change (peri-urban, blue gums, etc) impacts on environment & access to services, infrastructure, employment and education
	Changes in government causing changes in priorities and funding
Resource issues	Water quality decreasing
	Poor regulation of water resources with extraction/diversion increasing
	Green energy industry poorly developed
	Organic waste not captured & recycled
	Food security threatened by residential development
	Insufficient community capacity
	Low levels of year 12 completions/post-secondary education

Indicators

The main comment about the list of AIRS and Core Indicators (from *Getting Started: A guide to developing regional sustainability indicators in Victoria*) presented was that the indicators included need to link to LGA reporting obligations. This will help ensure that the indicator set developed by this project is adopted by the LGAs in the region. Thus, the reporting obligations of the LGAs will be investigated and the indicators used for the sustainability assessment will be linked to these where possible.

Evaluation of workshop

Participants were asked to fill in a questionnaire online after the workshop to help evaluate the workshop. This evaluation showed that participants overall were very positive about the workshop, how it was run and its outcomes. Participants were happy with the level of discussion and range of view points represented and considered with consensus reached. They felt it was a good to get the project started. These thoughts were echoed by the researcher. Upon reflection, the researcher felt that the workshop worked well, producing fruitful discussion where everyone's opinions were heard and considered, with consensus arrived at for most decisions about the framework.

However, there was some feeling amongst participants that the workshop could have been pushed harder to get through it quicker. The researcher also felt that if the workshop was to be run over again, tighter facilitation would be required with a shorter lunch to make sure all topics were covered fully during the allotted time. Also, the commitment to engagement was felt to be good by participants, but they expressed a need to ensure the framework and assessment has scientific grounding.

Summary

The first stage of the *Regional Sustainability Indicators Framework for South West Victoria* project aimed at defining the framework for the sustainability indicators through a workshop involving the Project Executive Group and the Project Reference Group. Through this workshop, the project's methods were reviewed and agreed to with some additions, including an implementation plan for ongoing reporting in the region, and encouraging other regions in the state and nationally to use this template to develop a sustainability report card. The vision for the sustainability of the region was defined, as was the purpose and audience for the assessment produced. The boundary for the assessment was agreed to be the 6 councils that make up the Barwon South West – Great South Coast (namely, Glenelg, Moyne, Warrnambool, Southern Grampians, Corangamite and Colac Otways) with the scale of assessment being the LGA scale. The region will be called the 'Great South West'. The key sustainability issues identified for the region were reviewed during the workshop with additional issues added to the list. This list was then condensed by the researcher after the workshop to 'key issue themes' to simplify it for the next stage of the project.

The framework for the assessment was also defined during the workshop. The human-ecosystem linked model of sustainability will be used to frame the indicators and the sustainability assessment. In line with this, the assessment will involve the development of an aggregated index of wellbeing, including human, ecosystem and overall wellbeing, based on the Wellbeing Index of Prescott-Allen (2001). This will incorporate both community perceptions and the current understanding of the importance of individual indicators to regional sustainability. The assessment produced will be

communicated in three formats: 1) Great South West Community Report Card, a one page graphical representation of the aggregated index and the ranking of individual indicators for each LGA; 2) a technical report including all indicators performance for each LGA and the relation to the region's sustainability; and 3) online interactive indicator reports which are updated as data becomes available. Thus, through the efforts of the participants of the workshop, the framework for the sustainability indicators and report card (referred to as the Great South West Community Report Card) have been defined. This framework will be used as the basis for the following stages of the project.

The next stage of the project is the development of an agreed indicator set for the report card. This will be done through a workshop series for stakeholders and community, as well as a survey of residents in the Great South West.

References

Bennetto, L., Martin, R., Nichols, J., Riddle, L., Worland, R. (2010). *The Great South Coast Regional Strategic Plan*. Barwon South West Regional Management Forum and Regional Development Australia, Geelong. (accessed

Byrne, S., Wallis, A. M. and Graymore, M. L. M. (2010). Getting Started: A guide to developing regional sustainability indicators in Victoria.

Gahin, R., Veleva, V., Hart, M. (2003). Do indicators help create sustainable communities? Local Environment 8, 661-666.

Glenelg Hopkins Catchment Management Authority (2003). Glenelg Hopkins Regional Catchment Strategy 2003-2007. Glenelg Hopkins Catchment Management Authority, Hamilton. (accessed

Graymore, M.L.M., Sipe, N.G. and Rickson, R.E. (2008). "Regional Sustainability: How useful are current tools of sustainability assessment at the regional scale?" Ecological Economics. 67, 362–372.

Graymore, M., Wallis, A., Richards, A., O'Toole, K., Mitchell, B. (2007). A GIS-based multiple criteria analysis tool for sustainability assessment in Glenelg Hopkins Catchment. School of Life and Environmental Sciences, Deakin University, Warrnambool.

Jacksonville Community Council Inc. (2010). Quality of life progress report for Jacksonville and Northeast Florida: Summary Document. City of Jacksonville and the United Way of Northeast Florida, Jacksonville.

Natural Assets Alliance of the South West Sustainability Partnership (2010). Towards environmental sustainability in the South West: priorities direction statement 2010-2012. South West Sustainability Partnership, Hamilton.

Prescott-Allen, R. (2001). The wellbeing of nations: a country-by-country index of quality of life and the environment Washington: Island Press.

Regional Development Victoria (2010). Ready for Tomorrow: A blueprint for regional and rural Victoria. State Government Victoria, Melbourne.

Richards, A.J., Wallis, A.M., Graymore, M.M.L. (2007). An Index of Regional Sustainability (AIRS): Incorporating system processes into sustainability assessment. 2007 ANZSEE Conference, Re-inventing Sustainability: A climate for change, Noosa Lakes, Queensland, Australia.

South West Sustainability Partnership (2001). South West Sustainability Blueprint. South West Sustainability Partnership, Hamilton, Victoria, Australia.

Wackernagel, M. and Yount, J. D. (1998). The ecological footprint: an indicator of progress toward regional sustainability. Environmental Monitoring and Assessment 51, 511-29.

Wallis, A.M., Kelly, A.R., Graymore, M.L.M. (2010). Assessing sustainability: a technical fix or a means of social learning? *International Journal of Sustainable Development & World Ecology* **17**, 67 - 75.

Wallis, A., Barrot, M. (2005). Is South West Victoria Sustainable? A report on sustainability indicators. School of Ecology and Environment, Deakin University, Warrnambool.

Wallis, A., Wallis, R. (2004). Catchment to regional scale indicators of sustainability. Hong Kong: 12th International Conference of Greening of Industry Network, University of Hong Kong.

Appendix 1: Workshop Attendees

Brad Henderson (Wannon Water), Lilian Parker (Glenelg Hopkins CMA), Kylie McIntyre (Southern Grampians Shire Council), Patrick Shaw (DSE - Colac), Michael Fendley (DSE- Bendigo), Andrew Straker (DSE - Ballarat), Dave Watson (DSE - Ballarat), Linda Duffy (DSE - Bendigo), Julia Stanley (DSE - Geelong), Richard Hodgens (Moyne Shire Council), Lisette Mill (Moyne Shire Council) and Steve Cameron (Corangamite CMA). Christine Kilmartin (DPCD) provided input via phone.

Thank you to all the workshop participants, your valuable input has provided the basis for the Great South West Community Report Card.

Appendix 2: Workshop Agenda

Regional Sustainability Indicators Framework for South West Victoria

Project Executive Group and Project Reference Group

Workshop 1 Agenda

Friday 25 February 2011 - 11.00 am to 3 pm

Meeting venue: Wannon Water Office – Warrnambool

40 Gateway Rd, Warrnambool, VIC, 3280

Chair: Michelle Graymore

11.00 am	**Welcome and introductions**	Michelle Graymore
11.15 am	**Project background and overview**	Michelle Graymore

11.35 am	**Discussion and agreement on:**
	• **Purpose & audience**
	• **Framework for the Sustainability Assessment, including:**
	  • **the sustainability model to base the assessment**
	  • **level of aggregation and/or data analysis**
	  • **type of reporting/communication**
		Facilitated by Michelle Graymore

1.00 pm	**Lunch**	
1.30 pm	**Key issues for South West Victoria's sustainability**	Michelle Graymore
1.40 pm	**Discussion on other key issues for the region**	Facilitated by Michelle Graymore
2.10 pm	**Discussion on AIRS indicators and framework**	Facilitated by Michelle Graymore
2.30 pm	**General discussion on sustainability indicators framework for South West Victoria**	Facilitated by Michelle Graymore
2.50 pm	**Next meeting dates to be determined**	Michelle Graymore
3 pm	**Close**	

Appendix 3: Workshop Presentation

See attached presentation overleaf.