



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

A consultative process for examining the links between natural resource management decisions and economic sustainability and social well-being in NSW Catchments

WORKING PAPER 3



Don Vernon, Ruth Thomason, Thomas G Measham,
Jim Cavaye, Peter Brown, Rohan Nelson and Tim Cummins
NSW Department of Primary Industries

WORKING PAPER SERIES FOR TARGET 12:
ECONOMIC SUSTAINABILITY AND SOCIAL WELL-BEING

JANUARY 2009, WWW.DPI.NSW.GOV.AU

A consultative process for examining the links between natural resource management decisions and economic sustainability and social well-being in NSW Catchments

Working Paper 3

Working Paper Series for Target 12:
Economic Sustainability and Social Well-being

Don Vernon, Ruth Thomason, Thomas G Measham,
Jim Cavaye, Peter Brown, Rohan Nelson and Tim Cummins

NSW Department of Primary Industries

January 2009



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

**Working Paper 3 of Working Paper Series for Target 12:
Economic Sustainability and Social Well-Being**

This publication should be cited as: Vernon, D., Thomason, R., Measham, T. G., Cavaye, J., Brown, P., Nelson, R. & Cummins, T. 2009, *A consultative process for examining the links between natural resource management decisions and economic sustainability and social well-being in NSW catchments*, Working Paper 3 in Target 12 Working Paper Series, NSW Department of Primary Industries, Orange, NSW.

© State of New South Wales through Department of Primary Industries 2009

This publication is copyright. You may download, display, print and reproduce this material in an unaltered form only (retaining this notice) for your personal use or for non-commercial use within your organisation. To copy, adapt, publish, distribute or commercialise any of this publication you will need to seek permission from the Manager Publishing, Industry and Investment NSW, Orange.

For updates to this publication, check <http://www.industry.nsw.gov.au/>

Published by NSW Department of Primary Industries

First published January 2009

ISBN 978 1 74256 037 3

Disclaimer The information contained in this publication is based on knowledge and understanding at the time of writing (January 2009). However, because of advances in knowledge, users are reminded of the need to ensure that information on which they rely is up to date and to check the currency of the information with the appropriate departmental officer or the user's independent advisor.

CONTENTS

EXECUTIVE SUMMARY	1
INTRODUCTION	1
BACKGROUND	1
LITERATURE REVIEW	2
RESEARCH METHOD	3
Preliminary work	3
Phase 1: Pilot projects	5
Phase 2: State-wide roll out	9
CONCLUSIONS	12
NEXT STEPS	13
REFERENCES	14
Appendix 1 – Full list of indicators	1
Appendix 2 – Sample state of catchment report	4
Appendix 3 – Sample letter to potential focus group participants	6
Appendix 4 – Guidelines for conducting focus groups to assess economic sustainability social well-being	7
Appendix 5 – Summary of main points from pilot activities	13
Appendix 6 – Spreadsheet used to record information collected in focus groups and interviews	14
Appendix 7 - Stakeholder summary report	16

List of Figures

1... Steps in the process	10
---------------------------	----

List of Tables

1... Questions asked in focus groups	6
2... Sampling frame for the pilots	8
3... Locations and number of participants in the state-wide roll out	13

EXECUTIVE SUMMARY

Natural resource management (NRM) is a human activity. Accordingly, to improve NRM practices and outcomes, it is necessary to have information which monitors the human impacts of these activities.

This report outlines a consultative process used to undertake socio-economic monitoring, evaluating and reporting (MER) at the catchment level. It concludes that greater engagement by stakeholders in natural resource decision making will reduce the need for government to be responsible for improving NRM practices.

The aim of the project is to provide a state-wide assessment of the condition of the linkages between natural resource decisions and economic sustainability and social well-being (ESSW). The method included:

- Reviewing existing social research;
- Conducting field work to gather qualitative data from key stakeholders (Aboriginal people, townspeople, landholders and people deeply involved in NRM); and,
- Obtaining quantitative data from the ABS that provides a statistical background to the qualitative data.

The consultation process applied in the study has been documented in this report to enable *State of catchment reports* to be generated in the future for monitoring, evaluation and reporting purposes. The key lessons learned in this process were:

1. The process, while providing only a snapshot at catchment level, provided a good overview of the linkages between NRM and ESSW at the state-wide level; and,
2. The level of involvement of Catchment Management Authorities (CMA) had a large influence on the quality and quantity of information that was collected.
3. Focus group participants spoke about their knowledge of the part of the catchment they lived in, but noted that their observations could not be scaled up for the entire catchment.

During the fieldwork with key stakeholders and CMA staff it became clear that despite community perception of over-consultation and few results, all groups were keen to represent their 'patch' and were fully engaged in the discussions for the following five reasons which are explained in the conclusion:

1. *The value of an overarching socio-economic framework for NRM;*
2. *Strengthening NRM networks;*
3. *Improved NRM decision making processes;*
4. *Reducing Government intervention in NRM;* and
5. *Enhancing trust in NSW Government MER Strategy.*

The mechanism for identifying informed participants, representing key stakeholder groups, was the local relationships established by CMA staff, and the greatest utility of the information gathered is for decision making within the catchment. Therefore, the key recommendation of the report is to undertake a process of skills transfer (socio-economic monitoring, evaluating and reporting) to build capacity in both CMAs and NRM agency staff who are responsible for regularly making devolved investment decisions. This work is being undertaken through a NSW Catchment Action project that will be reported on at a later date. Further this information, if collected in a consistent manner, will be suitable for efficiently feeding into a state-wide assessment suitable for State of Environment reporting.

INTRODUCTION

This report explains activities undertaken by the NSW Department of Primary Industries (NSW DPI) as part of a larger project to address Target 12 that public investments in natural resource management (NRM) contribute to improving or maintaining economic sustainability and social well-being (ESSW). Target 12 is one of 13 state-wide targets for NRM adopted by the NSW Government in the NSW State Plan. The report explains the pilot projects and state-wide roll out for a process developed by NSW DPI to examine the links between NRM decisions and ESSW in NSW catchments.

The process is a broad, flexible way for Catchment Management Authorities (CMA) and other NRM agencies to monitor the impacts of decision making on the economic sustainability and social well-being of local communities. It combines consultative activities (interviews, focus groups and surveys) with a review of statistical information from sources such as the Australian Bureau of Statistics. The information collected is summarised in standardised *State of catchment reports* provided to the Natural Resources Information Needs Committee of the National Resource and Environment CEO's cluster.

The pilot projects and state-wide roll out represent two phases in this project:

Phase 1. Pilot projects to test the process developed by the Target 12 project team (which consisted of the authors of this paper) were conducted in the Central West and Hunter-Central Rivers catchments.

Phase 2. This phase consisted of revising the process in Phase 1 and conducting focus groups, interviews and surveys in eight other catchments. Phase 2 is referred to as the 'state-wide roll out'.

BACKGROUND

The process explained in this report was developed to address Target 12, one of thirteen state-wide targets for NRM adopted by the NSW Government in the State Plan under Priority E4.

Priority E4 in the State Plan is 'better outcomes for native vegetation, biodiversity, land, rivers and coastal waterways'. Target 12 is 'Natural resource decisions contribute to improving or maintaining economic sustainability and social well-being'.

The NSW Natural Resources Commission, which developed all thirteen targets, qualifies that the 'intent of Target 12 is not to measure the success of NRM against the overall health and well-being of communities since so many other factors influence these outcomes'. The Commission has placed the emphasis on monitoring, evaluating and reporting the *contributions of NRM decisions* to economic sustainability and social well-being *rather* than measuring a communities' overall vitality.

NSW DPI is the theme leader for Target 12 and responsible for the development of a socio-economic monitoring, evaluating and reporting program for NRM.

LITERATURE REVIEW

There is no single set of indicators or single scale that can be used to assess social well-being or economic sustainability (Pacione 2003; Reeve, Stayner and Marshall 2007) since there is no agreement on what is to be measured.¹ For example, the term *sustainability*, widely used across social, economic, environmental and policy domains, has been defined in the following ways:

- meeting the needs of the present without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development, 1987, p 43).
- the likelihood an existing system of resource use will persist indefinitely without a decline in the resource base or in the social welfare it delivers (Walker and Salt, 2006, p 165).
- using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased (Commonwealth Government (1990)²).

For the purpose of this report a *sustainable economy* preserves its capacity to generate income, which is made possible by maintaining natural capital.

Social well-being is related to concepts such as 'quality of life' and 'social justice' (Smith, 1973; Andrews and Withey 1976). However, there is no universal agreement on a definition of *social well-being*. In this report, both *objective components* (quantitative data) such as income and health and *subjective components* (qualitative data) such as how we feel about life are considered because both of these influence well-being (van Kamp et al 2003).

Despite the lack of a set of social well-being indicators, and a recognition that increases in some measures of social well-being (such as gross domestic product) may obscure problems such as uneven distribution of benefits, there are a number of areas which are likely to provide useful and measurable information about social well-being. These include: personal and community health; levels of social justice; views about security, quality of interpersonal relationships, perceptions of social networks and connectedness; levels of education; housing quality and availability; and the ecological health of the surrounding environment (e.g. air and water quality).

¹ See (1) Pacione, M. (2003). Urban environmental quality and human well being: a social geographical perspective. *Landscape and urban planning*, 65, pp. 19-30 and (2) I Reeve, R Stayner and G Marshall (2007) 'T12 Development Paper – Measures of Social and Economic Well-Being in Natural Resource Governance', Report to NRC Community Target 12, NSW Department of Primary Industries, Institute for Rural Futures, University of New England, Armidale.

² www.environment.gov.au/esd/national/nsesd/strategy/intro.html#WIESD

RESEARCH METHOD

Preliminary work

To fulfil the requirement to develop a monitoring, evaluating and reporting program, the Target 12 project team designed a consultative process for examining the links between NRM decisions and economic sustainability and social well-being in NSW catchments.

The Target 12 project team set the following criteria to assess the process that was to be used. It must:

- Collect information not otherwise available from existing studies.
- Collect information at a relevant level.
- Fit with NSW monitoring, evaluating and reporting requirements.
- Be cost effective and repeatable.
- Be simple and relevant.
- Contribute to the capacity building of participants.
- Minimise stress for the volunteers involved.
- Collect information that is easy to store, interpret, present and communicate.
- Be transparent.

After reviewing a range of qualitative data collection methods, the Target 12 project team decided to conduct focus groups and interviews to collect the views of stakeholders in various catchments. Participants would be guided through a series of questions to collect information about their views on the impacts of NRM and their contributions to ESSW in their local area.

The Target 12 project team brainstormed a list of indicators of economic sustainability and social well-being. To reduce the number of indicators, each one was then assessed against three criteria – its relevance to NRM change, importance to economic sustainability and social well-being and ease of measurement.

The indicators selected were:

- Business profitability, sustainability and expansion
- Employment levels
- Attainment of formal and informal skills
- Community networks and interaction
- Participation in NRM decision making
- Effectiveness of NRM decision making

The full list of indicators and how they were assessed appears in Appendix 1.

A list of questions were developed that asked about the general state of the catchment and led to specific questions on the impact of NRM decisions on economic sustainability and social well-being. The questions were ordered into a semi-structured format, pre-tested with two groups and revised.

The final list of questions that were used in Phase 1 appears in Table 1.

Table 1. Questions asked in focus groups and interviews in Phase 1

<p>1. Economic sustainability and social well-being – current situation In a general sense, how do you think that the community and economy of the catchment are going at the moment?</p> <p>If you had to rate it from 1-5 what would it be? Why?</p> <p style="text-align: center;">Poorly 1 2 3 4 5 Well</p> <p><i>Reasons:</i></p> <p>2. Economic sustainability and social well-being – maintaining health (a) When you think of the catchment, what are the things that you feel are most important in maintaining a healthy community and economy? Social: Economic:</p> <p><i>Prompts: What about in terms of social connections, participation and function of organisations?</i> <i>Prompts: What about in terms of employment, income, business profitability and value of assets?</i></p> <p>(b) Which of the things above do you agree on and which are debated? Social: Agreed aspects / Debated aspects Economic: Agreed aspects / Debated aspects</p> <p>3. Identifying landscape changes (a) Over recent years, what changes in the environment have you noticed across the catchment? What has caused these changes? Who has been involved?</p> <p>(b) What change(s) can you attribute to CMA activity?</p> <p>4. Economic impacts of landscape changes What impact do you feel these environmental changes have had on the economy in the region? How do these relate to the issues we discussed in question 1?</p> <p>Strong / no impact / weak</p> <p>5. Social impacts of landscape changes What impact do you feel these environmental changes have had on the community? How do these relate to the issues we discussed in question 1?</p> <p>Strong / no impact / weak</p> <p>6. Community engagement (a) How has the way the CMA works with community members impacted on economic and social well-being in the region? How else has the CMA influenced connections and networks within the community? Social: Positive None Negative Economic: Positive None Negative</p> <p><i>Prompts: connectedness, participation and governance</i></p> <p>(b) Which of these do you all agree on? Agreed areas: Debated areas:</p> <p>7. What kind of further activities would make a positive difference to the social well-being and/or economy of the community? What could the CMA do differently to better incorporate social and economic dimensions in decision making? (e.g. representation, education activities).</p> <p>8. Do you have any further comments?</p>
--

The reporting requirements of the NSW MER Strategy were to produce a summary of the linkages between NRM and ESSW for each catchment. These were produced by combining the information collected in the focus groups and interviews, reviewing relevant research and statistical data. A template was developed by the Target 12 project team. An outline of the sections in the final report, called *State of Catchment reports*, appears in Appendix 2.

The NRM agencies responsible for the MER of the 13 NSW State Plan E4 targets coordinated by the Department of Environment and Climate Change (DECC) agreed to implement catchment reporting in the following two phases.

Phase 1. Pilot projects were conducted in two NSW catchments: the Central West and Hunter-Central Rivers.

Phase 2. This phase consisted of revising the process based on lessons learned in Phase 1 and conducting the consultative process in eight other catchments. Phase 2 is referred to as the ‘state-wide roll out’.

Phase 1: Pilot projects

The steps followed in Phase 1 are explained below and summarised in Figure 1.

Step 1. Planning

A collaborative project team was created which consisted of NSW DPI and CSIRO staff and consultants. The role of the group was to conduct fieldwork testing of the Target 12 approach for pilot projects in two catchments.

Introductory meetings were held with representatives from each CMA to explain the project to senior staff, identify key stakeholders in the region and to select locations for the focus groups and interview participants.

The CMA Monitoring Evaluation and Reporting staff then became the main point of contact for arranging the focus groups and interviews.

Five focus groups and ten interviews were organised in each catchment.

Step 2. Selecting indicators and formulating questions

The focus group questions and indicators were reviewed by the project management team with the two participating catchments in mind to assess whether any changes would be made to address issues specific to the locations. No changes were made.

A system to record information was created. It consisted of a series of spreadsheets (see Appendix 2). The purpose of the spreadsheets was to give a structure to the notes taken during the focus groups.

Step 3. Reviewing existing information

To increase confidence in the legitimacy of the information collected in the fieldwork (which involved a small sample size), statistics collected at a large scale were reviewed. Data from Australian Bureau of Statistics, Australian Bureau of Agricultural and Resource Economics and other relevant sources were reviewed. The data is considered useful to support and interpret some of the information collected in the focus groups and interviews.

Step 4. Identifying who to talk to

The sampling frame used in Phase 1 included the following stakeholder groups:

- Indigenous people
- Landholders
- Town/urban dwellers

The stakeholder groups were further divided into: individuals who were directly involved with the CMA and those who had less contact. Individuals who are directly involved with CMA are likely to have a good, first-hand understanding of the CMA's projects and activities and informed opinions on how and to what extent they contribute to ESSW. Individuals who have less contact with CMA are likely to have a lower awareness level of NRM activities in their area and may not know who has implemented them (e.g. CMA, state or local government). The perspectives of both groups of individuals were of interest in this phase.

The sampling frame is represented in the following table.

Table 2. Sampling frame for Phase 1

Stakeholder group	Indigenous people	Landholders	Town/Urban dwellers
High level of contact with CMA			
Low level of contact with CMA			

The stakeholder groups are not necessarily discrete. For example, a town dweller may also be an Indigenous person. It is acknowledged that there are other groups within catchments that were not reflected in the above groupings (e.g. business people and youth).

Step 5. Collecting qualitative data

In the Hunter-Central Rivers CMA five focus groups involving a total of 20 people were conducted. The groups consisted of representatives from the CMA Aboriginal reference group, Aboriginal traditional owners, NRM volunteers, the CMA reference group and Hunter councils.

Ten interviews were also conducted with representatives from the following groups: land owners, small businesses, the general community and local government.

In the Central West CMA five focus groups involving a total of 20 people were conducted. The groups consisted of representatives from the CMA Aboriginal reference group, Aboriginal traditional owners, NRM volunteers, the CMA reference group and Central West councils.

Ten interviews were also conducted with representatives from the following groups: land owners, small businesses, the general community and local government.

Central West CMA staff contributed performance stories that were included in the *State of catchment report*.

To organise the focus groups and interviews in each catchment took five person-days and ten person-days were required in the field. The focus groups and interviews took place between late April and late May 2008.

An example of the letter inviting people to participate in a focus group appears in Appendix 3. The guidelines followed in the focus groups appear in Appendix 4. A summary of the main points raised in the focus groups and interviews in each catchment is given in Appendix 5.

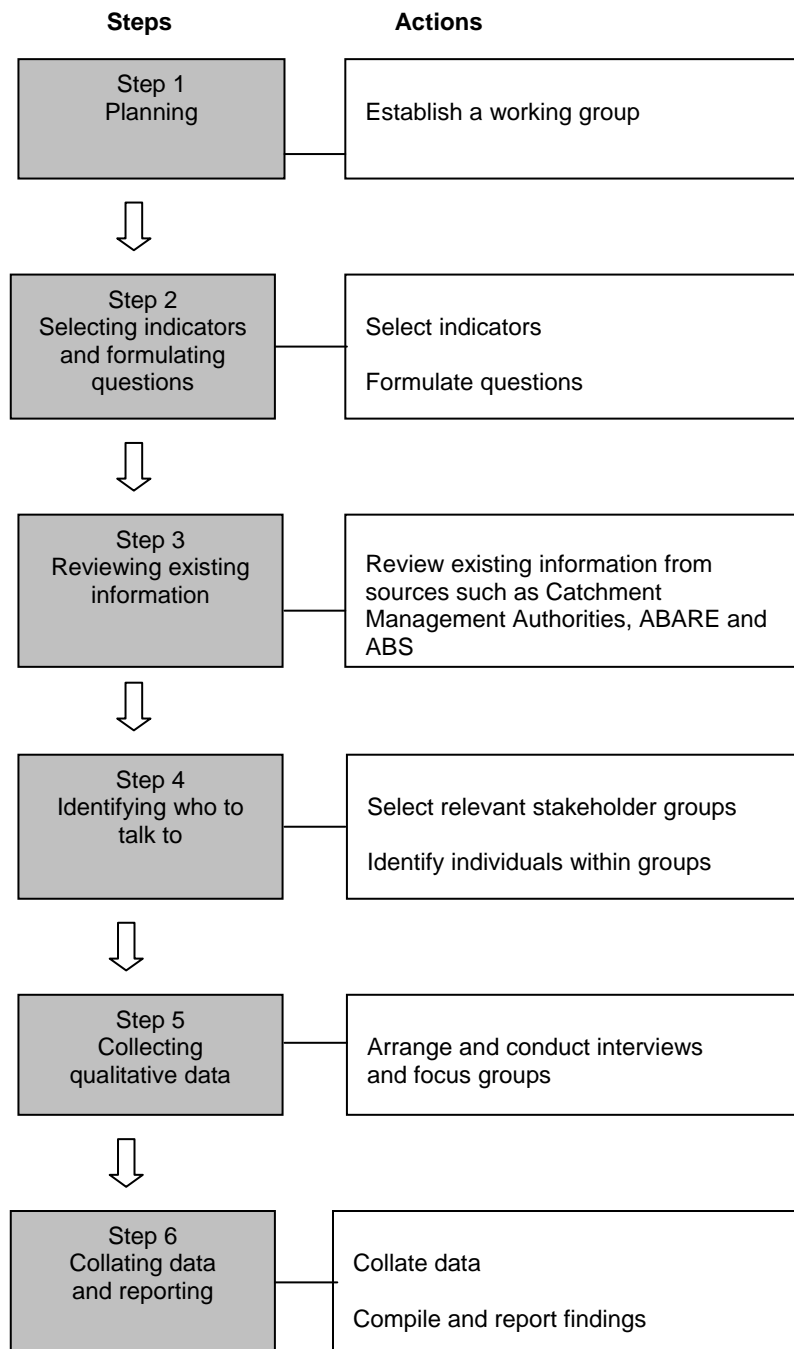
Step 6: Collating data and reporting

After each focus group and interview, the project management team members who were involved met to compare their notes, identify areas of improvement and to discuss any issues in more detail.

The facilitator entered the information from each question into a spreadsheet (Appendix 6). A single summary spreadsheet was created that synthesised the comments from all the activities in each catchment. It was called a *Stakeholder summary report*, and an example is shown in Appendix 7.

The information collected in Phase 1 was combined with existing information (collected in Step 3) to produce draft *State of catchment reports* for the Hunter-Central Rivers and Central West catchments (Appendix 2). The reports were submitted to DECC.

Figure 1. Steps in Phase 1



Analysis and discussion of Phase 1 pilot projects

The project team's experiences from the activities in Phase 1 were discussed in a structured debrief to identify issues and improvements. The lessons learned from the pilot testing are noted as follows:

- Support from CMA General Managers and senior staff is critical to run the focus groups. Without it, the process is much more costly.
- The participants who are selected should represent different locations within the catchment.
- Demonstrating an example of the way their information will be used helps establish credibility with participants, e.g. by showing a draft *State of Catchment* report.
- Providing a small incentive to non-government participants, such as a book or fuel voucher, increases the number of people willing to participate in a focus group or interview. The time participants volunteered must be acknowledged, since focus groups and interviews are an extractive process and many of the same people are expected to participate in a wide range of government engagement exercises.
- Conducting many focus groups and interviews in a short period of time presents challenges for recording the information collected in each session.
- Focus group and interview participants appreciate a summary at the end of session to help them understand the overall project to which they are contributing.
- It is best to record 'performance stories' (like anecdotes or case studies) during a focus group or interview and not afterwards as individuals often lack the time to follow up.
- To enhance information exchange, it is very important to have independent facilitators.
- At least two people are needed to run a focus group: a facilitator and a scribe/note taker. A third person, a recorder, helps as a back-up for the note taker.
- Organising activities in the school holidays greatly reduces participation rates.
- Two weeks in advance is the ideal time to invite people to attend a focus group or interview.

Phase 2: State-wide roll out

With the exception of the following changes, which were based on the lessons learned in Phase 1, the steps followed in Phase 2 were very similar to the first phase.

- It was decided to work with Culture and Heritage in DECC to develop a single statement to represent the views of Indigenous people to include in the *State of catchment reports* since field data from Aboriginal people at both catchment and state-wide level was extremely consistent.

The accuracy and relevance of this statement was verified with Indigenous people in interviews and Indigenous CMA staff during Phase 2.

Thus the stakeholder groups in the sampling frame were revised to: landholders, townspeople and those deeply involved in NRM.

- Ten was the target number of interviews to conduct in each catchment, with half of the interviews conducted by telephone.
- The questions were revised to seek comments on all government bodies, not just CMAs.
- Focus group participants were asked to comment on the relevance of the chosen indicators and also what they would like to see in the *State of Catchment reports*. This step provided internal MER for this project.
- If relevant research had already been conducted by a CMA, it was used instead of conducting more focus groups and interviews to avoid ‘over consultation’.
- Written surveys were used in two catchments. The reasons are given in the next section.

Analysis and discussion of Phase 2 state-wide roll out

Focus groups and interviews were conducted in eight of the remaining 11 CMAs by consultants and NSW DPI staff.

After committing initially, the Namoi CMA and Murrumbidgee CMA withdrew from the project so it was not possible to conduct focus groups and interviews and produce a *State of Catchment report* for these two CMAs.

For the Sydney Metro CMA, existing information and consultation with local NSW DPI staff was used to write the *State of Catchment report*. This decision was made because information was readily available and would be difficult to capture in a limited number of interviews and focus groups given the diverse nature of the Sydney Metro area.

The following factors influenced the quality and amount of information collected in other catchments.

- The Border Rivers-Gwydir CMA and Southern Rivers CMA had recently completed significant surveys which collected information which was similar to this project’s requirements. To avoid over consultation with the community it was decided to use the information from the surveys and reduce the number of focus groups and interviews. This approach still allowed enough primary information to be collected to confidently interpret the CMA’s own surveys.
- The Lower Murray Darling CMA was very interested in participating but was going through a period of significant staff turnover. Fortunately, one of the project’s consultants was seconded by the Lower Murray Darling CMA and helped to identify some focus group participants. However, it wasn’t possible to include all stakeholder groups.
- The Hawkesbury Nepean CMA had difficulties identifying participants. To address this challenge, the project team attended focus group on a related topic conducted as part of a different project and recorded relevant information.

The Western CMA had concerns about their small population size and community's willingness to be involved. It was therefore decided to reduce the number of focus groups to one mixed group and to put a mail survey in the *Western District Newsletter* with a response incentive. The survey questions (Appendix 8) were similar to those asked in the focus groups. Although the newsletter is delivered to 1800 households, only six responses were received for the Western Catchment, a response rate that is interpreted as reflecting the low level of trust in positive change for the catchment resulting from community consultation. Due to time constraints and the availability of NSW DPI and CMA staff, the focus groups and interviews conducted were not geospatially representative of the catchments. Rather, they were snapshots of locations within the catchments.

The table below summarises the number of participants in each catchment in Phase 2.

Table 3. Number of participants in Phase 2 by catchment

Catchment	Landholders			Townspeople		PIA		TOTAL S
	I	FG	W	I	FG	I	FG	
Lachlan	4	4		4	8	-	3	23
Lower Murray Darling	2	5	2	2	4	-	-	15
Murray	12	2		1	3	1	-	19
Northern Rivers	7	3		1	4	-	6	21
Southern Rivers	5	-		7	3	-	6	21
Western	3	-	6	3	-	-	10	22
Border Rivers-Gwydir	-	-		7	-	-	-	7
Hawkesbury Nepean	-	8		-	4	-	4	16
Sydney Metro	Secondary data only used							
Murrumbidgee	Did not participate							
Namoi	Did not participate							
TOTALS	33	22	8	25	26	1	29	144
	63			51		30		

PIA – Priority investment area, I – interviews, FG – Focus groups, W – Written surveys

The information collected in Phase 2 was combined with other statistical data and summarised. *State of Catchment reports* were produced for the eight catchments that participated in Phase 2 and the Sydney Metro CMA. These nine reports, along with the two reports from Phase 1 (for the Central West and Hunter-Central Rivers catchments), were submitted to DECC in December 2008.

CONCLUSIONS

A consultative process to examine the likely impact of NRM decisions on economic sustainability and natural resources management was developed by the Target 12 project team, piloted in two catchments and rolled out in eight of the remaining 11 catchments in NSW.

Information about participants' perceptions of NRM's contributions to economic sustainability and social well-being, which was previously unavailable, was collected during this project. The information collected was combined with statistical data to produce *State of Catchment reports* for 11 catchments. These reports provide a snapshot of the linkages between changes in NRM and the community, focussing on those linkages that can be influenced by government.

The decision to take a community based approach centred on understanding key stakeholder perspectives was recognized as important by the participants in promoting unconstrained discussions necessary for the ESSW study. Utilising this approach and the knowledge gained is critical to the goals of adaptive governance, especially in the context of the changing contributions (due to drought, for example) by NRM to economic sustainability and social well-being.

The process that was used has been documented in this report to enable *State of catchment reports* to be generated in the future for monitoring, evaluation and reporting purposes. The key lessons learned in this process were:

1. The process, while providing only a snapshot at catchment level, provided a good overview of the linkages between NRM and ESSW at the state-wide level.
2. The level of involvement of CMAs had a large influence on the quality and quantity of information that was collected.
3. Focus group participants spoke about their knowledge of the part of the catchment they lived in, but noted that their observations could not be scaled up for the entire catchment.

During the fieldwork with key stakeholders and the CMA staff it became clear that despite community perception of over-consultation and few results, all groups were keen to represent their 'patch' and were fully engaged in the discussions for the following five reasons:

1. *The value to the broader community of an overarching socio-economic framework for NRM:* Participants indicated that the socio-economic MER process should be more extensive: it is '*the*' issue which underpins all biophysical targets.
2. *Strengthening NRM networks:* The forum of key people and CMAs in a facilitated discussion was valuable for enhancing NRM networks as these matters are not routinely discussed.
3. *Improved NRM decision making processes:* Participants appreciated the integral (although sometimes subtle) connections between NRM and the vitality of their communities. They want to contribute to and feel a sense of responsibility both for on ground works and NRM decision making processes at local and state and national levels.

4. *Reducing Government intervention in NRM*: Government is obliged to become involved in intractable issues to promote public benefits which would not otherwise occur under market conditions. Participants indicated that they are willing to undertake practices leading to improved resource condition with minimal or no government incentives. Therefore by enhancing community ownership of NRM through the ESSW MER processes, the NSW Government is encouraging positive behavioural change within catchments and providing information necessary to effectively tackle the complexities of improving NRM.
5. *Enhancing trust in NSW Government MER Strategy*: Great value was placed by many participants on the draft report cards as a communication tool. A preliminary draft was used during the focus groups for evaluation of the chosen indicators' local relevancy and to demonstrate the way participant's information could be reported.

The key recommendation of the report is to undertake a process of skills transfer (socio-economic monitoring, evaluating and reporting) to build capacity in both CMAs and NRM agency staff who are responsible for regularly making devolved investment decisions. This work is being undertaken through a NSW Catchment Action project that will be reported on at a later date.

NEXT STEPS

A training package is to be developed through a NSW Catchment Action project to build the capacity of natural resource managers to implement this consultative process in their local area. Collecting information that is consistent and suitable for state-wide reporting on economic sustainability and social well-being issues is important for efficient NRM processes.

The aim of the training package will be to ensure capacity in CMAs to repeat this consultative process and to use the information to understand the linkages between NRM and ESSW for key stakeholders groups. By using supporting information about ESSW impacts to inform investment options, natural resource decision makers have a greater likelihood of improving NRM decisions' contributions to economic sustainability and social well-being outcomes.

The training package is being developed with Tocal Agricultural College. It will involve an explanation of the focus group consultation process on biophysical indicators for Target 4 on invasive species and Target 7 on marine waters and ecosystems. In addition, the geographic scale will be refined to the sub-catchment level. The marine case study is to be conducted with the Northern Rivers CMA and the invasive species case study is to be conducted with the Lachlan CMA.

REFERENCES

- Andrews, F. M. and Withey, S. B. (1978). *Social indicators of well being: Americans perceptions' of life quality*. Plenum, New York
- Cummins, R. A., Eckersley, R., Pallant, J., van Vugt, J., and Misajon, R. (2003). Developing a national index of subjective wellbeing: The Australian Unity Wellbeing Index. *Social Indicators Research*, 64, pp. 159-190
- Pacione, M. (2003). Urban environmental quality and human well being: a social geographical perspective. *Landscape and urban planning* , 65, pp. 19-30
- Reeve I, Stayner R and Marshall G (2007) 'T12 Development Paper – Measures of Social and Economic Well-Being in Natural Resource Governance', Report to NRC Community Target 12, NSW Department of Primary Industries, Institute for Rural Futures, University of New England, Armidale.
- Smith, D. M. (1973). *The geography of social well being in the United States : an introduction to territorial social indicators*. McGraw-Hill, New York
- van Kamp, Leidelmeijer, K., Marsman, K., and de Hollander, A. (2003). Urban environmental quality and human well being: Towards a conceptual framework and demarcation of concepts. *Landscape and urban planning* , 65, pp. 5-18
- Walker, B. and Salt, D. (2006). *Resilience Thinking: Sustaining Ecosystem and People in a Changing World*. 174 pp. (Island Press: Washington DC.)
- World Commission on Environment and Development. (1987). *Our Common Future*. Oxford: Oxford University Press.

APPENDIX 1 – FULL LIST OF INDICATORS

The full list of indicators of economic sustainability and social well-being (ESSW) that were assessed for inclusion in the focus group questions and *State of catchment reports*.

Each indicator below was assessed against three criteria – its relevance to natural resource management (NRM) change, importance to ESSW and ease of measurement. The assessments are given in the table.

Full list of ESSW indicators that were assessed

Key: H – High, M – Medium, L – Low

Indicators of Economic sustainability and social well-being	Relevance to NRM change	Importance to ESSW	Ease of Measurement
Economic Sustainability			
<i>Business sustainability</i>			
Business profitability and possible expansion	H	H	M
Economic resilience – ability to prepare for and absorb shocks	H	H	M
Business succession	L	H	L
Community support for business	L	H	M
<i>Employment</i>			
Increased opportunities for employment	H	H	M
Availability of higher quality of employment i.e. skilled, career-entry, permanent	M	H	L
<i>Income</i>			
Annual income	H	H	M
Cash flow	H	H	M
Improved reliability of income, less variability	H	H	M
Diversity of income e.g. off-farm income	H	H	M
<i>Infrastructure</i>			
Access to land, transport, water, communications	L	H	M
Investment in/quality of infrastructure	L	H	M
Housing stock	L	H	M
<i>Wealth</i>			
Increased value of assets	H	H	M
Ability to invest in enterprise or off-farm	M	M	M
<i>Affordability</i>			
Housing and major asset affordability	L	H	M
Cost of living	L	H	M
<i>Productivity</i>			
Productivity of natural resources	M	M	M
Enterprise productivity	H	H	M
Regional productivity	L	M	M
<i>Innovation</i>			
Development of new economic opportunity	L	H	L
Extent of entrepreneurship and innovation	M	H	L
<i>Equity and Debt</i>			
Level of indebtedness and savings	L	H	M
Ability to service debt	L	H	M
Access to equity	L	H	M

	Relevance to NRM Change	Importance to ESSW	Ease of Measurement
Social Wellbeing			
<i>Education and Skills</i>			
Gaining more skills – formal and informal	H	H	L
Participation in education and learning	L	M	M
Opportunities for lifelong learning	L	H	L
<i>Connectedness</i>			
Personal trust and connection between people	M	H	L
Relationships with family, friends and neighbours	M	H	L
Networks and interaction in community	H	H	L
Increased sense of belonging and community spirit	H	M-H	L
Trust and participation in government and CMA programs	H	M	L
Awareness and participation in wider NRM issues	M	M	L
Hope, aspiration, enthusiasm, passion	M	H	L
<i>Participation</i>			
Participation in community activities such as volunteering	H	H	M
Participation in community groups and organisations	H	H	M
New community organisations forming	L	M	M
<i>Safety and Security</i>			
Perceptions of personal safety and security	L	H	L
Crime rates	L	H	L
<i>Access to Services</i>			
Access to public transport	L	M	M
Access to communications	L	M	M
Access to education, health care, retail, banking etc	L	H	M
Access to social support services	L	H	M
<i>Community Facilities</i>			
Access to community facilities such as parks, recreation opportunities, halls, libraries etc.	L	H	M
<i>Health</i>			
Perceived health status	L	H	M
Level of personal stress	L	H	M
Status of the social determinants of health – chronic illness, obesity	L	H	M
Mental health – incidence of depression, diagnosed mental illness	L	H	M
<i>Governance</i>			
More effective deliberation and decision making on NRM issues	H	H	M
More effective organisations and groups related to NRM	H	H	M
Community leadership with regard to NRM	H	H	M
Community engagement by CMA	M	M	M
<i>Insight</i>			
Ability to reframe issues	L	H	L
Appreciation and acceptance of new ideas and approaches	L	H	L

	Relevance to NRM Change	Importance to ESSW	Ease of Measurement
Social Wellbeing continued			
<i>Other</i>			
Concern over climate change	L	L	M
Clean air, environment (mostly biophysical)	M	H	M
Community amenity	M	H	L
Water security	L	H	M
Spiritual capital	L	M	L
Personal worth, self esteem, feeling valued with respect to CMA	L	H	L
community engagement	L	H	L
Recreation opportunities	H	M	M
Population size and demographic profile	L	M	H
Youth opportunities	H	L-M	M
Connection to country, culture and place	H	M-H	L
Intergenerational relationships	L	H	L
Happiness	L	H	L

APPENDIX 2 – SAMPLE STATE OF CATCHMENT REPORT

An outline of the sections in the *State of Catchment reports*.

Economic sustainability and social well-being (ESSW)

Series title

State of catchment report

Title

Economic sustainability and social well-being in the _____ Region – 2008

Target

Target: Natural resource decisions contribute to improving or maintaining economic sustainability and social well-being.

Background

What is ESSW about?

This snapshot focuses on *linkages* between changes in natural resources and the community which can be influenced by government. Their effect is real but hard to measure due to the complex interactions between the environment, society & individuals which frame our wellbeing.

Understanding ESSW in the _____ region

X key stakeholder groups were consulted – [list groups] – via [list methods].
Current social research was also reviewed.

Overview

What do people see as important in this catchment?

[Summary of comments from interviews and focus groups]

How is ESSW across the catchment?

[Summary of comments from interviews and focus groups]

Aboriginal Interests – Connections to Culture

[Standard text for all report cards:

The well-being of Aboriginal communities is entwined with the health of the environment as well as their ability to access land and its natural resources.

Limited access with associated impacts on cultural practice has left a legacy of socio-economic disadvantage.

Studies demonstrate that participation by Aboriginal people in Caring for Country benefits both the environment and social cohesion. Meaningful NRM jobs give many tangible, individual and family benefits plus an increased sense of worth within Aboriginal communities.]

[Graph: Average annual population growth (Total population / Indigenous population) 1996 – 2006; ABS data]

Trends – community views

Landscape changes

[Summary of comments from interviews and focus groups]

Primary Industry

[Summary of comments from interviews and focus groups]

[Graph: Annual percentage change in employment 1996 – 2006; ABS data]

Townscapes

[Summary of comments from interviews and focus groups]

[Graph: Percentage of population who volunteer, 2006; ABS data]

Economic sustainability check and group comments

	Condition	Trend	Data confidence	Typical group comments
Likely impact of NRM decisions on ESSW				
Business profitability/ sustainability and expansion	P	↔	H	
Increased employment	P	↓	M	
Gaining more formal and informal skills	F	↑	M	
Community networks and interaction	F	↑	M	
Participation in NRM	F	↑	M	
More effective NRM decision making	P	↑	M	

Key:

Condition		Trend		Data confidence	
VG	Very good	↑	Improving	H	High
G	Good	↔	No change	M	Medium
F	Fair	↓	Declining	L	Low
P	Poor	?	Unknown		
VP	Very poor				

Pressures

[Summary of comments from interviews and focus groups]

References

APPENDIX 3 – SAMPLE LETTER TO POTENTIAL FOCUS GROUP PARTICIPANTS

Assessing Natural Resource Effects on Communities in regional NSW

The NSW Department of Primary Industries is working with the Catchment Management Authorities to trial a way of monitoring the impact of changes in NRM on the economy and the social situation of communities.

The CMA, along with other organisations and community members, have been working to improve the environment in the region. While changes in the condition of water, biodiversity and vegetation are crucial to improving natural resource condition, these changes also contribute to the ongoing livelihood and social well-being of people.

We are trialling ways of monitoring this contribution to the region. Changes in communities are difficult to measure and much of the information lies in the experiences and informed opinions of local people. We are looking to speak with key people in the community who can comment on natural resource activities and what impact they have had on the community.

We would like to ask people about the impact of natural resource changes on the economy and the community, such as employment, income, productivity, connections between people, participation in the community and decision making.

The feedback will greatly assist in identifying how community involvement and government investment in improving the environment can best support communities in the region. It will contribute to the *State of Catchment reports*.

We would be grateful if you would be willing to work with us as a member of a small group to discuss these issues. Our project consultant, _____ will facilitate the discussion. The proposed date for focus group is _____ at _____ . Refreshments will be provided.

Thank you very much for your help.

Contact details

APPENDIX 4 – GUIDELINES FOR CONDUCTING FOCUS GROUPS TO ASSESS ECONOMIC SUSTAINABILITY SOCIAL WELL-BEING

These guidelines are designed to be used to conduct focus groups to investigate economic sustainability and social well-being. They may also be useful in other situations where focus groups are used to collect information.

Focus groups

The focus groups should bring together around six to eight people (but can be from four to 12 people) to discuss a given topic. The questions are usually open ended to encourage lively discussion on the topic. It is important to cover a pre-determined list of questions within the allotted time frame.

A good focus group has the following characteristics: carefully recruited participants, interacting in a comfortable environment, led by a skilful moderator, followed by systematic analysis and reporting.

Preparation

Focus groups are best conducted with at least two staff who are independently contracted (i.e. avoid staff members directly employed by the contracting agency) so that they are external to any pre-existing interactions between participants and the agency. Two (or more) staff are needed because there are two distinct roles which are very difficult for a single person to do effectively. The first role is to facilitate the discussion. This is a special skill and requires specific training. The second role is to keep an official record of the focus group. It is helpful if this record is displayed during the session to refer to during the discussion. Butcher's paper or a whiteboard could be used. In addition, notes of the discussion can be made on paper or a laptop for further reference.

The focus group session could be recorded on tape or video provided all participants grant their permission.

Selecting participants

Participants who represent a range of relevant perspectives and opinions on a given topic should be selected to canvas a range of positions efficiently. Participants need to be experienced and knowledgeable on the topic of inquiry. It is useful to have representation from people from different sectors and who represent different ages and gender.

Example 1. A focus group for rural landholders could include representatives from:

- Farmers' organisations
- Different agricultural industries (e.g. graziers, irrigators)
- Landcare (preferably president or committee member)
- Issue-focused action groups (e.g. Weedbusters)
- Farmers strongly involved in community roles (e.g. State emergency service or rural fire service)

There can be some overlap of roles for an individual, for example, a Landcare member who is also a grazier and involved in weed management programs.

Example 2. A focus group for rural town residents could include representatives from:

- Educational institutions (e.g. high school)
- Non-government welfare groups (e.g. church group)
- Emergency services
- Aboriginal community groups
- Community groups (e.g. Citizens group or Progress Association)
- Local government
- Urban environmental groups

It may not be necessary (or possible) to have representation from all stakeholder groups however the aim remains the same: seek the best available representation.

Venue

If possible, try to conduct the focus group on 'neutral ground'. A large open room such as a hall is suitable.

Conducting the focus group

Setting up chairs and desks in a rectangle or circle enables everyone to see each other. The facilitator should sit in a central location to ensure good eye contact with all participants.

The focus group should be long enough to give everyone a chance to speak on all topics, but not too long that people lose interest or become tired. Normally this would be between one and three hours, possibly with a break in the middle or with refreshments at the end.

1. Introduce the discussion

Always start with an opening statement to explain who you are and the purpose of the focus group. It is important to explain how the information will be used and also invite people to ask questions. After this it is best to ask participants to briefly introduce themselves.

Box 1 contains an example of introductory statement.

Box 1. Example of an Introduction to a Focus Group

'Welcome everyone, thanks for your time today to discuss the topic of economic sustainability and social well-being in the catchment.

My name is _____ and I have been asked to conduct this focus groups about monitoring social and economic well-being.

Over the next couple of hours we will discuss a series of questions on this topic. We are keen to listen to your perspectives on this topic and we encourage a full and frank discussion. Everyone will have the chance to speak and there are no right or wrong answers. Throughout the discussion we will be keeping a record

of key points which we will use for reporting. We will also be taking a few notes along the way but if there's anything you want to keep 'off the record' then just let us know. We will not quote anyone by name in our reports, and we will keep what you say confidential.

We have 12 questions to discuss, so from time to time we'll move the discussion along as needed.

I'd like to start by asking each of you to introduce yourself and your role, but before that, does anyone have any questions about the process today?'

Facilitating the discussion

It is best to start with a straightforward, general question which stimulates initial discussion. It is important to remember that participants may have concerns of their own and may be feeling apprehensive. For these reasons, the first ten minutes or so are often highly animated as people 'clear the air' or vent their concerns. It is very important at this stage just to let this flow and not ask people to explain themselves. Remember that the facilitator's role is to guide the discussion and give people a chance to have their say. For this reason it is crucial to allow people to get any concerns off their chest before proceeding with the rest of the discussion.

After this initial discussion, the facilitator can proceed with each question in turn. It important to keep an eye on time and make sure that the material is being covered.

Sometimes, the questions will flow from one to the next, and it may not be necessary to ask the question directly.

2. Everyone has a chance to speak

As facilitator, your role is to make sure everyone has a chance to speak. This includes managing talkative participants and encouraging quiet participants to contribute to the discussion. Remember, just because someone is quiet it doesn't mean they have nothing to say.

In some situations there may be absolute silence on a topic, possibly because participants are sensitive about the issue (or maybe just bored). In these situations it is best to look around the room and see who makes eye contact and seems like they want to say something but are not quite sure. Gentle encouragement can help.

Conversely, sometimes participants can get absorbed by lengthy tangents and the facilitator needs to steer the conversation back to the question. When people offer short answers, use probing questions to collect more detail.

Examples of some phrases to use during the focus group are presented in Box 2.

Box 2. Examples of phrases for steering discussion

For dominant talkers:

'Thank you for your opinion. I'm interested to hear what other people think about this topic. How about on this side of the room, what do you think?'

For short or vague answers:

'I'm not quite sure what you mean. Could you tell me more or give me an example?'

When the discussion is off-topic:

'Thank you everyone. I'm keeping an eye on the clock so in the interests of getting finished on time we might move on to the next question.'

3. No right or wrong

In conducting the focus group, it is important to remember that there are no right or wrong answers. Avoid indicating whether the participants' responses are correct or incorrect from your point of view with your words, facial expression (e.g. smiling or frowning) or body language (e.g. nodding). Participants notice these reactions and may alter their responses. It is important to consider opinions with an open mind and ask other members of the group what they think in response. While it is useful to invite contrary views, try to avoid lengthy debates.

4. Reporting the key messages

During the focus group, the record keeper follows the discussion and records the main points. Butcher's paper or a whiteboard is useful so that participants can see what is being recorded during the discussion to ensure it reflects what they meant.

In addition, it is a good idea to make more detailed notes to provide context and explanations of the main points for consideration later.

Box 3 gives an example of some key points that might be recorded in response to the question 'what constitutes economic sustainability and social wellbeing?'

Box 3: Example of how main points raised during a discussion of economic sustainability and social well-being could be recorded on a whiteboard

Ability to overcome challenges

Space to move

Strong sense of place and sense of community

Jobs

Clean water

Equity of opportunity for diverse cultural groups

Educational opportunities and skills development

Access to services and infrastructure:

Housing affordability

Social fabric – people still care about their neighbours

5. Invite feedback

It is important to invite feedback during the focus group. This way the record can be updated, clarified and checked for accuracy.

It may be useful to have results from other focus groups on-hand so you can refer back to them if necessary.

6. Questions used in the focus groups

It is important to refer to the questions during the focus group to ensure they are being addressed. The core list may be adapted for use in a specific location.

Box 4 gives examples of questions.

Box 4. Questions used in focus groups

1. Economic sustainability and social well-being – current situation

In a general sense, how do you think that the community and economy of the catchment are going at the moment?

If you had to rate it from 1-5 what would it be? Why?

Poorly

1

2

3

4

5

Well

Reasons:

2. Economic sustainability and social well-being – maintaining health

(a) When you think of the catchment, what are the things that you feel are most important in maintaining a healthy community and economy?

Social:

Economic:

Prompts: What about in terms of social connections, participation and function of organisations?

Prompts: What about in terms of employment, income, business profitability and value of assets?

(b) Which of the things above do you agree on and which are debated?

Social: Agreed aspects / Debated aspects

Economic: Agreed aspects / Debated aspects

3. Identifying landscape changes

(a) Over recent years, what changes in the environment have you noticed across the catchment? What has caused these changes? Who has been involved?

(b) What change(s) can you attribute to CMA activity?

4. Economic impacts of landscape changes

What impact do you feel these environmental changes have had on the economy in the region? How do these relate to the issues we discussed in question 1?

Strong / no impact / weak

5. Social impacts of landscape changes

What impact do you feel these environmental changes have had on the

community? How do these relate to the issues we discussed in question 1?

Strong / no impact / weak

6. Community engagement

(a) How has the way the CMA works with community members impacted on economic and social well-being in the region? How else has the CMA influenced connections and networks within the community?

Social: Positive None Negative

Economic: Positive None Negative

Prompts: connectedness, participation and governance

(b) Which of these do you all agree on?

Agreed areas:

Debated areas:

7. What kind of further activities would make a positive difference to the social well-being and/or economy of the community? What could the CMA do differently to better incorporate social and economic dimensions in decision making? (e.g. representation, education activities).

8. Do you have any further comments?

7. Link to reporting format

At each focus group, show participants a generic version of a final report and ask the following questions:

- Is this relevant to your situation?
- Could you please comment on the items in the report?
- What would you put in the report?

Evaluation of the relevance of the report is important to underpin the process and improve the usefulness of data collected and reported.

8. Thanks

Always remember to thank people at the end of the focus group. Some suggested words of thanks are given in Box 5.

Box 5. Sample thanks for the end of a focus group

Thank you very much for your time and input to [topic].

The information today will be used to [purpose].

Again, I sincerely thank you for your time and input. It was a pleasure to meet you and your input has been very valuable.

APPENDIX 5 – SUMMARY OF MAIN POINTS FROM PILOT ACTIVITIES

Central West CMA

Participants rarely ascribed changes to only one agent, e.g. the agreed landscape change observed by all groups in this catchment an increase in ground cover which was seen as a positive change. The CMA was seen to be partially responsible for this change but there were other reasons.

The prominent NRM issues in the Central West catchment are:

- Trust between landholders and government
- Confidence in NRM decisions
- Efficacy (the ability to influence things)

Hunter-Central Rivers CMA

Participants rarely ascribed changes to only one agent. The agreed landscape change observed by all groups in this catchment was an increase in ground cover. This was seen as both a positive change and negative change (where ground cover was predominantly weeds). The CMA was seen as partially responsible for increased ground cover, but there were other causes including agro-forestry.

With the exception of Aboriginal and Kooragang staff, the Hunter-Central Rivers CMA staff were reluctant to be involved in the project beyond participating in an initial project introduction meeting and providing a list of contacts for the interviews and focus groups. This made it difficult to reach suitable people within the catchment and significantly increased the time required to organise focus groups and interviews.

APPENDIX 6 – SPREADSHEET USED TO RECORD INFORMATION COLLECTED IN FOCUS GROUPS AND INTERVIEWS

TARGET 12 Trial
 Focus Group Recording Sheet - Economic

CMA: _____
 Location (Post Code): _____
 Interviewer: _____
 Gender: _____
 Focus Group Size: _____ Survey Date: **13/03/08**

1. Economic Sustainability & Social Well-being:
 In a general sense, how do you feel that the community and economy of the settlement are going at the moment?

(Other F or G) Comments: _____

2a. Economic Sustainability & Social Well-being:
 What are the three comment areas that are most important to you for an improvement in maintaining a healthy settlement and economy?

Social factors:	Input	Comments:

Economic factors:	Input	Comments:

Focus Group	Social Input	Agreed	Comments

Focus Group	Economic Input	Agreed	Comments

3a. Identifying Landscape Changes:
 Over recent years, what changes in the environment have you noticed across the catchment? What has caused these changes? (what have worked?)

✓ Comments: _____ Who caused the changes

LAND Air quality _____
 Building development _____
 Fire _____
 Farming practices _____
 Other - note comment _____

Driving Pressure Trend

Comments: _____

✓ Comments: _____ Who caused the changes

WATER Water quality _____
 Water availability _____
 Riparian planting _____
 Riverine health _____
 Invasive species _____
 Other - note comment _____

Driving Pressure Trend

Comments: _____

✓ Comments: _____ Who caused the changes

BIODIVERSITY Native vegetation _____
 Weeds _____
 Groundcover _____
 Native animals _____
 Native birds _____
 Fungi _____
 Other - note comment _____

Driving Pressure Trend

Comments: _____

TARGET 12 Trial

Focus Group Recording Sheet - Entries

CMA: _____
 Location (Post Code): _____
 Stakeholder: _____
 Gender: _____
 Focus Group Size: _____

Survey Date: **15/05/08**

3b. What changes can you attribute to CMA activity?

	Agreed	Comments
LAND		
WATER		
BIODIVERSITY		
COMMUNITY		

4. Economic Impacts:

What impact do you feel these environmental changes have had on the economy in the region? (How do these relate to the issues we discussed in question 1?)

Economic	Impact	Strength (Strong, Weak, etc)	Agreed	Comments
1				
2				
3				
4				

5. Social Impacts:

What impact do you feel these environmental changes have had on the community? (How do these relate to the issues we discussed in question 1?)
 How else has the CMA influenced connections and networks within the community. (connect/boost, participation and governance)

Social	Impact	Strength (Strong, Weak, etc)	Agreed	Comments
1				
2				
3				
4				

6. Community engagement:

How has the way the CMA works with community members impacted on community economic and social wellbeing in the region?

Social	Impact	Strength (Strong, Weak, etc)	Agreed	Comments
1				
2				
3				
4				

Economic	Impact	Strength (Strong, Weak, etc)	Agreed	Comments
1				
2				
3				
4				

7. CMA Processes

What kind of further CMA processes or activities would make a positive difference to the community and/or economy of the community?

Social	Impact	Strength (Strong, Weak, etc)	Agreed	Comments
1				
2				
3				
4				
5				

Economic	Impact	Strength (Strong, Weak, etc)	Agreed	Comments
1				
2				
3				
4				

8. Do you have any further comments?

Positive: _____

Negative: _____

Thank You

APPENDIX 7 - STAKEHOLDER SUMMARY REPORT

NEW DEPARTMENT OF PRIMARY INDUSTRIES	
<h3 style="margin: 0;">TARGET 12 DPI Socio-economic Regional Stakeholder Analysis</h3> <h4 style="margin: 0;">Stakeholder Summary Report</h4>	
CMA: <input style="width: 100%;" type="text" value="Select CMA"/>	Number of participants: <input style="width: 50px;" type="text" value="0"/>
Location (Post Code): <input style="width: 100%;" type="text"/>	- Female <input style="width: 50px;" type="text"/>
Stakeholder: <input style="width: 100%;" type="text"/>	- Male <input style="width: 50px;" type="text"/>
Survey date: <input style="width: 100px;" type="text" value="2008"/>	
1. Overall Economic Sustainability & Social Well-being: This stakeholder group perceived the community and economy of the catchment as per the following comments and gave an overall rating (1-5) as: <input style="width: 50px;" type="text"/>	
Comments: <div style="border: 1px solid black; height: 40px; width: 100%;"></div>	
2a Regional Economic Sustainability & Social Well-being: For this stakeholder group these things are most important in maintaining a healthy community & economy:	
Social factors: <input style="width: 100%;" type="text"/> <input style="width: 100%;" type="text"/> <input style="width: 100%;" type="text"/> <input style="width: 100%;" type="text"/> <input style="width: 100%;" type="text"/>	Comments <div style="border: 1px solid black; height: 40px; width: 100%;"></div> <div style="border: 1px solid black; height: 40px; width: 100%;"></div> <div style="border: 1px solid black; height: 40px; width: 100%;"></div> <div style="border: 1px solid black; height: 40px; width: 100%;"></div> <div style="border: 1px solid black; height: 40px; width: 100%;"></div>
2a Regional Economic Sustainability & Social Well-being: For this stakeholder group these things are most important in maintaining a healthy community & economy:	
Economic factors: <input style="width: 100%;" type="text"/> <input style="width: 100%;" type="text"/> <input style="width: 100%;" type="text"/> <input style="width: 100%;" type="text"/> <input style="width: 100%;" type="text"/> <input style="width: 100%;" type="text"/>	Comments <div style="border: 1px solid black; height: 40px; width: 100%;"></div> <div style="border: 1px solid black; height: 40px; width: 100%;"></div> <div style="border: 1px solid black; height: 40px; width: 100%;"></div> <div style="border: 1px solid black; height: 40px; width: 100%;"></div> <div style="border: 1px solid black; height: 40px; width: 100%;"></div>
Contact: Ruth Thomason, Senior Project Officer Economic Policy and Analysis Branch Ph: 02 6391 3462 NSW Department of Primary Industries	
Page 1 of 5 pages	

3a Identifying Landscape Changes:

This focus group identified the following changes in their region over recent years as below:

LAND

Comments:

Air quality

Who caused the changes

Building development

Who caused the changes

Fire

Who caused the changes

Farming practices

Who caused the changes

Other note comment

Who caused the changes

The driving pressure was seen to be:
The overall trend in landscape condition was considered to be:
Participants made the following typical comments:

WATER

Comments:

Water quality

Who caused the changes

Water availability

Who caused the changes

Riparian fencing

Who caused the changes

Riverine health

Who caused the changes

Invasive species

Who caused the changes

Other note comment

Who caused the changes

The driving pressure was seen to be:
The overall trend in landscape condition was considered to be:
Participants made the following typical comments:

3a. Identifying Landscape Changes (continued) :
 These stakeholders identified the following changes in their region over recent years as below:

BIODIVERSITY	'x'	Comments
Native vegetation	<input type="checkbox"/>	
Who caused the changes		
Weeds	<input checked="" type="checkbox"/>	
Who caused the changes		
Groundcover	<input type="checkbox"/>	
Who caused the changes		
Native animals	<input type="checkbox"/>	
Who caused the changes		
Native birds	<input type="checkbox"/>	
Who caused the changes		
Pests	<input type="checkbox"/>	
Who caused the changes		
Other note comment	<input type="checkbox"/>	
Who caused the changes		
The driving pressure was seen to be:		
The overall trend in landscape condition was considered to be:		
Participants made the following typical comments:		

3b Participants attributed the following biophysical/social impacts to CMA activities:

	Comments
LAND	
WATER	
BIODIVERSITY	
COMMUNITY	

Participants attributed the following biophysical/social impacts to NRM Agencies:

	Comments
LAND	
WATER	
BIODIVERSITY	
COMMUNITY	

4. NRM and Economic Impacts:

The participants perceived the following regional economic impacts from the observed landscape changes:

Impact	Strength	Comments

5. NRM and Social Impacts:

The participants perceived the following regional social impacts from the observed landscape changes:

Impact	Strength	Comments

6. NRM and Community engagement:

Participants thought that the way the CMA works with community members has had the following impacts on economic and social wellbeing in the region:

Economic

Impact	Strength	Comments

6. NRM and Community engagement (continued)
 Participants thought that the way the CMA works with community members has had the following impacts on economic and social wellbeing in the region:

Social

Impact	Strength	Comments

7. Further NRM Processes
 Participants thought that the following NRM processes or activities would make a positive difference to the community and/or economy of the region:

Economic

Impact	Comments

Social

Impact	Comments

8. The following points are typical of comments made by this stakeholder group in relation to NRM and socio-economic benefits:

Positive Comments:

Negative Comments:
 Insert comments here

APPENDIX 8 – WRITTEN SURVEY USED IN STATE-WIDE ROLL OUT

Cover letter:

Survey: natural resource management and the community.

What are the NRM contributions to social well-being & economic sustainability?



[Contact details]

The NSW Department of Primary Industries is working with the Catchment Management Authorities (CMA) to trial a way of monitoring the impact of changes in natural resource management on the economy and the social situation of communities.

The CMAs, along with other organisations and community members, have been working to improve the environment in the Western District. While changes in the condition of water, biodiversity and vegetation are crucial to improving natural resource condition, these changes also contribute to the ongoing livelihood and social well-being of people.

Project Aims

We are trialling ways of monitoring this contribution to the district. Changes in communities are difficult to measure and much of the information lies in the experiences and informed opinions of local people. Therefore we are sending this survey out to invite people to comment on natural resource activities and what impact they have had on the community. The feedback will greatly assist in identifying how community involvement and government investment in improving the environment can best support communities in the district.

We need your help

We would like to gather information about the impact of natural resource changes on the economy and the community, such as employment, income, productivity, connections between people, participation in the community and decision making. Please remove pages from the newsletter, complete the survey, fold, tape and then return to the reply paid address located on the back page of the survey. To say thank you for your time and effort we will send a **\$50 voucher** (fuel/food indicate preference at item 9) **to the first 25 completed surveys** that are returned.

Survey:

Survey on natural resource management contributions to social well-being and economic sustainability in NSW

Location:

Postcode:

Please circle the descriptions below which best describe you:

Rural landholder

Townsperson

Level of involvement in natural resource management

very / somewhat involved / none

Aboriginal

yes / no

Male

yes / no

Female

yes / no

This survey is part of a State review to help identify ways to maximise community benefits of environmental management. While many groups contribute to the state of the landscape, we're specifically interested in CMA activities.

We are interested in recent environmental changes generally and natural resource management by the NSW Government. We would like to know specifically about effects on the local economy (such as employment, income etc.) and on the social situation of the community (such as networks, participation etc.) We are keen to find out feelings about these changes and their effect on communities.

1. **Overview:** In a general sense, how do you think that the community and economy of the region, are going at the moment. If you had to pick a number from 1-5 what it would be? Please give your reasons below.

Poorly

1

2

3

4

Well

5

Reasons:

2. **Regional Community:** When you think of the region, what are the things that you feel are most important in maintaining a healthy community and economy?

Healthy community:

Healthy economy:

3a. **Identifying Landscape Changes:** Over recent years, what changes in the environment have you noticed in your region and what/who has caused these changes?

3b. Which of these changes (3a) can you attribute to CMA activity?

4. **Economic Impacts:** What impact do you feel these environmental changes (3a) have had on the economy in the region?

How would you rate the strength of these impacts? *Strong /no impact/ weak*

5. **Social Impacts:** What impact do you feel these environmental changes (3a) have had on the community?

How would you rate the strength of these impacts? *Strong /no impact/ weak*

6a. **Natural resource management effects:** How has the way the CMA works with community members impacted on the economy in the region?

6b. How has the CMA influenced connections and networks within the community? (connectedness, participation and governance)

7. **NRM effects:** The NSW Government has several natural resource management agencies; Department of Environment and Climate Change, Department of Primary Industries, Department of Water & Energy. Have the agencies' natural resource management activities affected the economy and social situation of the community in the region? Please give your reasons below.

Social situation (*positive/no impact/negative*)

Regional economy (*positive/no impact/negative*)

8. Do you have any further comments?

THANK YOU



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

A consultative process for examining the
links between natural resource management
decisions and economic sustainability and
social well-being in NSW Catchments

Working Paper 3

Working Paper Series for Target 12:
Economic Sustainability and Social Well-being

Don Vernon, Ruth Thomason, Thomas G Measham, Jim Cavaye,
Peter Brown, Rohan Nelson and Tim Cummins

NSW Department of Primary Industries

January 2009