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Local Attitudes to Changing Land Use – Narrabri Shire

**Full Report
December 2016**

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*A collaborative research project between The University of Newcastle and
the NSW Department of Primary Industries*

*Thank you to all the Narrabri residents who participated in
this research and all those who provided our research team
accommodation, good food and a warm welcome to the Shire.*

A NOTE FROM THE RESEARCH TEAM

When reading this report it should be noted that, whilst there is an emphasis on coal seam gas (CSG) development, this is not an assessment of the viability or feasibility of CSG exploration within the Shire. The emphasis on CSG has emerged from the fact that the Santos Narrabri Project represents a significant—and imminent—land use change within the Shire. All participants were asked questions about their thoughts and experiences of past and present land use change and, subsequently, the question of CSG gained prominence in the data collected.

In the report, we do not provide a quantitative break down of how many people are for or against CSG or other land use change. As we aim to illustrate through the chapters of this report, attitudes for or against land use change are vexed phenomena that draw together concerns about environmental, social and health impacts, issues related to the approval and operational processes, the role of diverse industries, and issues of equivalence, equity and fairness.

Thus, whilst some participants were supportive of unfolding land use change, they could still be critical of the process by which the land use change was taking place and have concerns about what Narrabri receives in return; similarly, whilst some were critical of land use change, they could be positive about the idea of the subsequent diversification of the economy. In relation to CSG, for example, this means that some individuals would be outspoken about their support of the Santos Narrabri Project yet highly critical of land use governance in the assessment process. Others were outspoken about their opposition to CSG but at the same time saw diversification of the local economy as central to the Shire's future.

The report should be read as an exploration of concerns and priorities of participants. In this way, many of the quotes have a critical—and often negative—underpinning. This does not mean that the participants cited are necessarily against land use change or, more specifically, CSG exploration, but rather highlights the multiple, complex and integrated concerns that underpin local attitudes to changing land use.

Dr Michael Askew and Dr Hedda Haugen Askland
Project Director and Chief Investigator

Local attitudes to changing land use – Narrabri Shire

Executive summary

This report presents the findings of a collaborative research project between the NSW Department of Primary Industries (DPI) and The University of Newcastle (UON) on attitudes to changing land use in the Narrabri Shire, NSW.

The project evolved through dialogue between representatives from the DPI and UON's International Centre for Balanced Land Use (ICBLU) in late 2014, during which the DPI articulated a desire to better understand how local communities experience, perceive and respond to land use change and to develop an evidence base for policy, planning and community engagement. Narrabri Shire emerged as an appropriate site for an initial study of local attitudes to changing land use due to its history of significant land use change and the intensification of coal mining and emergence of gas interests that currently challenge the traditional agricultural base of the community.

The Narrabri study aimed to address the following overarching questions:

- How do local residents within the Narrabri Shire conceptualise and experience land use and land use change?
- How do local residents respond to changing land use/s and land use impacts?
- In a context of changing and competing land use patterns, what can governments do to support the ongoing viability of rural and regional communities?

The primary data collection occurred during September and December 2015 with members of the research team spending a total four weeks in the Narrabri Shire. During these visits, the researchers gained further insight into the issues facing the community through observations and casual conversations with local residents.

Development of this report included desktop research and primary data collection

undertaken by social researchers from UON's Centre for Social Research and Regional Futures (CSRRF) and Centre for Urban and Regional Studies (CURS), which form part of ICBLU. An extensive literature search for secondary sources has underpinned the analysis of qualitative data collected through semi-structured interviews with 65 Narrabri Shire locals, comprised of residents and key stakeholders (planners and policy makers, decision-makers and representatives). The interviews lasted between one and three hours and were designed to elicit deep, nuanced data in a respectful dialogue between the researcher and participant. The primary and secondary sources collected have generated an evidence base for understanding local attitudes to changing land use, which can inform policy and planning in rural and regional NSW.

Based on the research, the following key findings have emerged:

- Land use change does not occur in a vacuum. In Narrabri, local experiences and perceptions of land use change are framed by particular social, cultural, economic, political and natural dynamics. These dynamics represent filters through which land use changes are interpreted and understood and acted upon by individuals and communities.
- 'Place' matters. When locals describe Narrabri as a traditional and dynamic agricultural region, they are also binding their own expectations of the future to that vision of place. Any significant changes in land use across the Shire will transform local places—through changes to landscapes, social networks, and local economies—and, subsequently, alter the basis on which people's sense of self is founded.
- Water and soil sit at the top of a 'resource hierarchy' and are exalted as the most important resources to be protected. The notion of stewardship is strong amongst

farmers. As stewards of the land they believe it is their responsibility to protect these core resources, and contest land uses that pose a risk to them.

- Whilst being geographically close to a particular land use issue does often generate strong sentiments, attitudes to land use are also framed by moral and socio-economic factors. Attempts to understand local attitudes to changing land use must acknowledge how proximity as a spatial, moral and socio-economic phenomenon intertwines with an individual's sense of self and sense of place.
- The cultural code of reciprocity demands a fair and appropriate exchange of costs and benefits. This is particularly evident in relation to extractive activities, of which many local residents believe they bear a disproportionate cost. They see the 'give-take' equation as 'out of balance', whereby the social and environmental impacts of coal and CSG projects outweigh the returns to the community through employment, local expenditure and gifts.
- Knowledge and scientific 'truths' are contested and information is commonly seen as linked to political agendas, PR and spin—no matter which side of the current land use debate an individual sits on. For those in the middle of the 'information sandwich', deciphering what is valid according to their own position can be extremely complex. The issues surrounding knowledge are particularly prevalent in relation to CSG, which is a relatively new energy source in NSW and Australia more broadly. The lack of local exposure to the novel technology underpins the ambiguities surrounding knowledge and make people look for alternative sources with which to test the validity and reliability of scientific claims.
- Within the ambiguous and politicised field of knowledge, witnessing and circulating stories hold a validating force and transform 'gut feelings' into 'truths'. First-hand experiences or accounts of land use impacts represent significant thresholds for the interpretation and evaluation of scientific or theoretical knowledge.
- The Sandstone Curtain (Great Dividing Range) is a service delivery and communications barrier that shields decision-makers from the consequences of their decisions and leads to feelings of inequity, disadvantage and disempowerment.
- Perceptions by farmers of preferential treatment for extractive companies are profuse and trust in state and local governments has diminished. Many participants, particularly farmers, believed that two sets of rules exist: one for extractive industries and one for everyone else.
- Coordination and collaboration between the NSW Government and Narrabri Shire Council was seen as deficient. Key stakeholders contended that Council had relatively little authority or decision-making power, yet was burdened with various functions that are central to the governance of new extractive projects. Participants also reflected on the perceived lack of coordination between NSW Government agencies, which was seen to impact the consistency of the Government's response to land use issues in the Shire.
- Local residents have a desire to be involved in decision-making that impacts on their lives but are critical of engagement strategies used by government and/or resource companies.
- New alliances are emerging within the Shire. Many local farmers and environmental groups meet in the face of what they experience as an antagonistic other (extractive industries) that are seen to threaten their individual and collective well-being. These 'unlikely alliances' represent a relatively new form of rural citizenship by which local farmers find alternative channels to raise their voice in a political space where they feel disenfranchised and disempowered.

In contrast to quantitative studies, which can provide a statistical breakdown of attitudes to land use, the qualitative nature of this project allowed the researchers to go deep into the issues at stake and gain an understanding of the logic and rationale underpinning people's opinions about particular land use challenges and projects. A key finding is that regardless of where local residents place themselves within a land use debate (e.g. yes or no to CSG), everyone adopts a critical perspective that is underpinned by a desire to protect Narrabri as a vibrant and sustainable place. It is therefore not possible to give a number of how many are for or against a particular land use change project. Rather than providing a statistical breakdown of attitudes to contested land use practices, this report aims to illustrate the various factors that influence people's attitudes to land use. A critical stance that emphasises concerns about government and industry alignments, disempowerment and dispossession of rural and regional communities, and lack of local benefits is not exclusive to those who are opposing a land use proposal; even those who were most outspoken in support of new developments, such as the Narrabri Gas Project, forwarded critical thoughts about process and procedure and disproportionate

distribution of benefits and costs. The need to protect the interest of the local area was a pivotal theme in all the interviews, and local tension and land use conflict is about how proposed land use changes—particularly those that introduce new technology and are contested within the environmental realm, such as CSG and mining—is seen to form part of this.

The study identifies the need for further research to better understand and support local communities and councils in their responses to significant land use change, particularly where land use conflict exists.

The research has resulted in a distinct research protocol that can be adapted to similar research in other locations. This protocol also provides a framework for future collaboration between UON and the NSW DPI and/ or other State Government agencies.



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ABBREVIATIONS

ABS	Australian Bureau of Statistics
BMP	Best Management Practices
CCC	Community Consultative Committee
CSG	Coal Seam Gas
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CSR	Corporate Social Responsibility
DIDO	Drive-In-Drive-Out
DPI	Department of Primary Industries
EIA	Environmental Impact Assessment
EPA	NSW Environment Protection Authority
FIFO	Fly-In-Fly-Out
GAB	Great Artesian Basin
GM	Genetically Modified
MDB	Murray Darling Basin
MDBP	Murray Darling Basin Plan
NIABY	Not-In-Anyone's-Back-Yard
NIMBY	Not-In-My-Back-Yard
NSW	New South Wales
NWC	National Water Commission
SIA	Social Impact Assessment
SLO	Social Licence to Operate



KEEP
LEFT

Chapter 1

Introduction

The NSW Government is committed to balancing strong economic growth in regional NSW with the protection of our most valuable agricultural land and sustainable management of our natural resources. In the New England North West region, it is particularly important to minimize land use conflicts arising from the rapid growth of coal mining activities and the recent emergence of the coal seam gas industry (NSW Government 2012a: 6).

Rural and regional New South Wales (NSW) have traditionally been defined by the coexistence of diverse land uses. Agricultural, manufacturing, service and mining sectors have long operated side-by-side to underpin the economic diversity of rural and regional areas and provide the foundation for community well-being and identity. More recently, however, there has been significant re-orientation of these landscapes, and this shift has challenged community cohesion in some places.

International demand for coal, coupled with the emergence of the CSG industry in NSW and Queensland, has seen increasing competition for land and generated new challenges for rural and regional communities, industries and governments. For communities with a largely agricultural heritage, this marked shift in land use towards more intense extractive activities poses particular problems given perceived threats to the natural resources upon which agricultural production is dependent. Consequently, rural and regional spaces have become increasingly contested domains, characterised by transformations in established relationships between local communities, governments, industry, and non-governmental actors.

In 2012, the NSW Government released the Strategic Regional Land Use Policy, with a focus on two key regions: New England North West

and the Upper Hunter (as referenced in the epigraph above). This was developed in an effort to better balance competing land uses, protect prime agricultural land and water resources, and provide greater certainty for landholders and the resource industry. Underpinning this policy is the goal of better balancing the often-competing needs of industry and communities. The policy addresses the recognised schism between the State's inherent interests in developing its energy resources and protecting agriculture, water and the environment, as well as the need for a framework to protect valuable residential and agricultural lands as the extractive industries continue to grow in regional areas of the state (NSW Government 2012a). Despite the new policy and a comprehensive Strategic Regional Land Use Plan (NSW Government 2012b), land use disputes, tensions and conflicts continue to be pervasive. A wave of protest and civil disobedience has marked the political debate over the past 12 months, with environmental activists and their supporters becoming increasingly vocal at both local and state levels—most notably around CSG.

Narrabri Shire, in the New England North West region, is one of many local government areas in NSW that has experienced a re-orientation of land use towards extractive activities. Narrabri is an agricultural community that has experienced significant land use change over the past 50 years, including the introduction of the cotton industry and the advent of genetically-modified (GM) cotton. Whilst these developments generated considerable concern in the community at the time, the recent expansion of coal mining and CSG exploration in the Shire has engendered considerable conflict between those who see the extractive industries facilitating economic growth and diversity and those who see these activities as a threat to the core agricultural functions upon which Narrabri Shire is founded.

With a population of approximately 13,000 residents (ABS 2011) spread across numerous settlements, Narrabri Shire is a relatively small community. It is, nevertheless, a community characterised by different interests and concerns, with both large and small agricultural producers, a variety of agricultural products, diverse research facilities, extractive industry projects, parks of national and state significance, and a rich aboriginal heritage. As such, Narrabri offers fertile ground for exploring how people form attitudes to land use change.

This study examines the social, cultural and economic processes that shape community attitudes towards changing land use in the Narrabri Shire. Through a qualitative methodology, the project explores how local residents conceptualise and experience land use and land use change, and considers how tension and conflict over land uses manifest between or within stakeholder groups.

THE STUDY

This report presents the findings of a collaborative research project between the NSW Department of Primary Industries (DPI) and The University of Newcastle (UON) on local attitudes to changing land use in the Narrabri Shire, NSW. The research team consists of researchers from UON's Centre for Social Research and Regional Futures (CSRRF) and Centre for Urban and Regional Studies (CURS), which form part of UON's International Centre for Balanced Land Use (ICBLU).

ICBLU is a joint initiative between the NSW Government (NSW Department of Primary Industries and Division of Resources and Energy) and UON (Newcastle Institute for

Energy and Resources), which was established in 2014 to provide independent research for the development of a clear evidence-based policy framework to solve the complex challenges of balanced land use.

PROJECT DEFINITION

Changing patterns of land use can present contentious issues through which multiple interests must be negotiated. Many towns in NSW and elsewhere have been experiencing rapid land use changes as governments globally are seeking to ensure food and energy security. Land uses reflect social and economic interests on individual, local, regional and national levels, and land use change is driven by individual and social responses to economic conditions, which are mediated by structural and institutional factors. Achieving a balance between what are frequently seen as competing land use interests can often increase pressure on communities as they seek to adjust to land use change. This study will explore the social, cultural and economic processes that underpin local attitudes to changing land use in the Narrabri Shire. The study will provide rich and detailed information about land use challenges facing key stakeholders in the Shire, and will point to local manifestations of cumulative impacts of land use change, particularly as they relate to extractive activities.

WHY NARRABRI?

Narrabri was chosen for this study due to its history of significant land use change and the intensification of coal mining and emergence of gas interests that currently challenge the traditional agricultural base of the community. The community's experience with the contested introduction of cotton and, later, genetically



Figure 1.1 Map of NSW. ©2017 Google. Source: <https://goo.gl/zZkllz>

modified (GM) crops established Narrabri Shire as a possible site for comparison of historical and contemporary attitudes to changing land uses.

The Narrabri Shire also presented an opportunity to explore the changing nature of land use contestation and the formation of new allegiances. The Leard Blockade against Whitehaven's Maules Creek Coal Mine, which started in 2012, and the more recent civil disobedience campaign against Santos' activities in the Pilliga, have triggered nation-wide attention as conservationists from across the country join local farmers in protests against what they see as unsustainable and undesirable land use changes. As is the case with the extractive activities, these protests are themselves a source of community debate and contention. Consequently, the Narrabri Shire presents a unique opportunity to explore the intricacies and complexities around land use change.

STUDY OBJECTIVES

Through its focus on the Narrabri Shire, the study explores the tension between existing land use practices (agriculture), the rapid intensification of competing land use (coal mining), and the introduction of new industry (coal seam gas exploration). The study seeks to shed light on experiences of cumulative impacts and perceptions of potential tipping points brought about by land use change. The study aims to understand local attitudes to changing land use patterns and the social, cultural and economic processes that shape them.

The key objectives of the project are to:

- analyse attitudes to changing land use and how such attitudes are aligned with various

socioeconomic variables and historical experiences of land use and land use change;

- gain an in-depth understanding about local conceptualisations and experiences of land use and land use change;
- advance existing knowledge about how local residents make sense of changing land use, including how land use forms part of people's sense of self and sense of place, community and identity;
- identify significant changes, cumulative impacts and 'tipping points', and when land use change becomes an issue of concern that triggers individual and/or collective responses;
- determine what government can do to support the ongoing viability of regional communities in the context of changing and competing land use patterns;
- inform future community consultation and engagement practices.

It is important to note that the project was not initially set up to focus specifically on the land use conflict around extractive activities. It was established with the aim of looking at land use change more broadly (whether that be from mining, infrastructure, agriculture, nature, etc.) and to establish a methodology that could be adopted within different local settings with diverse land uses and conflicts. The issue of extractive activities does, however, attain a dominant position within this report. This has to be understood in light of the particular land use changes that have recently unfolded within the Narrabri Shire and the nature of current local debate.



Figure 1.2 Map of Narrabri Shire. ©2017 Google. Source: <https://goo.gl/hAlpps>

Narrabri Shire

Narrabri sits in the state electorate of Barwon and the federal division of Parkes, with an elected local council consisting of 12 members, including a mayor and deputy mayor who are appointed by councillor vote on an annual basis. The Local Government Area (LGA) covers approximately 13,000 square kilometres and includes several towns. Narrabri is the largest town and the administrative centre, followed in population size by Wee Waa and Boggabri. There are also a number of smaller settlements, including Baan Baa, Bellata, Edgeroi, Gwabegar, and Pilliga (Narrabri Shire Council 2013). Many of these place names derive from the area's original inhabitants, the Kamaroi. Major transport routes connecting the Shire are the Kamaroi Highway (B51), linking southeast to the Hunter Valley, and the Newell Highway (A39), an important freight route between Queensland and Victoria. Towns in the Narrabri Shire are also connected by rail on the Mungindi branch line off the Main North line. Despite having an airport in the Narrabri Shire, the closest commercial flights operate through Moree to the north.

Local geography

Narrabri Shire forms part of the Namoi River catchment, an area consisting of 42,000 square kilometres 'bounded by the Nandewar Ranges in the north, the New England Plateau in the north east, the Liverpool Plains in the south east and the Warrumbungle Range in the south west' (Murray-Darling Basin Authority 2012: 3). The Namoi river system is subject to extensive flooding and is regulated with several dams, Lake Keepit being the largest with a capacity of 426,000 megalitres providing major irrigation storage for the catchment. According to State of the Catchments 2010 (NSW Department of Environment, Climate Change and Water NSW 2010: 1), '[o]ver-allocation of water for irrigation is a major water management issue in the catchment'. Another key source of water for the region is the Great Artesian Basin (GAB) with water users bound by the Water Sharing Plan for the NSW Great Artesian Basin Groundwater Sources 2008 (NSW Department of Water and Energy 2009). Narrabri Shire has an annual average rainfall of 661mm with a maximum mean temperature of 26.5 degrees Celsius and a minimum of 11.7 (Bureau of Meteorology 2016).

There are two areas with classified conservation significance in the Shire: Mt Kaputar National Park and the Pilliga State Forest. Mt Kaputar National Park is located 50km east of Narrabri town and consists of more than 36,000 hectares of mountainous country in the Nandewar Ranges, with Sawn Rocks being a unique geological attraction (NSW National Parks and Wildlife Service 2006). The Pilliga, comprised of state forest dominated by cypress pine along with significant wilderness areas, is the largest remaining dry sclerophyll forest west of the Great Dividing Range and an important part of state conservation objectives (NSW National Parks and Wildlife Service 2002).

Local land uses

Narrabri's history is closely connected to agriculture and rural settlement patterns. Agriculture remains a central part of the Shire's socio-economic characteristics. Cotton is the principal agricultural crop of the region and the Shire is commonly regarded as the home of Australia's cotton industry. Much of the national cotton industry's supporting infrastructure is located within the shire, including research centres, seed production and ginning facilities (Cotton Australia 2016). Other significant agricultural industries include the large-scale production of a variety of cereal crops (particularly wheat) and, sheep and cattle grazing.

The Shire has experienced growth in coal mining activities and recently seen the emergence of the coal seam gas (CSG) industry. The Shire is located within the Gunnedah Basin, which is estimated to contain around 12% of New South Wales' available coal reserves (Narrabri Shire Council 2007). Whitehaven and Idemitsu operate the existing open cut and underground coalmores in the Shire, which currently extract coal for export markets. Santos is exploring for CSG in the Pilliga through what is known as the 'Narrabri Gas Project'. The company plans to develop the CSG reserve in the area to address the State's deficiency of gas energy sources. The company has received Government approval to construct a water treatment facility at Leewood; however, the project is yet to complete the planning and environmental assessment process as required under the Environmental Planning and Assessment Act 1979.

Local economy

The Gross Regional Product (GRP) of the Narrabri Shire was estimated in 2011-2012 to be \$939.3 million. Figures for 2014-2015 indicate an increased GRP of \$978 million (National Institute of Economic and Industry Research 2016). Mining and agriculture make the largest contributions to the Shire's GRP. The agriculture, forestry and fishing sector is the largest employer (21.4%), followed by retail (9.8%), and health care and social assistance (9.6%) (see Table 1.1).

Heritage

Narrabri is the home of the Kamilaroi people (also known as the Gamilaroi) whose land extends north to Goondiwindi, west to Lightning Ridge and south to Quirindi. The Kamilaroi are the second largest Aboriginal nation on the eastern side of Australia, and their language is known as Gamilaraay. The majority of towns in the Shire are anglicised versions of Kamilaroi place names, for example Gwabegar is said to mean 'place of many trees', Narrabri means 'forked waters', Wee Waa means 'fire for roasting', Boggabri means 'place of many creeks', and Pilliga means 'swamp oaks'. Reminders of the Kamilaroi's connection to country are evident in rock carvings, campsites and artefact scatters, marks on trees and axe grinding grooves, many of which have been preserved in Mount Kaputar National Park and the Pilliga Forest (NSW National Parks and Wildlife Service 2006, 2002).

History credits explorer Sir Thomas Mitchell with opening the way to the North West Plains on his first expedition (1831-1832) when he passed through the vicinity of the present town of Narrabri. It is, however, documented that several Europeans were in the area prior to Mitchell's survey, including an escaped convict named George Clarke. Early settlers were attracted by the rich grazing land for sheep and cattle. The first squatting run was the 'Nurrabry', taken up in 1834. Wee Waa, the oldest town in the Namoi Valley, was gazetted in 1847, followed by Narrabri and Boggabri in 1860.

Population and socio-economic trends

According to data from the ABS (2015), the median age of people living in Narrabri is 39.1 years (Australia median: 37.3 years), children aged 0-14 years make up 22% of the population (NSW average: 19%), and Aboriginal and Torres Strait Islander people account for 10.7% of the population (NSW average: 2.5%). The population is almost exclusively Australian born and English speaking, with only 4% being born elsewhere. Narrabri also shows the least transience of any rural population in Australia, with 11.9% of the population living their entire life in the area compared with the regional/rural state average of 5.1%.

Over the last three census periods there is a trend of population decline with a projected average annual decrease at a rate of 1.0% (Narrabri Shire Council nd). Of the working population of Narrabri, 19% have a tertiary education equivalent to a Bachelors degree or higher while 30% either had not completed school to Year 10 or did not report their level of completed schooling. Figures from the 2009/10 tax year show the average annual income of Narrabri residents as

Industry	%
Agriculture, forestry and fishing	21.4
Retail trade	9.8
Health care and social assistance	9.6
Education and training	6.2
Transport, postal and warehousing	6.2
Accommodation and food services	6.2
Construction	5.9
Manufacturing	5.0
Public administration and safety	4.6
Professional, scientific and technical services	4.3
Other services	4.2
Mining	3.9
Wholesale trade	3.6
Administrative and support services	1.9
Financial and insurance services	1.3
Electricity, gas, water and waste services	1.2
Retail, hiring and real estate services	0.8
Arts and recreation services	0.6
Information media and telecommunication	0.6
Total employed	5836

Table 1.1 Narrabri LGA: employment by industry (ABS 2011)

\$40,271, on par with the rest of New England North West but significantly less than the NSW average of \$50,943 (Narrabri Shire Council nd).

In relation to health indices—which include potentially preventable hospitalizations, suicide and potentially preventable deaths and the rate at which alcohol and tobacco contribute to these—people living in the Shire (and Moree Plains Shire, which was included in a recent survey) are significantly worse off than the state as a whole (University of Canberra 2015).

Only 52% of housing stock is owner-occupied, which is considerably less than the national average of 67%, suggesting that the population is facing economic disadvantage amongst some cohorts and/ or that the Shire has a larger transient population. Furthermore, according to the Department of Family and Community Services (Robertson and Parker 2012), housing affordability and availability in Narrabri LGA have been impacted by the increase of mining sector workers and, as a result, there is an increased need for social housing. A media report from 2011 suggested that Narrabri was experiencing a housing crisis that was being addressed, in part, by the release of land for affordable housing (ABC News, June 2011).

Sites of protest

Narrabri Shire has been the site of significant public protest and civil disobedience over the past four years, with Whitehaven's Maules Creek Coal Mine and Santos' Pilliga Gas Project drawing protestors from across the country.

Maules Creek Coal Mine is a large open-cut coal mine operated by Whitehaven Coal and located in the Gunnedah basin, near Boggabri. The mine, which is one of the largest open cut coal mines in Australia, began operating in July 2015. It produces thermal and metallurgical coal, with reserves to support 30 years of production. The mine sits within the Leard State Forest, which is home to 396 native species of plants and animals, including habitat for 36 threatened species. Concerns about the perceived risks to biodiversity and water, as well as the destruction of aboriginal lands, have led to significant opposition from conservationists and farmers. On the 5th August 2012, Front Line Action on Coal (FLAC) initiated Australia's first blockade camp in the Leard State Forest to 'protect farms, forest, community, culture and the climate from Whitehaven Coal's proposed Maules Creek mine and other coal mining operations in the Leard State Forest' (FLAC nd: np). Hundreds of people have since visited the #LeardBlockade and participated in a multiplicity of activities. Over 250 individuals have been arrested. The campaign is ongoing, however it has now been moved to a local farmers' property in Maules Creek (The Wilderness Society nd; Front Line Action on Coal nd; Whitehaven Coal nd; ABC 2015).

The Narrabri Gas Project refers to Santos' plans to develop the CSG reserves in the Pilliga, south of Narrabri town. The proposed project area covers 95,000 hectares of land in and around the Pilliga. The gas operations will be located on approximately 1% of the total project area and will be situated on predominantly State Forest land. As part of the project, Santos has plans to build 850 CSG wells. Whilst no Strategic Agricultural Land has been mapped within the project area, the project has attracted substantial opposition from farmers and conservationists. In December 2015, the campaign against Santos' current and planned activities was intensified. The Pilliga Push Action Camp was established, with lock-ons, blockages and daily actions against Santos unfolding in and around the Leewood CSG wastewater treatment plant. Opponents of CSG exploration in the Pilliga emphasise the perceived environmental and health impacts associated with CSG, with particular attention afforded to perceived risks for the Great Artesian Basin and the ecosystem of the Pilliga Forest. These risks are coupled with concerns about the social impacts of the project for the Narrabri Shire community (and beyond) (Pilliga Push 2013-2016; Parkes 2016; Santos 2016).

Further information and maps outlining mining and gas explorations in the Narrabri Shire, including the Council's Mining and Gas Position Paper, can be accessed via the following links:

Narrabri Shire: <http://www.narrabri.nsw.gov.au/mining-and-gas-exploration-1074.html>

Whitehaven Coal: <http://www.whitehavennews.com.au/>

Idemitsu: <https://www.idemitsu.com.au/>

Santos: <https://www.santos.com/>

METHODOLOGY

Analysing attitudes to changing land use requires an understanding of how the social, economic and environmental consequences of past and present land uses contribute to existing community relationships and social dynamics. It is necessary to understand how conventional land use patterns form part of individual life histories and community narratives, and how these contribute to a sense of belonging and identity. For these reasons, the study adopted a holistic, qualitative approach that set out to explore the lived experiences of land use patterns and focused on the ways that attitudes relate to the dynamics of the community and individuals. The project does not seek to prove a hypothesis but rather sets out to explore the issue as it is seen and experienced by local residents. The study is, accordingly, explorative and aims to develop an evidence base that can be the starting point for further research, policy and planning.

SAMPLING AND RECRUITMENT

The project employed a strategic sampling technique to target a geographically-defined population (participants had to be residents of Narrabri Shire). The sample was designed to: be demographically diverse; include participants from a broad range of occupation types and sectors; cover all areas of the Shire; and, include a mix of rural, village and Narrabri town residents. The sampling purpose was thus driven by a want to achieve a representative cross-section of the community. Careful management of the recruitment process was fundamental to ensuring that this cross-section was realised. All potential participants were asked to complete a short qualitative questionnaire that collected demographic information (such as address, date of birth, highest level of education, occupation and historical connection to Narrabri). This information, along with careful attention to known networks and existing media, was used to select participants with the aim of ensuring a broad representation of the community.

The recruitment process was carefully undertaken to comply with the Australian Government's National Statement of Ethical Conduct in Human Research (2007). Before any recruitment activities were initiated, approval from UON's Human Research Ethics Committee (Approval No. H-2015-0193) was required. Recruitment advanced in the following stages:

- stakeholder identification process: over 80 organisations were identified through publicly available information. A contact person was identified for each of these organisations,

which ranged from political representatives and representatives from the Narrabri Shire, business/industry associations and bodies, charity/social associations, agricultural businesses, consultancies, lobbyists and environmentalists, government and community agencies, health and community services, and indigenous groups. Due to ethics restrictions, only individuals/ groups with publicly available details could be directly contacted for interview; all other participants had to be recruited through a third party.

- dissemination of recruitment material: information about the study was distributed to key organisations, who were asked to act as a third party and circulate the material through their network. Key stakeholders were contacted directly and asked to participate. All participation was voluntary. A key concern of the research team was that this sampling strategy only provided contact with people who were already mobilised in the community in one way or another.
- to ensure that information about the study reached individuals whom might not be aligned with any community organisation and to recruit more participants from 'middle Narrabri', a brief story featured in the online edition of the Courier (<http://www.thecourier.net.au/news/university-of-newcastle-tours-region-to-investigate-local-attitudes-to-development-changing-land-use/>).

The recruitment for the project was initially slow. Contrary to the research team's expectations, it was particularly difficult to get participants who were critical of land use changes within the Shire, as well as representatives from 'middle Narrabri'. There was a lot of suspicion and concern about why the study was conducted and how alternative voices would be represented. It is not uncommon for research of this kind to endure such challenges, thus bringing to the fore the importance of engagement and relationship building. Yet, the extent of mistrust came as a surprise to the team. In the second week of fieldwork, the researchers were able to meet with representatives from the anti-CSG camp. In these meetings, the neutrality of the researchers and the aim of the research to represent a cross-section of the community were emphasised. A sense of trust was established, resulting in a greater representation of this section of the community in the final stages of the fieldwork. In the end, the sample is relatively balanced between those opposed to, neutral to or supportive of extractive activities.

A total of 65 participants were interviewed for the project; a sample size designed to provide breadth whilst remaining manageable given the

need for in-depth analysis of rich and detailed narratives. The participant group consisted of two cohorts:

- *local stakeholders*: a total of 51 local residents living in town or in the rural areas of the community, including representatives from agriculture, commerce, industry and government sectors, local services, and various associations and action groups. The inclusion criteria for local stakeholders were that participants had to be over the age of 18, proficient in English, and residents of the Narrabri Shire.
- *key stakeholders*: a total of 14 key stakeholders, including local policy makers, planners and decision-makers. Inclusion criteria for key stakeholders were that the participants had to be over the age of 18, be proficient in English, be a resident of the Narrabri Shire, and hold a position of influence within the Shire. The key stakeholders were interviewed for both their professional and personal knowledge and experiences of land use change.

In total, 38 men and 27 women participated in the study and the sample was skewed towards those in the older age brackets (45 and older). The overrepresentation of men and older community representatives can be seen as a reflection of the population targeted for the study, with many of those in key stakeholder positions being men over the age of 45. The majority of the participants had a long-standing history with Narrabri, with many being at least second generation. Most of the interviewees lived in either Narrabri or Wee Waa, with some participants from the Pilliga, Boggabri and Baa Baan areas. No indigenous representatives were interviewed despite significant efforts at recruiting representatives from the indigenous community. The final sample included individuals from agriculture, business, professional services, mining, government, the services sector, public advocacy, and community services, along with retirees, students, and those with domestic duties.

DATA COLLECTION

Through short periods of intensive fieldwork, local perspectives on land use change were sought. The primary data collection occurred during September and December 2015 with members of the research team spending a total of four weeks in the Narrabri Shire. During these visits, the researchers gained insight into the issues facing the community through semi-structured interviews, observations and casual conversations with local residents. The primary and secondary sources produced a rich,

nuanced dataset reflecting the complex details of participants' identities and lived experiences and, subsequently, generated an evidence base for understanding local attitudes to changing land use.

Semi-structured interviews were used for the study as they offer a flexible approach for small-scale, qualitative research. This type of interview involves a set of pre-determined questions; it is designed to be open and informal, facilitating dialogue between researcher and participant(s). In this way, participants are encouraged to reflect further on their answers, providing new details and exploring their attitudes as the interview progresses. Interviews included a biographical component, and participants were encouraged to reflect on the past and speculate on the future.

Semi-structured interviewing is designed to elicit deep, nuanced data in a respectful dialogue between researcher and participant. This approach allowed key issues of concern to emerge organically from interactions with participants. It also allowed participants to discuss attitudes and issues that had not been anticipated by the research team, and provided a sense of how the issues explored in the research made sense to them in their own lives.

Two interview protocols were established for the interviews: one for the local stakeholder cohort and one for the key stakeholder cohort. The aims and themes of these protocols are similar, however the key stakeholders were asked questions that allowed them to elaborate on their expertise, knowledge and experience as representatives of particular community groups or interests, as well as residents of the Shire. The interview schedules were based on the following themes:

- connections to place/community;
- land use and land use change;
- agents of change (role of local and state governments);
- community and engagement; and,
- the future.

The interview schedules used open and broad questions that allowed the participants to elaborate on their experiences and knowledge of land use within the region. They were aimed at collecting narratives about individual and collective experiences and life-histories, which bring forward detailed information about experiences and attitudes to land use change. There was no direct question about coal mining and CSG; however, when asked 'in the time you have lived in Narrabri, how has it changed?' and 'how would you describe land use planning

and conflicts in Narrabri', the vast majority of interviewees spoke about the coal and CSG industries. This report is, accordingly, skewed towards a debate of community perceptions and experiences of land use change as it occurs at the nexus between agriculture and extractive industries.

The interviews lasted between one to three hours and were conducted with one participant at a time or in a group setting (for example with a family) at a location convenient to the interviewee—generally at their homes or at the Crossroads Hotel in Narrabri, where the research team was located for the duration of the fieldwork. The interviews were recorded using digital recorders (where permitted by the participant) and transcribed for the purpose of analysis.

ANALYSIS

The data was analysed using established qualitative data analytic techniques designed to maximise sensitivity to emergent themes and commonly held narratives in exploratory qualitative research. Following standard guidelines, the research team developed a codebook, coded and compared transcripts. Common and contrasting themes were analysed, related to the research questions, social theory and existing scholarly work on land use and land use change. Variables such as age, occupation, education, location, family history and gender were employed in the analysis when looking for patterns and trends.

The analysis employed a focus on 'critical moments' or 'turning points' within the biographies of individuals and groups. Analysis

of tipping points is a way of capturing how social and economic factors, such as those connected with land use patterns, influenced the most strongly held beliefs and major decisions that shape engagement with the community.

The research team used the qualitative research software, NVivo, for the analysis. This software facilitated analysis of the unstructured data and allowed simultaneous exploration of conceptual ideas (big picture) and investigation of the detail of the qualitative material.

PROJECT MANAGEMENT

At the beginning of the project, a Project Management Plan (PMP) was developed by the Project Director (PD) and Chief Investigator (CI). This PMP clearly outlined the roles and responsibilities of the different parties involved in the project. Whilst this project has been of a collaborative nature, the two parties—DPI and UON—have maintained distinct roles within all phases of the project. Due to the role of the NSW Government in land use change processes unfolding within the Narrabri Shire, it was important to ensure the independence of the research. The DPI has, therefore, been largely distant to the research project and have acted as a collaborative partner through: sharing department-specific insights on land use issues and land use change within rural NSW; establishing a database of secondary sources on the Narrabri Shire; and, providing peer review on drafts. The core elements of the research have been led and managed from by the UON research team.



Figure 1.3 Word frequency: interviews

PROJECT OUTPUTS

The two primary outputs of the study are Local Attitudes to Changing Land Use – Full Report (Askland, Askew, Hanley, Sherval, Farrugia, Threadgold and Coffey 2016 [this report]) and the associated Local Attitudes to Changing Land Use – Summary Report (Askew and Askland 2016). The Summary Report offers a brief overview of the issues and key findings discussed in the full report. In addition to these reports, the findings of the research will be disseminated through academic journal papers and conference presentations. These will be developed over the next 12 months.

THIS REPORT

This document is the principal output of the study and encompasses a full account of the research. The report consists of seven chapters, including this introduction. Chapters 2–6 are based on the overarching themes identified in the analysis of the primary data: place and place attachment; land use change, soil and water; co-existence, proximity and reciprocity; knowledge, risk and trust; and, government and governance.

In Chapter 2, *Place and place attachment: personal connections, community dynamics and changes in land use*, we investigate how local residents maintain an attachment to a particular vision of life in Narrabri, and how this idea of Narrabri creates a lens through which attitudes to changing land use emerges. It presents findings

of how local residents define Narrabri as a place, and demonstrates how personal connections to Narrabri inform individual attitudes towards patterns of land use change. The chapter also explores how land use change manifests as social change and outlines the participants' observations and experiences of changes within the community in the shadow of intensified mining activity and the arrival of CSG interests in the Shire.

Chapter 3, *Land use change: the contest for water and soil*, expands on the findings presented in the previous chapter, looking specifically at how the perceived environmental risks associated with land use changes shape local attitudes. The theme of water and soil featured heavily within the data and it became obvious that people's notion of Narrabri as a place—more specifically, a rural place—was closely intertwined with the notion of water and soil. Water and soil are identified as fundamental resources that must be protected; they are seen as the cornerstones of the community and what connect all facets of life—past, present and future. In this chapter we argue that when these vital resources are perceived to be in jeopardy or threatened by risks or uncertainty associated with land use change, conflict and resistance emerge. Related to this, are questions about scarcity, the role of stewardship and long-term sustainability. This chapter draws links to the Shire's dominant historical accounts of land use change—the introduction of cotton in the 1960s and the move towards responsible and sustainable cotton production and the use of GM crops in the

Qualitative versus quantitative research: going beyond statistics

Different fields of both basic and applied research are shaped by various approaches, systematisations and ideologies. The most fundamental difference between all approaches to research is the distinction between quantitative and qualitative traditions. Quantitative research emphasises explanation, measurable variables, prediction of observable events and generalisability of findings. In contrast, qualitative methods are closely aligned with phenomenology, which concerns the creation of meaning and people's apprehension of the world. This position sees individuals and their world as co-constituted, with the main objective of phenomenology being to describe conceptual processes and structures; that is, it seeks to understand how phenomena and meaning appear within individuals' consciousness and are explained by individuals.

This project sits within a phenomenological tradition and seeks to produce knowledge through qualitative research strategies. Attitudes to changing land use is a vexed issue and people's perceptions and ideas about land use and land use change form part of the complex web of meaning making that relates to both personal experiences and structural frames. As an exploratory study, this project goes beyond statistics and deduction; rather than seeking to create generalisable truths about people's attitudes, we adopt an inductive method by which we aim to illustrate how people in Narrabri understand the issue of land use change and how this relates to their distinct biographies and life worlds. By employing qualitative methods, the researchers are afforded the ability to explore, in a deep and meaningful way, the perspectives of participants in conversation with them. This generates a rich and nuanced dataset that better reflects the fundamental drivers of attitude development on land use issues.

1990s—and the present-day land use changes, and considers how some local residents are mobilising resistance in the name of a sustainable future.

In Chapter 4, *Coexistence, proximity and reciprocity*, we explore the dynamics of land use change and coexistence through the lens of perceived and experienced costs and benefits. Central to this chapter is the notion of proximity, which we forward as a three-fold phenomenon that incorporates spatial, moral and socio-economic factors. We analyse the data through this notion of proximity and forward a hypothesis about how opposition to, indifference towards, or support for particular changes are formed. Aligned with the notion of proximity is a cultural code of reciprocity. We argue that the notion of reciprocity is central to local people's assessment, acceptance and approval of land use changes and that failure to establish a 'social contract' of partnership—based upon the cultural code of reciprocity—compromises opportunities for coexistence.

Chapter 5, *Risk, trust and the politics of knowledge*, looks at knowledge generation in the Shire, with particular reference to CSG exploration. The chapter illustrates how knowledge and scientific 'truths' are contested and linked to political agendas. This is particularly so for new technologies and novel land uses, such as CSG, about which the local community has limited knowledge. The competing arguments about the risks of CSG create an ambiguous space. The uncertainty about what is true and who to trust causes heightened anxiety and stress. The chapter explores the ways in which local residents validate existing knowledge and the role of witnessing and circulating stories as tipping points in the development of attitudes to changing land use.

Chapter 6, *Government and governance*, presents reflections on a perceived divide in government policy between rural and urban areas, and explores participants' apprehensions over the alignment of government and industry. The chapter introduces the concept of metagovernance and analyses concerns about coordination and collaboration between and within the tiers of government, with particular attention paid to the governance issues faced by local government. We argue that attitudes to land use change are, in part, shaped by the sense of fairness and inclusiveness of regulatory, policy, planning and engagement platforms. Disenfranchisement with government and the land use planning process is identified as a key driver of community unrest and the formation of unlikely alliances.

Chapter 7, *Conclusion, implications and recommendations*, summarises the overarching findings of the study, provides commentary on the implications of these findings, and offers some initial recommendations to act as starting points for further discussion of possible responses to issues identified.

Key implications tables are included at the end of each of the analytical chapters. These tables summarise the central themes of each chapter and outline possible implications for the local community and for governments. These themes are not explicit recommendations for policy, but rather the first step in a dialogue and conversation about how to address the issues identified in the research.

A note on terminology: the terms 'extractive industries', 'extractive companies', 'extractive projects' and 'extractive activities' are used throughout this report in reference to coal mining and CSG exploration.





Welcome to
Narrabri
Shire



Welcome to
Narrabri
Shire



KEEP
LEFT

Chapter 2

Place and place attachment: personal connections, community dynamics and changes in land use

For many of us, there is a very strong call back... if you grew up in a rural community and you had a wonderful childhood, and you had a very fond attachment to your community, and you saw potential, you saw opportunity, and you saw a good future for yourself there, it's a magnet (Julianne, returned Narrabri-born resident).

...it's very hard to describe. It's a special place. A place where you feel safe. It's just that special place in your heart, and certainly where we are, we love where we are, and we're very passionate about agriculture. We love that we are farmers. We're very proud to say that we are farmers and that we tend the land, and it's providing food for people (Caitlin, Narrabri farmer).

One of the key findings of this study is that local residents maintain a strong attachment to a specific vision of life in Narrabri. This is a vision that emphasises community cohesion supported by economic diversity. This idea of what the local community is, and should be, is central to the formation of attitudes towards changes in land use in Narrabri, regardless of what these attitudes may be. Accordingly, this chapter presents findings on local residents' definitions of Narrabri as a local community, and demonstrates how personal connections to Narrabri inform people's attitudes towards changing patterns of land use, especially those connected with the extractive industries.

The significance of personal connections to Narrabri for the formation of attitudes towards land use is key to grasping how land use change affects community dynamics. This chapter shows that study participants perceive Narrabri as a unique community both socially and economically, and that this uniqueness reflects the structure of the local economy and their relationship to the land. However, Narrabri is also a socially differentiated community and,

whilst an overarching idea of Narrabri as 'a place' exists, different community members interpret this definition in various ways. In this situation, changes in land use are experienced in relation to participants' different ideas of their local town. If changes are seen to threaten participants' visions and attachments, then they are likely to form negative attitudes towards these changes. In the data, it is the intensification of the extractive industries and introduction of CSG exploration that bring the significance of local attachments most clearly to light; thus, this will be the focus of the present chapter.

In describing the connection between definitions of Narrabri, local community attachments, and land use, this chapter draws attention to the critical significance of the meanings that residents attach to their local place and the way that these meanings interact with the use of natural resources. Essentially, this chapter will show that definitions of place are a mediator of attitudes towards land use change. There are parallels for this finding in existing scholarship on place and place attachment. Cheng et al. (2003: 98), for example, contend that 'natural resource politics is as much a contest over place meanings as it is a competition over the allocation and distribution of scarce resources amongst interest groups.' In accordance with this observation, the data presented here show that attachments to their local place are key to participants' definitions of themselves and the lives they perceive as possible within that place. According to Larsen (2008: 172), rural protests are increasingly common across the developed world as locals 'defend and politicize the rural as a source of collective identity against external pressures and threats' (cf. Hayter 2003; Mormont 1987; Woods 2003). In many ways, the Narrabri study is an important example of the way that local community members form attitudes towards land use, partly in defence of their definition of rural life and what it means to live in a 'unique place'.

RELATIONSHIP TO NARRABRI

NARRABRI AS A RURAL COMMUNITY

Residents of the Narrabri Shire described their community in overwhelmingly positive terms. They defined Narrabri as a unique place and portrayed strong personal attachments to their local community. In particular, the participants described Narrabri as a harmonious, egalitarian and close-knit community, characterised by honest and friendly relationships and the possibility of meaningful community involvement. Bryce, a local farmer, described Narrabri in the following terms:

I think it's a very friendly community. I guess I've been here a long time, but I did go away for seven or eight years when I was younger, worked up in Queensland and came back. No, it's just a friendly community. It's really up to you how involved you want to be. There are people who get really involved, they're in all the community groups, in this and that. There are those that are just here and part of the community.

Bryce described Narrabri as a place in which warm relationships are the norm and opportunities for meaningful community engagement are offered. This community cohesion is key to definitions of Narrabri, in part because it supports an understanding of the Shire as one that is not structured by clear status differences. Claire, a local lawyer, described Narrabri as a harmonious community in which social divisions—such as socio-economic differences or those related to the differences between agricultural and extractive industries—did not influence day-to-day life in the community:

I find it to be very inclusive, so people in professional jobs socialise with people not in professional jobs. The mining industry, if you're working in the mining industry you would socialise with people not working in the mining industry. I find it really inclusive. I have friends who are engineers and cleaners in the mining industry. They don't keep to themselves. They're very much integrated into town.

While the two participants cited above have long family histories in the community, others who were relatively new to the Shire held a similar view. Paul, a retired irrigation consultant, for example, described Narrabri as a relatively egalitarian community:

[w]e may have lived in many others, but towns of this community tend to come together very well in times of calamity and that sort of thing. But I think what is perhaps more noticeable about this town than some towns is lack of cliqueness.

Place

Places are parts of the world that are demarcated and given meaning by people, and it is this emphasis on *meaning* that is definitive of the idea of place. Places are inhabited, and it is through the day-to-day practice of inhabiting a place that individuals and groups come to form a relationship with a place. Place is therefore about 'dwelling', the rhythms of day-to-day life, and the social relationships that shape these rhythms. As such, a place is not merely a position but a *social relationship*, and it is this *relational* approach to place that is most useful for understanding the way that different community members understand and relate to their localities.

Other towns are known for their cliques. This one is almost known for not having cliques...I mean, look there are more wealthy people and poorer people. There's a lot of people here on fixed incomes and that sort of stuff. But they seem to all socialise. They do things together. There's certainly egalitarianism in town which makes it very attractive.

Edward, a newcomer who works in the extractive industry sector, connected Narrabri's 'community feel' to day-to-day community support, as well as the social enforcement of certain 'regional values':

I can't make it in, can you pick up so and so from school and I'll come around at five...like, that community feel. See Narrabri in itself has the ability...you can still have the anonymity of a city. But you can also...you can't tell porkies either [...] you've got to be very honest in what you say and what you say is what you mean...I suppose going back to those regional values of honesty and integrity.

Edward's use of the term 'regional values' aligns visions of Narrabri with broader visions of life in rural areas. In this definition, rural life is valued for its close community relationships, egalitarian social dynamics and steadfast moral values. Whilst some study participants described these features as a unique to Narrabri, this idea of rural life has parallels with previous research findings concerning the way that locals define such places. The identification of rurality with close-knit communities is a strong cultural ideal described by Cloke (2005) as the 'rural idyll'. The notion of the 'rural idyll' describes a romanticised vision of an idyllic community unburdened by the pressures, isolations and social divisions of modern life; however, existing scholarship also suggests that while the rural idyll is a powerful

cultural ideal, it is also a fictional portrayal of rural communities. Like all communities, rural places are characterised by social divisions, including the critical distinction of land ownership, which often confers prestige and political influence (Bourke 2001; Tonts 2005).

As a community with a long history of agriculture, this scholarly observation is also true of Narrabri Shire. So, whilst Narrabri was often described by residents as warm and welcoming, the significance of existing social divisions within the Shire will remain a noteworthy theme in this chapter. For example, a local consultant, Steven, described a discussion he had with a local farmer about the prospect of CSG exploration in the area. In the process, Steven highlighted what he saw as a sense of entitlement amongst local farmers and questioned their social and economic contribution to the Shire:

I had a farmer, recently, give it to me...and said 'we demand that our kids are able to take over our properties and have a career here and this has got to stop and we demand that.' And I said 'oh that's interesting. Can you tell me why she's any more precious or important to this region than my daughter? Can you tell me?' and they said, 'what's that got to do with it?' and I said because I want the same for my daughter. I want exactly the same and do you know what?...I want to know why your daughter's so special here. I'd like to know, keeping in mind that 70% of the population do not work directly or indirectly with agriculture...So people say 'we're going to Narrabri to see all the farmers', 'any reason you wouldn't talk to the 70% of the community', is what I say.

Here, Steven highlights a division within the town, which reflects the composition of the local economy. As a rural community, Narrabri is often associated with agriculture, and the automatic connection between agriculture and rurality is also a feature of the idea of the romanticised ideal of the 'idyllic rural' (Vaske and Kobrin 2001). Social divisions between landowners and other local community members in Narrabri are real; they reflect the economic basis of the local community, and the nature of the agricultural industry has an important impact on the economics of the town. Moreover, the investment and spending decisions of farmers, and the fortunes of the agricultural industry more broadly, are important factors in the economics of the community but are out of the hands of local community members. This chapter demonstrates that this situation creates the possibility for conflict, especially when the association between agriculture and rural life in Narrabri is threatened. Here it is important to note, however, that even when participants acknowledged the existence of social divisions,

The notion of the 'idyllic rural' has an uneasy relationship with the actual social and economic structures of a rural place, and changes in the economic fabric of the Shire may create further threats for existing visions of Narrabri.

they nevertheless asserted that Narrabri was fundamentally a harmonious community.

Kathy, a local resident who associated farmers with an 'us and them' mentality, went on to suggest that this was not a visible social dynamic within Narrabri town itself:

there's that attitude of...cockies versus the rest of the world, but you know that's just a general term. But in terms of functioning as a community it's not a problem, but there is always that sort of...I suppose we are a bit different because we're right in the middle, you know but we're not on the lower socio groups either, so...and growing up here I relate to both groups.

On the whole, study participants expressed a strong and relatively uniform definition of Narrabri as a close-knit and harmonious community. The strength of community bonds is a critical aspect of the vision of life in Narrabri that participants were invested in, and will remain an important theme throughout this chapter. There are, however, points of tension in this definition, since in many respects it is at odds with 'real-world' differences between residents of Narrabri—differences that reflect their position within the local economy. In this sense, the definition of Narrabri as a harmonious and inclusive community is inherently unstable. The notion of the 'idyllic rural' has an uneasy relationship with the actual social and economic structures of a rural place, and changes in the economic fabric of the town may create further threats for existing visions of Narrabri.

DIVERSITY, RESILIENCE AND SURVIVAL

This section discusses the second key theme that emerged from participants' definitions of Narrabri: the significance of social and economic diversity as a basis for the survival of the community. Over time the Narrabri Shire has undergone many changes in the composition of its local economy. Narrabri therefore reflects broader changes taking place in rural Australia, as the agricultural industry becomes open to global competitive pressures and the economic significance of manufacturing and primary industries changes. As has been recognised by previous investigations into the sustainability of rural and regional communities, these changes have placed the continued

survival of some rural communities under threat, as the industries that once supported them are reorganised or move overseas. In particular, changes in the social organisation of agriculture mean that technology has replaced seasonal employment, which was once readily-available in towns such as Narrabri. Bryce, a local cotton farmer, summarises this by noting that in the recent past:

we would get an influx of people come in December through January, that was [for] the chipping. Then there would be another influx of people for the period of March and April, for [the] picking. Those people aren't coming anymore. That's changed the dynamic. It doesn't impact me terribly much, but [it does] the lady across the road with the newspaper shop, [and the] lady up the road [with] the haberdashery, all of those sorts of things. [If] those people aren't here, the little café and all those sorts of things aren't here.

Community members in Narrabri do, however, position themselves against this trend.

Participants overwhelmingly described Narrabri Shire as a place that can survive the challenges that rural Australia currently faces. Many participants described Narrabri as a relatively vibrant community, especially in relation to other country towns. Steven, a key stakeholder, is representative of this view. He stated that:

Narrabri is a special place and I'm [involved] in this entire region and I'm biased and I know that. However, I'm not biased when I pull that hat on because we need the whole region to survive. We don't survive on our own. But it is unique here, it's known for it...There's a vibrant street, if you go to our neighbouring towns it's not vibrant.

In this quote, Steven's discussion of survival references the possibility of social and economic decline that other nearby communities may be facing. The uniqueness of Narrabri for Steven and other participants is therefore this comparatively bright future. The vibrancy that Steven describes is supported by what many participants characterise as the social and economic diversity of Narrabri, a feature that sets it apart from other rural communities. For many participants, it was this resilience and diversity that came to mind first when describing Narrabri. Wendy, a local community sector advocate, connected economic diversity with multiculturalism and resilience:

Participants overwhelmingly described Narrabri Shire as a place that can survive the challenges that rural Australia currently faces.

if we go back to the cotton, these days Narrabri is a very multicultural town, which it wasn't before the cotton came and we've got wheat research now, we've got very highly qualified people coming into the town which is great. Everything is diversified which is fabulous because in my work I travel to other areas, I cover five shires, so I travel into towns that are really dying, there's nothing there and they're just sleepy little hollows unfortunately. So when I drive to Narrabri I can see the difference.

In the above quote, Wendy compares other towns that are 'really dying' compared to Narrabri, which she perceives as multicultural and full of highly qualified professionals. The presence of different economic activities including agriculture and research science was commonly described as a key positive attribute of the Shire. Fred, a local key stakeholder, elaborated on this theme:

[i]t's great, it's a really good place to live. That's why I came back to it. When I left here, all of my children had grown up and left the area, but since I've moved back I had two children move back and I think it's a nice place to live if you like agriculture, you like country living, and I think for a regional area it's got quite a diverse employment, unlike other regional areas. So if you go to Coonamble, Coonabarabran, Gilgandra, you know like literally dozens of other places, it's very one enterprise, cropping. Whereas Narrabri has got the irrigation, it's got a very intensive cotton industry, it's now got mining, and it's got a lot of research. Sydney University has a base here with the wet research out north. CSIRO and Department of Primary industries have Myall Vale which is a cotton research centre, and of course there's the telescope, CSIRO telescope's down the road, so that offers a diverse sort of an opportunity and also offers a very...a good community which not only has rural workers and energy workers, but also has academics.

As in the quote from Wendy, Fred emphasises social and economic diversity, especially the research activities linked to local scientific operations. Malcolm, a local farmer, connected the diversity in the agricultural sector to the idea of Narrabri as a wealthy, resilient and democratic community:

it's a pretty resilient town because it has a wide band of income as far as, like, grains, wool... not so much now but, fat lambs, cattle, of course...So mainly what it supports I suppose is what gives us the income...of course, cotton's probably pretty important because there's a lot of dryland cotton going on. So you've got to incorporate cotton as well as the rest of the stuff. So it's a fairly wealthy shire. It's resilient because the people here are fairly democratic

and get on with everybody and there's no large hierarchy or anything like that, you know.

This emphasis on resilience, diversity and survival are key to the personal identifications that study participants link with Narrabri. This theme reflects the connections between the economic basis of the town, its social composition, and the personal relationships that participants have formed within their local community. For many, a key feature of Narrabri is its relative vibrancy and diversity, which was strengthened by the various industries that support the town alongside the ongoing significance of agriculture. Participants frequently articulated a sense of pride that they were part of a town with a strong basis and a solid future, and which stood out from other rural areas in terms of its diversity and capacity for survival.

EMOTIONAL CONNECTIONS TO THE NATURAL ENVIRONMENT

Many participants described a strong attachment to a particular vision of rural life that Narrabri was believed to offer. This was especially the case for farmers, whose relationships to Narrabri revolved around the pleasures of a connection with the natural environment afforded by a life of farming. Farming was often described as part of a rural lifestyle offering freedom, autonomy, and the achievement of real, meaningful work. This is emphasised in the following quote from Bryce:

[w]ell you're your own boss. You've got to love the land, you've got to love farming. I get no

bigger joy than walking out in the morning and seeing the crops and going for a walk in it and looking at it and getting in and touching it and watching it grow, it just gives me the buzz. Then you get there at harvest time, and you've harvested it, and it feels really good if it's a good crop. Or you can sell your cattle at the top of the market, or you get a really good price for them, because they're good and fat. Just what the market needs, something like that, because it's...you put a lot of time and effort and work into it, but it's your end result, it's just really really good. Another day you sit out on the veranda and look out across the paddock, it's just great. But you've got to love that sort of thing, and be prepared to work hard.

Here, the rewards of farming are associated with both economic success and a relationship with the land that goes beyond the use of that land for agricultural capital. There is a personal investment here in a way of life and the 'buzz' that comes from the day-to-day practices of farming. Caitlin articulates the connection between farming, rural life, and place attachment with particular clarity:

it's very hard to describe. It's a special place. A place where you feel safe. It's just that special place in your heart, and certainly where we are, we love where we are, and we're very passionate about agriculture. We love that we are farmers. We're very proud to say that we are farmers and that we tend the land, and it's providing food for people. Apart from obviously being very vital, there's a lot of reward that comes from that.



This quote reveals the emotional aspects of a person's relationship to their local place. These strongly felt sentiments may be difficult to put into words, but show that for this participant, farming in Narrabri has made the land, their farm, into a 'home'—a place of safety and personal rootedness. Here, attachment to this 'special place in your heart' goes hand in hand with farming and with rural life more generally.

On the whole, residents define Narrabri as a cohesive and egalitarian community supported by social and economic diversity. This diversity is critical to definitions of the Shire and supports the shared vision of a bright future for the community. Somewhat paradoxically, diversity and cohesion are the two watchwords of Narrabri, with one underpinning the other. Some participants also described a strong connection to the natural landscape of Narrabri. Together, these deeply held sentiments constitute what social scientists call the dynamics of 'place attachment' in Narrabri. For those with a strong place attachment, attachment to a particular definition of their local community is intrinsic to a sense of personal identity (Lewicka 2011). Living in a vibrant, diverse and cohesive community is central to the relationships that community members maintain with Narrabri, and thereby to their overall sense of themselves and their day-to-day lives.

PLACE ATTACHMENT AND ATTITUDES TOWARDS CHANGING LAND USE

When participants form attitudes towards changing patterns of land use, they do so through the prism of their attachment to their local community. This was most significant in the case of attitudes towards the extractive industries. As a caveat, it is important to note that not all participants had particular opinions either for or against the extractive industries. Some of the reasons for this are explored in Chapter 5. However, all of those who did articulate clear positions on mining, CSG, or both, did so from the perspective of a personal investment in and attachment to their local place. Moreover, local attachment and a personal commitment to the future of Narrabri were regarded as necessary if attitudes towards changing patterns of land use were to be taken seriously.

Accordingly, this section of the chapter describes the relationship between participants' definitions of Narrabri, their personal connections to the community, and their attitudes towards the extractive industries. This section is divided into two subsections. The first discusses the way that positive attitudes towards the extractive industries

Place attachment

There is a large body of social scientific literature that explores the notion of 'place attachment', or the relationships that people form with places (see Lewicka 2011 for a substantial review of this literature). This body of work has demonstrated that attachment to a particular place often operates as a critical aspect of personal identity. Place attachment is about the ideas and perceptions that a person has of a place, perceptions that may themselves relate as much to cultural ideals as to the reality of day-to-day life in a locality. Place attachment is also about a deep emotional connection with place. In this sense, place attachment is about a feeling of belonging and rootedness, of feeling comfortable in a place. Thus, the sentiments of place attachment provide 'an anchor of shared experiences between people and continuity over time [...] This lived connection binds people and places together. It enables people to define themselves and to share experiences with others and form themselves into communities' (Crang 1998: 103).

relate to the definition of Narrabri as socially and economically diverse. The second examines the way that the arrival of the extractive industries is seen as destructive of the agricultural basis of the town and of the natural environment. The data shows that both positions are formed on the basis of a personal attachment to established definitions of Narrabri.

As noted above, there is a substantial group within the community who do not hold strong views in favour of or against the operation of the extractive industries in Narrabri. So, whilst the distinction between positive and negative opinions is important for understanding the role of place in attitude formation, the distinction does not represent the position of a segment of the study sample that adopted a more neutral stance.

EXTRACTIVE INDUSTRIES AS A COMPLEMENT TO DIVERSITY

Participants who articulated positive attitudes towards coal mining and CSG exploration described these industries as a favourable addition to the existing economic diversity of Narrabri, and therefore as a legitimate basis for the continued vitality of the community. In this sense, participants formed a positive attitude towards the extractive industries in that these operations were seen to contribute to a vision

of Narrabri as a town that requires diversity in order to sustain its unique vibrancy. Steven, a local resident, articulated views in favour of extractive industries, including CSG, and drew a direct link between the existence of Narrabri as a community and the economic diversity of the Shire. Agriculture, he explained,

cannot sustain the community anymore, you have to be diverse if you want to keep community. I'm not saying they can't sustain themselves, what I'm saying is they can't sustain the entire community even though they're your number one, they can't sustain the community. You have to have diversity, even farming has to have diversity...if you don't have diversity the number one thing you'll lose is your youth and young people. So you lose the heart and your future and you've got to keep it at all costs.

Here, Steven describes the 'heart' and 'future' of the community as dependent on economic diversity, a definitive characteristic of Narrabri. Extractive industries are also described as a complement to this existing diversity on an economic level. Carter, a local lawyer, describes CSG exploration as providing the social and economic foundation for a good community and a 'feel good place to live':

professional jobs in Santos, professional jobs in mining, professional jobs in the service industries...If you can string all of those together and add to them a bit with some local initiatives, then you've got the chance of a real good community...More houses, more opportunities, more jobs, more money circulating...But for all the things I said to you before about making this district a special district; there's your funding right there. When you look at little towns that are niche towns, some of them are attractive for reasons that you can't quite understand, but nonetheless they are...people love to live there for whatever reason it is, and that's the opportunity that exists here. To create a feel good place to live.

Here, CSG and mining exploration are part of a broader personal investment in the vitality of Narrabri, towards which the participant feels a strong affection and which he describes as a 'special district'. Claire, a young person involved in local community organisations connected with young entrepreneurs, is also strongly in favour of CSG exploration and describes the extractive industries in general as the source of hope for the future of Narrabri:

I've lived here for all of my life and I went through a period when I was growing up where I just thought it was the worst town in the world and I don't know whether that was because I just wanted to get out and into the city or whether

...participants formed a positive attitude towards the extractive industries in that these operations were seen to contribute to a vision of Narrabri as a town that requires diversity in order to sustain its unique vibrancy.

I generally went through a bad stage. But now I think everybody has this kind of air of hope and a lot of young people are moving back, so that's one change that I've really seen...People really expect it to move forward. Everybody is saying that Narrabri could be the next big thing in terms of regional towns and stuff like that and I've heard a lot of people say that. People are investing in property and things here, which before maybe five or ten years ago, people simply wouldn't do.

For Claire, the extractive industries are the basis for progress. Indeed, the notion of progress runs throughout positive discussions of CSG exploration, which often describe the extractive industries as both complementary to the economic diversity of the town and as an inevitable reflection of social and economic progress in the region. Attitudes such as these—in which mining is seen as essential for social vitality and economic progress—are formed through the prism of a definition of Narrabri as economically diverse, and a personal commitment to shape the future of the Shire. It is this commitment that motivates these participants to support the changing patterns of land use that are reshaping the Shire.

EXTRACTIVE INDUSTRIES AS A THREAT TO A RURAL WAY OF LIFE

Negative attitudes towards mining and CSG were expressed in terms of the threat that these industries posed to the rural way of living in Narrabri. Many of the participants were landowners (either farmers with intergenerational links to the local area or 'hobby farmers'), but this was not the case for all of those who opposed the extractive industries. For these participants, mining and CSG developments were perceived as foreign to the locality and as antithetical to the agricultural basis of the local community. The following narrative from Carl, a local landowner, is representative of these attitudes:

the emergence of the [extractive] industries has been forced upon us. It's not something that's grown, you know, if the farming industry kind of grows, it evolves slowly over the years. When this country was first opened up, it was all sheep and then the cattle came along and then ...the government took a lot of the country

back and split it up into smaller blocks and the whole thing evolved slowly and sustainably...So these industries that we've got coming now have been forced upon us. It's not something that the community really has had any input into.

Here, the extractive industries are contrasted to agriculture, which is described as developing naturally with the local community, as opposed to what this participant experiences as the imposition of mining and CSG. Unlike those who see the extractive industries as a natural complement to local economic diversity, those who oppose these industries understand them as foreign to the locality and as threatening the established agricultural basis of the community. As Carl said:

I want to see the gas go away and I don't want to see any more coal mines in the area. That's it. We're a farming community. Narrabri relies on farming.

Vera, a local landowner, also described agriculture as a long term foundation for the future of Narrabri, as opposed to mining and CSG, which she sees as temporary:

[w]hat does it mean to us? An awful lot, and when anything threatens that, it's not that you want to be irrational, it's not that you want to be anti-development, it's just that we've been here for such a long time, and to be jostled by a temporary industry to find out something on the other side of it when we're still there. So the longevity of what we've been doing and we're getting better and better at it all the time. World's best practices, world's best farmers reside in this area.

In this quote, Vera emphasises intergenerational connections to the land and to agriculture, and the expertise local residents have developed through this connection. Mining and CSG are understood here as temporary impositions, which threaten this connection. In this context, if the extractive industries are allowed to continue operating in the area, and if new CSG developments go ahead, the future of Narrabri is understood not in terms of progress but in terms of the destruction of the natural landscape, of the local community, and of the possibility of a future in the area. As Carl explained:

the way I see Narrabri, if the government keeps progressing their coal and their coal seam gas the way they have been, we'll just end up...like Muswellbrook or something like that. It will be a hellhole. It won't be a nice place to live between the noise pollution, the light pollution and the methane pollution. It won't be very nice and as I said, it's got nothing to do with me. It's all about the next generations. Our family has been here 90 years. It's been a good place and I've got

From a position of intergenerational place attachment, these participants understand the extractive industries as outside interventions that operate to dismantle the basis for an agricultural way of life, and thereby to dismantle the nature of Narrabri as a rural place.

a lot of friends. Before all this mining started I would have known nearly everybody in the Narrabri Shire from here, a radius of probably 150 kilometres out that way and 50 that way, 50 this way to the top of the mountains.

In this sense, the arrival of the extractive industries threatens the definitions of rural life that these community members hold. From a position of intergenerational place attachment, these participants understand the extractive industries as outside interventions that operate to dismantle the basis for an agricultural way of life, and thereby to dismantle the nature of Narrabri as a rural place. As opposed to the narrative of progress described by participants who support the extractive industries, these participants' attitudes are part of a narrative of disaster, in which the place that forms the basis for their connection with the past and the future is destroyed. For these participants, this amounts to nothing less than a catastrophe and the foreclosure of any possible future in the local area.

Overall, the data collected for this study show that attitudes towards the extractive industries are formed in relation to participants' personal attachments to Narrabri. Participants maintain a strong connection towards a particular definition of Narrabri, and defending this definition is key to their attitudes towards the extractive industries. Local attachment is critical for the formation of all attitudes, both positive and negative. Moreover, the data suggest that one particular division that may be emphasised is that between landowners who wish to maintain an agricultural identity for Narrabri, and those who live in the town itself who wish to maintain a narrative of progress and economic growth for their local area. In this sense, attitudes towards land use are an effort to define what constitutes Narrabri as a 'rural area'.

The data also show that attitudes towards the extractive industries are not merely about what Narrabri 'really' is but, rather, about what different participants would like Narrabri to be. Attitudes toward the extractive industries therefore form part of participants' attempts to define the nature of their community, and to defend the definitions that currently form the basis for their lifestyles. In this context, the arrival of the extractive industries

has the potential to disrupt the definitions of Narrabri that local residents hold, and may force a re-evaluation of the nature of the 'rural lifestyle' on offer in Narrabri. Regardless of their attitudes, the 'sense of place' that local residents hold about their local town is the critical mediating factor in the formation of their attitudes towards the extractive industries, which have the potential to challenge existing definitions of what Narrabri is and will become in the future. This becomes especially clear in the next section of this chapter, which reports on participants' perceptions of the impact of the extractive industries on community dynamics.

COMMUNITY DYNAMICS AND THE EXTRACTIVE INDUSTRIES

Narrabri was a very close-knit rural community. I think now as a result of the extractive industries, and our experience has been predominantly with the coal seam gas industry, we're seeing deep divisions in our community. There's a feeling of powerlessness, anger, resentment that these industries have come into our community and literally divided our community (Caitlin, local farmer)

The intensification of the extractive industries has, for some participants, challenged their definition of Narrabri as a cohesive community. Community cohesion is, as argued above, central to the way that local community members define Narrabri, and is also an important part of the personal affection they hold towards their town. Disturbing this definition of Narrabri is therefore a significant challenge to the attachment that community members hold towards their local place.

Participants' views about the consequences of the extractive industries for community cohesion vary, and it is difficult to gauge what is 'really' going on in Narrabri. Like attitudes towards land use, claims about the nature of community relationships must be understood as part of the way that local residents define their communities for themselves. Dylan, a local farmer, claimed that the arrival of the extractive industries had not generated much debate or disharmony:

[f]rom the general sense and what I know about the town and the Shire I'd say...I could be a little bit low but I'd say over 90 per cent are in favour of the gas...So on that basis I think that...and just in talking to people...look, I talk to a lot of people over a period of time and no one's...I haven't heard anyone really [against it]...not in the town here.

However, many participants did acknowledge growing community disharmony. Accounts like the following from Vera suggest that the arrival of

the extractive industries, and the polarisation of opinion concerning these industries, have created substantial community conflict:

[i]t has absolutely divided us, because everybody has an opinion, rightly or wrongly, we've been totally bombarded from both sides...I can tell you a funny little story. We were out having lunch with a group of women, probably 16 or 17 of us who had known each other forever. The coal seam gas came up...we were just there at a birthday luncheon. Coal seam gas came up, by the end of it two women were crying and another one was being told don't ever speak about coal seam gas again. That's what it's done. So now whenever you're with these people, you're always a bit guarded because they're dear friends, it's just they've fallen on the other side, and I understand why people are on both sides by the way. So it's very divided like that, and anyone who tells you that it's all okay, it's actually not all okay.

Similarly, Kathy suggested that CSG in particular was an emotive issue within the community, which was being 'torn apart' at the time of the study:

I guess the CSG debate has polarised communities into farmers and people who feel some risk...if you engage in a conversation about what you're worried about, quite often people get their backs up straightaway...it's kind of like two polarised camps...I guess that's where I see the community sort of tearing apart at this moment in time.

For these participants, the arrival of CSG exploration threatens cohesion and warmth of community relationships, one of the most cherished aspects of Narrabri. This is not only a challenge to these participants' personal relationships, but also speaks to their personal attachment to Narrabri as a place, and therefore to their relationship to their homes. However, it should be noted that the division of Narrabri into two polarised camps is not necessarily in accordance with the data discussed in this report, which in Chapter 5 show that there is a significant number of participants who do not hold strong views one way or the other, and who therefore cannot be allocated into a distinct 'camp'. Nevertheless, participants who did describe a breakdown in community cohesion suggested that the arrival of CSG exploration had threatened their most significant relationships, including their commercial relationships with local shopkeepers and their ability to talk to others in the course of their day-to-day life. These breakdowns in community relationships were especially significant for those who opposed the extractive industries. Daniel, a local farmer, described conflict with a local business-owner over the issue of CSG:



let's say the local optometrist...not the current one; the one that was there before...He had a sign in his office...on the front window of his shop actually, 'we love Santos'...He put an article in the paper and...it was very derogatory to farmers. Virtually telling us to shut up and shove off...So I went and had a yarn with him one day. I said, 'well, look, I'm not going to come and do business with you anymore.' And this is the sort of thing that starts to happen. I said, 'we'll go to Gunnedah or we'll go to Tamworth.' He said, 'haven't I got a right to have my opinion.' I said, 'you have. But you've told the farmers in the paper in the article that they don't.' This is the sort of thing that goes on.

Some participants, like Carl, cited below, reported being socially and politically isolated, and finding it difficult to maintain community relationships:

Narrabri used to be a quiet town where you could talk...I could talk to people. But I find now that because of...what I stand for, because of my questioning, it's all changed. Narrabri is not what it was.

For a place, which is defined by its residents as cohesive, the breakdown of these day-to-day contacts and relationships is a significant threat to the definition of Narrabri as a rural community. This means that community members, such as Bettina, actively manage their relationships with others in order to avoid the contentious issue of the extractive industries:

[y]ou just don't talk about it...My brother works at the underground. We just don't talk about it. So that's a part of his life I don't get to share in and we just don't discuss it. So for our family it's a really direct thing that we choose to avoid.

In this quote, Bettina shows that with the arrival of the extractive industries, new and possibly conflictual relationships are created even within families. In this context, family and community cohesion becomes something to be managed rather than existing as a given. It is important to note here that while community cohesion is an

important value held by community members, pre-existing social differences within the community (such as those between landowners and townspeople) make this definition inherently unstable. The extractive industries therefore potentially pose a major threat to the definitions of Narrabri that sustain participants' personal relationships and lifestyles. Changing patterns of land use have certainly had some impact on the way that particular community members relate to one another, and have the potential to create further divisions within the community.

CONCLUSION

This chapter has shown that attitudes towards changes in the use of land are formed through the prism of people's definition of Narrabri as a unique place, and the personal attachments they form to these definitions. Regardless of their attitudes, all of the participants in this study expressed a commitment to a future for Narrabri that accords with the values of community cohesion and social and economic diversity. This definition of Narrabri as a unique and vital place is critical to community attitudes.

This chapter has also revealed that long-held definitions of Narrabri have been destabilised by the intensification and expansion of the extractive industries. Coal mining expansion and the introduction of CSG pose a challenge to the meaning of Narrabri as a rural place, which offers a unique way of living to its residents. Differences between landowners and townspeople may be expressed in attitudes towards the extractive industries that define Narrabri as an agricultural community, and political activism against the extractive industries may change community relationships in ways that threaten actual community cohesion. The extractive industries thereby reshape the nature of Narrabri as a local place, whilst community members respond to these industries in ways that reflect their personal commitment to the uniqueness and vitality of their local community.



Place and place attachment: key implications

Theme	Issue at stake	Local implications	Implications for government
Community cohesion	<p>Narrabri is defined as a traditionally cohesive and inclusive community by its residents. This is a key value in Narrabri. The intensification of the extractive industries is destabilising and creating new, potentially conflictual relationships due to changes in the economic and social basis of the town.</p>	<p>Locals are forced to actively manage their relationships with others in order to avoid conflict. Some residents feel socially isolated. The key value of cohesion as a definitive feature of the Narrabri community is threatened.</p>	<p>If changes in land use threaten the community value of social cohesion there is likely to be resistance to these developments. Government should seek to understand local perceptions of place and place attachment and consider the impact of land use changes on community cohesion when assessing the social impact of land use developments.</p>
Economic diversity	<p>Narrabri is defined as an economically diverse place. This diversity is a key value in Narrabri because it is seen to underpin the future of the community at a time when other rural places are experiencing economic decline.</p>	<p>When one industry operates to the perceived detriment of others, the social value of economic diversity becomes questionable. For some residents, the link between the economic viability of Narrabri as a whole and its ability to sustain them and their families as individuals is broken, and this threatens their sense of the future.</p>	<p>If changes in land use that provide economic diversity are seen to undermine the viability of existing economically sustainable land uses, community members are likely to voice opposition. Government should weigh up both individual and sectoral livelihoods and intergenerational sustainability alongside a whole region approach to deliver fair and reasonable economic benefits to the entire community.</p>
Place attachment	<p>Community members perceive Narrabri as a unique and special place. They express a strong place attachment to their local community. Their attitudes towards land use are expressed from the perspective of this place attachment and the significance of their relationship to the land.</p>	<p>Community attitudes towards the extractive industries go beyond abstract economic or environmental concerns. These attitudes reflect the deep personal attachments that people have to place and community.</p>	<p>Changes in land use are challenging some people's sense of place and leading to fears for the future of Narrabri as an agricultural community. Government should work to ensure that competing visions for Narrabri are acknowledged and that place attachment is recognised as an essential part of human experience that must be taken into consideration in planning processes.</p>



Chapter 3

Land use change: the contest for water and soil

The battle for land [is] also a battle for water
(Michael Cathcart 2009: 6).

Localities are complex domains often shaped by competition and conflict. Local histories are marked by decisions about what resources are explored and exploited, who has access to such resources, and how landscapes are conserved or utilised. Land uses are intimately tied to people's ideas of the relationship between humans and their natural environment. Where that relationship is acutely dependent—such as in agricultural communities—changes in land use are intensely scrutinised to ensure the relationship is not jeopardised. In the Narrabri Shire, the meaning of land and the relationship between the land and its inhabitants underpin local attitudes to land use change. People articulate a sense of a 'resource hierarchy' where water and soil are the ultimate assets that must be protected. Assessments of the value of diverse land uses and land use change follow this hierarchical logic. This chapter explores how local residents perceive water and soil as resources that must be protected and how they see these resources as threatened by particular land use practices. The chapter examines the conflict over these vital resources, risks and uncertainty associated with changing land use, and the questions of sustainability, future and stewardship.

Water and soil are the cornerstones of agricultural communities and are seen to connect all facets of life—past, present and future. As such, they are regarded as non-negotiable and needing to be protected at all costs. When these vital resources are perceived to be in jeopardy or threatened by risks or uncertainty associated with land use change, conflict and resistance will emerge. Related to this, are questions about scarcity, the role of stewardship and long-term sustainability.

These three themes are specific lenses through which individuals in the Narrabri Shire assess the future. Thus, the central argument of this chapter is that water and soil are perceived as scarce and vulnerable resources that must be protected for the future well-being of individuals, the Shire and the world beyond Narrabri. The responsibility for protection of these resources is embedded in a vision that situates agricultural producers as stewards of the land. Accountability for deterioration in quality, ongoing supply and access to these resources is, consequently, a critical priority for many locals.

The central issues to be addressed in this chapter are summarised under three main themes: land use change beyond extractive activities; stewardship, vulnerability and competition for water and soil; and, mobilisation of resistance in the name of a sustainable future. Overall, the articulations presented herein represent the values, perceptions, aspirations and anxieties that form part of understanding what it is to live in rural places today—and logically expand on the findings presented in Chapter 2.

LAND USE CHANGE BEYOND EXTRACTIVE ACTIVITIES

Local debate about land use change in the Narrabri Shire centres largely on extractive activities. The changes accompanying coal and gas exploration have particular characteristics that imbue them with a pervasive quality; they are driven by external interests, they are fast evolving, and locals have limited control over and input into decision-making processes. Yet, change is not simply the domain of extractive activities in the Shire. More gradual and muted changes are occurring within the agricultural sector itself.

COTTON: AN INDUSTRY IN TRANSITION

The Narrabri Shire is today known as a major cotton-growing region and local residents express pride in their cotton products and producers. The strong association between local identity and cotton has, however, not always been the case. Cotton production commenced in the region in the early 1960s after the completion of Keepit Dam. From the moment it first emerged on the NSW agricultural agenda in 1958—when the NSW Department of Agriculture established an experimental farm at Myall Vale—it became evident that cotton would be a profitable crop for inland farmers (Schwager 2013). In 1962, two cotton pioneers from California, USA, harvested 26 hectares of cotton in the Shire, which yielded an average of 3.7 bales per hectare (Schwager 2013). This was to be the forerunner of a new agricultural industry, which currently generates hundreds of millions of dollars in annual revenue and remains one of Narrabri Shire's most successful crops.

When cotton first came to town, it was seen as an 'outsider', a threat to established crops like wheat, a competitor for water and a big user of chemicals. Nevertheless, it was reluctantly accepted due to its employment numbers and direct financial contribution to the Shire. As Brian, a key stakeholder, explained:

back then, cotton was natural cotton, not GM cotton, and so you needed lots of pesticides and lots of sprays. So there was huge growth in the cotton industry in the late 80s, early 90s and all the associated businesses...There was lots of money [too], lots of itinerant workers, lots of planes. Small business was really booming in all of the connected industries...but there were [also] a lot of hazardous chemicals [being] used, a lot of them had a really bad odour and although small business was benefitting, people came to be concerned.

By the early 1990s, the cotton industry Australia-wide had come under fire for its environmental performance, particularly in relation to its pesticide use (Cotton Australia 2016). As Henry, a key stakeholder, explained:

cotton was the enemy. People saw it as [having] the potential to poison babies,...it was making the community sick, it was poisoning the river ways and the environment with [all] the spraying.

Bryce, a former cotton industry employee, concurred, suggesting that:

twenty years ago we were debating the use of chemicals...They were hot topics and hot debates. We were using chemicals to control aphids etc. but people were accusing us of creating cancer and everything else. I mean

that's how bad it got. I mean, at one point it got that bad, I was only probably in my late 20's, and I wouldn't tell people what I did for a living, because you'd get in an argument with them.

Rising concerns about the impacts on water sources and soil quality eventually led to the decision to move towards genetically modified (GM) crops and, later, to transform the entire industry. While moving to GM crops was considered a 'blessing for the environment', it was not without added social costs to the community. Brian, a key stakeholder, noted how:

a lot of small businesses...went belly up and it was a lot more difficult, there was a lot less money flying around in the community. So the technology came in, [and] there's no cost for spraying anymore [but] the money that used to circulate around the community is now simply given in licence fees to Monsanto for the GM.

Many farmers commented on the high costs associated with GM but noted that there was now 'no alternative', given that most had moved to dryland cotton farming, which is more resistant to drought. The cotton farming industry has continued to evolve, both in terms of moving towards increasingly sustainable practices and in responses to changes within the agricultural sector.

FARMING: A SECTOR IN TRANSITION

Both the cotton and wheat farmers interviewed for this study expressed a sense of unease when discussing the ways they optimise their practices and products. This optimisation was linked to the 'life of the modern farmer'; a life requiring a multiplicity of skills and entrepreneurship beyond what is conventionally associated with working on the land. The voices of the participants resonate an argument put forward by Watts and Scales (2015: 225), which states that farming today is a 'complex multi-scalar interplay between environmental, technological, scientific, political and economic factors' concerned with 'the growing role of global agribusiness and transnational capital in agriculture, as well as the potential social and ecological impacts of new technologies'. The increased pressure to continually adapt to the fast moving changes around them is causing unease amongst many farmers, as they are subsequently compelled to question their own ability to take on roles that were once outsourced to others. Dana, a farmer's wife, suggested that:

[t]hat's the biggest change about it...especially since the 80s, where you were a farmer and that was a lifestyle and part of your life. Now, there is so much intensity involved in being your own financial planner, succession planner.

We've gone from a single desk with the wheat to having to be our own marketer, operator, you know, there's so much now in reference to just the level of information and education that we're even having...thrown at us on a basis from technology to equipment.

She notes further in terms of the rapid pace of life and how people are coping:

it's a manic lifestyle now. There is no such thing as a relaxed farming atmosphere. It is so intense, which is also where and why I think there's a massive increase in a lot of the depression, the black dog, suicide, you know. I suppose it's the pressure, I still think the pressure is more in farming than it ever used to be.

Data from the study demonstrate that the financial burden to remain competitive is taking its toll on farmers, with an ever-pressing need to realise economies of scale. As Heath, a local wheat farmer, noted:

[o]riginally these farms were maybe between 1200 and 1800 acres, all right? That was declared a living area. [A] person could work that farm, raise a family on that farm. You couldn't even pay your fuel bill off of that [sized] farm today...just an exorbitant amount of money goes out of the farm and you've really got to be involved in it to actually see how much money comes out. And another thing that's happening too [is] with all these seed companies coming in, genetically modified seed, right? Which before, [when] the farmer grew a crop of wheat, he'd keep a portion of that wheat to be resewn next year. When its genetically modified grains, you can't. You've got to go back to the seed company and buy more again. So there's another cost.

Likewise, William, an agricultural supplier, noted how:

[o]nce upon a time, a big wheat farm was 500 hectares; now that's just a pocket handkerchief. Now a big wheat farm, 5,000 hectares is about what you need to be growing to be a successful wheat farmer.

These changing scales represented a critical land use issue raised by the participants, and an issue that caused particular concern about the future. In contrast to the changes to farming practice outlined above—which are not directly about land

...the fast moving changes around them is causing unease amongst many farmers, as they are subsequently compelled to question their own ability to take on roles that were once outsourced to others.

use change as such but rather about innovation within an industry—the issues surrounding the disappearing small farms in the Shire relate to macro-economic processes that have potential to significantly change the way land is utilised. Technological advancements and the increasingly globalised nature of agriculture translate into anxieties about the intergenerational transition of the family farm and future transmission of knowledge and farming ethos.

FARMING PRACTICE AND SUCCESSION

Many of the farmers in Narrabri expressed concerns about the rapid changes that have been and are taking place within the agricultural sector across Australia—namely, increases in farm size, decline in the traditional family farm, increasing competition for limited resources and global market pressures (Askew, Sherval and McGuirk 2014). These changes are—as is the case with the emergence of gas interests and intensification of mining—often shaped by global interests and transnational forces. A consequence of the speed with which these changes have taken place and the external pressures underpinning them is an increased sense of disempowerment and unease about the future.

The phenomenon referred to here is described in the literature as the 'get big or get out' syndrome (Barr 2005). A number of participants—particularly from small- to medium-size farms in the area stretching north of town (and, as such, removed from the activities and immediate impacts of the extractive industry)—adopted this phrase when speaking about what they consider the greatest challenge facing them as farmers. They explained how increasing farm size and technological sophistication diminish their ability to work together and how the traditional role of the family farm was fading. Bryce, for example, stated that:

the family farm has stopped being the traditional family farm. It's now either a corporate farm, so it's owned by a corporate-type structure, or it is a corporate family farm.

This shift away from traditional farm structures is linked to heightened competitiveness in the modern agricultural sector. Many of the participants did, however, ask the rhetorical question 'when does it become too price-

A consequence of the speed with which these changes have taken place and the external pressures underpinning them is an increased sense of disempowerment and unease about the future.

prohibitive to continue farming?' Dana, for example, explained how:

a lot of the farms are selling out and combining. It seems to be the big thing to have 10,000 acres around here. But that's happening everywhere too. I believe when Dad came here in '79, he purchased [name of farm] for \$220.00 an acre, which was big money back then and now it's \$2,200.00 an acre. And now [name of farm] is coming up for sale and they reckon it's going to go for \$2,500.00 an acre. That's in the space of 20 years.

Likewise, Anna, a local farmer's wife, suggested that these changes are having a big impact on farmer's profitability and future planning. She explained:

I just don't realistically see if we're buying land around here now for \$2,500 an acre, how we're going to pay it back and actually make a profit based on what we get on the commodities? It's just not possible and it's not possible within two to three generations and that in itself is why... well, basically as I was told, 'you've got to go out, you've got to get a decent education, look around where you're going'. My two brothers are in finance and dentistry. They're not coming back to the farm. So for young farming families that are trying to establish themselves...there's a massive uncertainty and that's just not based [on] what we're seeing day-to-day from pricing to where we're going, to what's happening around us or the weather, just the typical day-to-day things that make life difficult. There's also that addition of how do we ever actually get further enough ahead ourselves to either purchase from our own immediate family and/or purchase around elsewhere. Hence, farms are getting bigger because you can't survive off what we once were able to do.

This acknowledgment of changes in farm size and family farm structure illustrate how family succession plans are no longer a given. As Heath, a local farmer, suggested:

I do not want to completely...sink my kids and have their whole life destroyed on the fact that they think they have to try and stay here and hang onto the farm. You cannot be a farmer unless you have got a passion to be a farmer. You won't survive. Thirty years ago that wasn't the case. Fifty years ago that wasn't the case; it was something you could hand on. They [now] say it's the new form of child abuse, to hand the farm on.

The changes in the style and scale of farming were identified as having the potential to divide the community and, subsequently change the culture of the Shire. In contrast to the cultural changes that are perceived as a side-effect of

extractive activity (see Chapter 4)—which often cause anger and frustration—the cultural changes that are predicted to follow the decreased role of the family farm were accompanied with a sense of sadness and concern for the future. Tim, a real estate agent, explained some of the issues at stake:

The [big companies] that are expanding, are expanding in prime agricultural areas, they're not buying marginal country. So what you're going to see is [that] the rural property market is going to be two tiered. You're going to have smaller farmers segregated in the lighter country around the Barmah area and areas where you find arable grazing or farm small areas with low yield. Where we'll see the bigger farmers is definitely in prime areas, so from Narrabri up to Moree and west out to Collarenebri in those heavy black soil farming areas. You've only got to look, there's probably [only] ten to 20 families who have a lot of that scale...and [they] have been very active in the market, and I think we will see that trend continue. But it will only be with quality assets, not with marginal areas. [While] there will be a place for the smaller farmer, it won't be in prime areas, because the values will keep growing as these bigger operators keep expanding, and the smaller guys won't be able to afford to stay there.

Despite the continued pressure to upscale, the desire to continue with farming as the primary land use remains strong. For many on the land, there is no alternative and it is here that deep emotional connections with the land itself are expressed. As Keith, a local farmer, suggested:

[t]he thing is we've been in agriculture for six generations. The last thing I'm ever going to do is to be turned onto another industry that has no future. Even if it had a 30-year future here, that's not the sort of future that you can then give to your grandchildren and their children.

This link between the past and the present is clearly connected with identity, place and emotion. As was established in Chapter 2, succession and future planning was an ongoing concern for many. This is because, as Cheshire, Meurk and Woods (2013: 64) note:

genealogical inheritance and kinship, the co-location of home and workplace, and an intimate and embodied knowledge of the land, generated

Whether based in dry land farming, cotton farming or cattle, the responsibility to sustain and protect the viability of the land and associated ecosystems remains strong and ever-present.

through the performance of repeated, iterative practices across a farm property, have been shown to tie farmers to particular rural places.

The alternative of selling up to a corporation is not a palatable option. Dana, cited above, suggested that the accumulated knowledge of generations will be lost if such changes become commonplace:

big companies; they don't care. They don't know the land. [My husband] has grown up on this land. [My daughter] has grown up on that property. She knows that land. You can't buy that with a big company. That's what the government is going to lose if they don't start supporting the families. They are going to lose that handing down of all that knowledge. They are going to completely lose that and they are not going to have these places looked after properly because the big companies will come in and [all] they want is the dollars.

This perception is connected with the idea of farming as both a practice and source of identity—an identity founded on the notion of the ‘farmer as steward’. Whether based in dry land farming, cotton farming or cattle, the responsibility to sustain and protect the viability of the land and associated ecosystems remains strong and ever-present.

STEWARDSHIP, VULNERABILITIES AND COMPETITION FOR WATER AND SOIL

Embedded in participants' concerns around land use change is the notion of intergenerational connections to the land and, subsequently, an interest in maintaining the quality of land and its life-giving capacities as transmitted from the past, through the present and to the future. Herein lie the notions of stewardship and the intergenerational responsibility of farmers to nurture past heritage for future generations through present agricultural practice and innovation.

Stewardship, in its simplest form, is linked to words denoting care and responsibility, such as ‘landholder’, ‘custodian’ and ‘guardian’. Stewardship has come to be associated with the environmental movement through the practice of natural resource management, with a particular emphasis on the possibility of ethical relationships between humanity and nature. Many of the farmers in the Narrabri Shire express a sense of being ‘ecosystem managers’; holding particular responsibilities for not only maintaining the quality of soil but also ensuring its longevity. Importantly, stewardship is not simply a matter of conservation



and protection of the environment. In contrast to environmentalists or others who emphasise the need to maintain an ethical relationship to the natural environment, the farmers' livelihoods are closely entwined with being 'ecological citizens' who base their farming practices upon the notion of sustainability.

This is important as farmers themselves have historically been accused of non-sustainable practices. The cotton industry, for example, has always been recognised as a 'thirsty crop' and, as outlined above, was seen as a significant threat to existing agriculture and the environment when it first arrived in the Shire in the 1960s. Yet the present day alignment of 'stewardship' with environmentalist values in the Narrabri Shire has emerged in response to what is experienced as an 'antagonistic other': the extractive industries in general and the CSG industry in particular. These 'outsiders' are perceived to present significant threats to the ultimate resources in the 'resource hierarchy'—water and soil. Most of the participants expressed an understanding of water as 'the touchstone' (Michael, key stakeholder) for the community and often reserved special mention of the importance of the Great Artesian Basin (GAB) to agriculture in the Shire.

Many of the farmers in the Narrabri Shire express a sense of being 'ecosystem managers'; holding particular responsibilities for not only maintaining the quality of soil but also ensuring its longevity.

THE GREAT ARTESIAN BASIN

the Great Artesian basin is our lifeblood, and if we lose our groundwater, we simply cannot exist here. Not just the farmers, but communities, towns, vast areas of inland Australia will be uninhabitable. It is our only permanent water supply – Anne Kennedy (2014: 4), sixth generation Narrabri farmer.

The participants expressed significant concern about the ecological health of future supplies of water, and, not least, the protection of important fresh water bodies, such as the GAB (Map 3.2). According to the National Water Commission (2011), planned CSG development in eastern Australia will, at full operation, withdraw more than 300 gigalitres of groundwater annually from the GAB; that is more than 60% of the total allowable

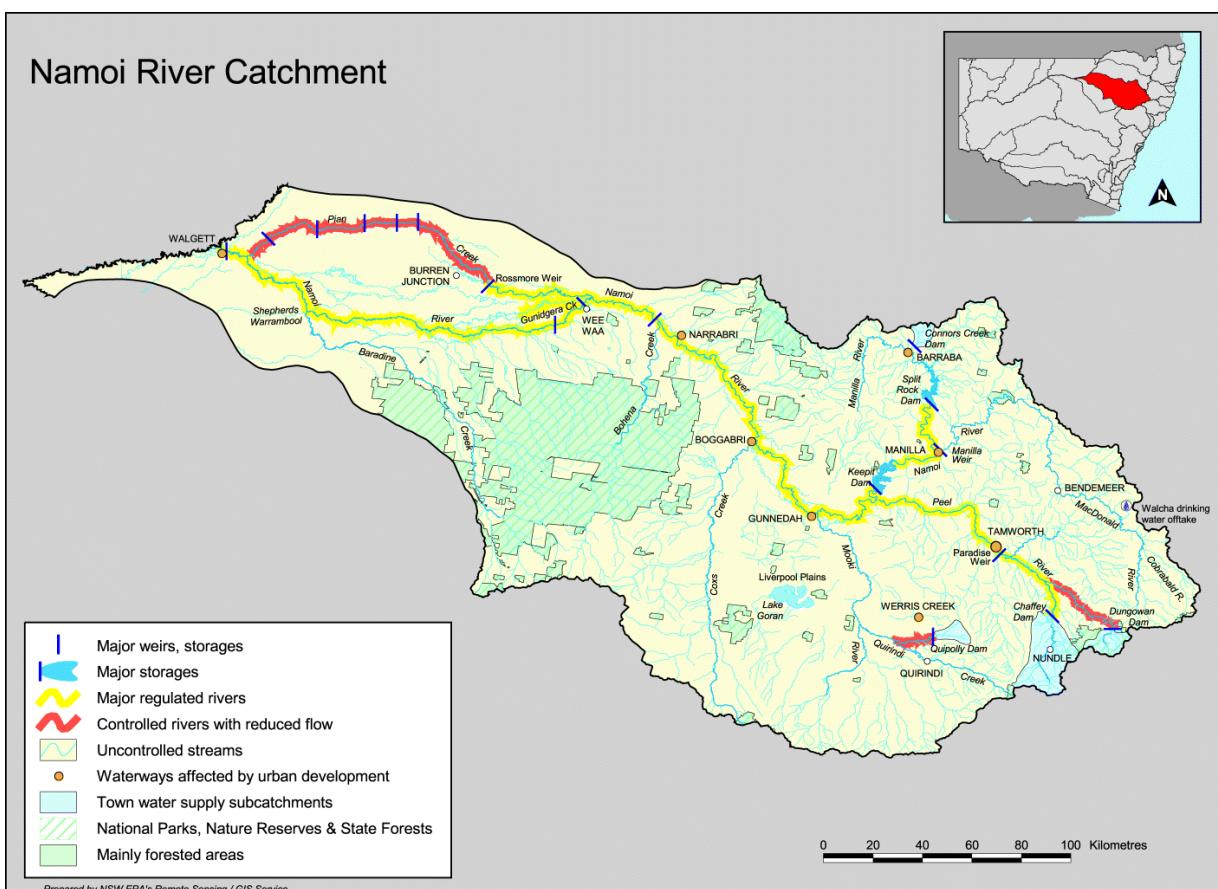


Figure 3.1 Namoi River Catchment. © State of New South Wales and Office of Environment and Heritage 2006.

Source: <http://www.environment.nsw.gov.au/ieo/Namoi/map.htm>

The notion of 'once it's gone, it's gone' is central to the sense of stewardship and the sense of responsibility that farmers and the greater Narrabri community hold in terms of protecting these essential resources; unless protected now, they will be gone forever.

withdrawals, including those of locals in the Narrabri Shire. This is of great concern to many of those interviewed for the study, including the retired grazier Vera:

the last thing I want is the Great Artesian Basin to be buggered. When you talk to people out there, go out there in the drought and their dams are dry. The only water they've got is that. Their whole life is dependent on that staying good.

Recognitions of the significance of the GAB were not limited to farmers; as the following two quotes illustrate, those who do not work in agriculture also identify the value of the GAB and think inter-generationally when it comes to sustainable water usage. Local business owner, William, noted that:

the New South Wales Chief Scientist has said that we don't know enough of the science behind what is going to happen to our water. We sit on top of the Great Artesian Basin, if we damage that water source, we're damaged for life. The Great Artesian Basin is an icon of Australia, it's an icon of the world actually.

Likewise, land assessor, Edward, noted that:

I think there is genuine concern because there's a perception that the Artesian Basin is fragile and once it's gone, it's gone and talking to people in Narrabri, particularly farmers, they are quite aware of [this] and climate change.

The notion of 'once it's gone, it's gone' is central to the sense of stewardship and the sense of responsibility that farmers and the greater Narrabri community hold in terms of protecting these essential resources; unless protected now, they will be gone forever. The farmers interviewed for the study explained how the precautionary principle is embedded in their psyche. Practices that break such a principle are, to them, nonsensical. The central role of water and the protection of water sources, including the GAB, is illustrated by the fact that all those who accepted or supported extractive activities did so on the condition that 'world's best practice' is applied

The lack of certainty around the integrity of infrastructure was of significant concern for local residents.

and that the science claiming the safety of water and soil is valid (on the question of acceptance of scientific claims, see Chapter 5).

CONTINUED AGRICULTURAL AND HUMAN HEALTH: PERCEIVED RISKS TO GROUND WATER

...no other place has got a big pool of water, millions of gigalitres of water underneath the ground. And...that's been the backbone of the grazing industry. Now if that gets depleted...and I've been in a meeting where the engineers have [been] asked: 'can you guarantee that it won't?' and they won't guarantee it, they won't put their head on the line, they certainly won't sign anything to say it won't happen. So that could spell the end. The worst-case scenario is that it will be the death of the grazing industry (Dylan, Narrabri farmer).

Some participants specifically linked water usage with ideas about continued agricultural health and, more broadly, human health. Local community members displayed real and palpable concerns about the impacts that new hydro-carbon activities, such as those associated with CSG, may have on local and shared water sources. For some, such as the local consultant Richard, the issue is a simple one: 'without water, you've got nothing'. For others, such as John from the cotton industry, it is an issue related to the region's long-term viability:

access to groundwater is what drives the economy. It provides a baseline or a foundation for the agricultural economy. A lot of the water is taken from other systems but the groundwater is the backup, it's the foundation, if anything goes wrong.

This perception that something might 'go wrong' was common among participants and many—particularly farmers—repeatedly emphasised the need to apply the precautionary principle, mentioned above. Local farmer Oliver, for example, asked:

[what happens] if any water ponds become toxic? Drilling can sometimes flip it back into our aquifer system and I think it's very dangerous. I think we haven't got enough scientific evidence to prove that what I'm suggesting won't happen. Now you wouldn't go and buy a house, you know, if someone said, 'Well those piers are only going to last another 10 years and then they're going to rot when all the white ants have got [into] them.' So that's the same way I think it is with this industry. That's the worst-case scenario, that it will destroy the agriculture industry and particularly the grazing industry is at risk.

The issues raised by Oliver and others speak to a much larger concern about not simply the potential for destruction of economic foundations in the Narrabri Shire, but also the continued way of life and possible erosion of the features that make Narrabri a unique inland place.

The lack of certainty around the integrity of infrastructure was of significant concern for local residents. This would appear to also be strongly connected with the idea of how water (both fresh and discharged) is currently being managed and how it is to be managed to avoid potential contamination into the future—especially in relation to possible flood or high rainfall events. Both government (GABSI 2014) and academic literature support this finding, with authors such as Mercer, de Rijke and Dressler (2014: 280) suggesting that:

the impact on water supplies from the mass dewatering of coal seams and the subsequent disposal of saline water are among the strongest concerns people have about unconventional gas extraction.

Echoing this argument, key stakeholder Michael explained that:

there's the Leewood or the holding ponds... they're developing on [the] flood plain, [but] if there's a major flood during production and ponds are full...then what? You know there's quite a lot of risk. And I'm actually not opposed to gas out in the middle of the desert, or natural gas or mining per se, but this is just something we do not want in this area. There's too much value...it's like this is our irrigation water, our stock water, our drinking water.

These concerns were also expressed by Caitlin, a large producer and local farmer. As a result of what she has read and heard thus far, she is

reconsidering her family's agricultural future. She noted that:

[s]o we have decided at this point that there is so much uncertainty, as a result of the coal seam gas industry, that it would not be prudent to go down that path because, and I've said it many times, that without water, uncontaminated water, we couldn't do what we're doing. We are literally downstream, so if there's a contamination, it flows through the groundwater systems through [to] our property.

This concern was also linked more generally to scepticism about the burgeoning industry and the feeling of not being told the truth as expressed by Malcolm, a local farmer:

[i]f there was no risk, and we know there's a risk, the companies would guarantee it [but] it's never going to happen. I've asked them; they won't do it. If it was all good, we wouldn't have this dissent. The dissent is enormous; and not just in Narrabri.

Whilst this 'dissent' is largely connected to potential threats from CSG exploration, it also includes concern about the increased competition for water and the fact that the water allocation system is seen as lacking transparency and fairness.

NEGOTIATING WATER MARKETS AND ALLOCATIONS

The emphasis that the participants placed on water is understandable when considering the precarious nature of water in the Shire. In recent history, Narrabri has endured long periods of drought and residents hold first-hand experiences of the consequences that lack of water may have on livelihoods, the local economy and community well-being.

The Murray Darling Basin Plan (MDBP)

Since Federation, the eastern states of Australia have wrestled with the governance and management frameworks for the Murray Darling Basin (MDB). The effective resolution of discord around planning in the Basin is essential given that the MDB is in excess of 1 million square kilometres in area and covers one seventh of the Australian mainland (MDBA 2009). For many years, the MDB was plagued with widespread environmental degradation issues associated with past water allocation decisions, prolonged drought, natural climate variability and emerging climate change, which necessitated significant changes to its management. In 2007, the Commonwealth Government released its Water Act, requiring the Murray Darling Basin Authority to develop a whole of Basin plan. The Plan was to set enforceable water use limits, referred to as 'sustainable diversion limits', on the quantities of surface water and groundwater than could be taken. While the Plan went through several iterations over a 4 year period, it was eventually accepted by each State Government and put into action in 2012. Amongst its aims is to deliver up to 3,200 gigalitres of environmental flow back to the river by 2019. Essentially, more water delivers a more sustainable environment and greater ecosystem health for all users (Jackson, Moggridge and Robinson 2010).

Local farmers clearly understand the intent of water reforms and associated instruments, such as the Murray Darling Basin plan. Nonetheless, variable and sometimes unanticipated declines in water allocations have been apparent in recent years and made it difficult to plan, invest in, and irrigate their crops. As Murray, a local farmer, explained:

I think there's some social problems associated with it now, because people can't get jobs since the Murray Darling Basin plan. They've bought a fair bit of water out of the valley and a lot more environmental water is [now] going through the system, it's not stopping in the valley [though] and the jobs aren't on the irrigated farms like they used to be...I was only watching the river the other day, there must have been six weeks of water running past my pumps there...six weeks going to the environment and that makes it hard. No allocation last year, no allocation this year and I've still got to pay the rates, still got to pay for the water you know? Yeah cost me...60, 70 thousand dollars a year just to have the privilege of having a water licence, let alone the cost of buying the water licence.

Also causing some friction is the notion of a 'double standard' that is perceived to exist between the rules for governing water allocation for farmers and the seemingly unlimited allocations to mining and CSG operations (this idea of 'two sets of rules' is explored further in Chapter 6). As Bettina, a key stakeholder, argued:

when we've had to give up water entitlements you know, that's come at an economic cost. It's been compulsorily acquired with little compensation. So that's a net loss to our working capital, our asset. And so in the last five years where...we've seen exploration licences given for coal and gas, it's a very different process for extractive industries. We're not seeing the same precautionary principle approach [applied] to extractive industries as we are for agriculture.

Likewise, local farmer, Malcolm, suggested that:

at the moment while you've got this double standard between regulating irrigators into sustainability, and extractive industries being allowed to impact, you've got these two very different management approaches, [within which] I don't think it is possible to coexist.

Hannah, daughter of a farmer and university student, also noted how:

as irrigators, we'd been through a process where we'd had uncertainty, and we were still going through the drama of that, but then, the double standards [with other industries] - is that a fair thing? We're just asking these guys to

follow best practice, [so] why can't they?

Acknowledging the need for better practice in regards to the sustainability of water, the National Water Commission (2011: vii) notes that while 'well designed water markets can deliver significant benefits...water market design needs to be informed by the history and specific characteristics of local water resource management'. Two of its recommendations are that all entitlements be: 'clearly specified, monitored and enforced' and having in place 'a sound regulatory and governance framework' which applies to all land users (NWC 2011: vii). Ensuring this was transpiring in the Narrabri Shire would undoubtedly reduce some of the concerns of the community about 'unfair' water usage and a 'lack of transparent standards'.

THE FUTURE: THE NEXUS BETWEEN FOOD AND SOIL SECURITY

At the heart of the debates referred to above is a recognition of how resource scarcities and water, energy, fibre and food are interconnected in a web of complex relations (Howells and Rogner 2014). In Australia, the Prime Minister's Science, Engineering and Innovation Council (2010: 1) has noted that:

future production increases will occur in a resource-constrained environment. [We're] now facing a complex array of intersecting challenges which threaten the stability of our food production, consumption and trade and the future costs of energy, water, fertilisers and carbon will [all] determine the production framework.

The ongoing notion of the need to protect soil security in the face of land use change and increasing climate variability is also expressed in the Australian National Soil Research, Development and Extension Strategy, developed through a cross-jurisdictional collaborative effort by Federal and State agencies, CSIRO, universities, industry representation and farmer groups (DoA 2014). It is noted in this strategy and by Koch et al. (2015: 4872-4873) that 'securing soil as a contribution to the current and future competitiveness of Australian agriculture' is essential because 'it is estimated that water erosion is now outstripping soil formation rates across Australia by a factor of several hundred and in some areas, several thousand'; as a result, soil quantity and quality is in decline.

Given the recognition of these interdependencies and the historical uses of land in the Narrabri Shire, it should not be surprising that the uncertainty associated with maintaining healthy soils and the future ability to grow food attained

a dominant position in the discourses of the community. The notion of stewardship discussed above and the idea of protecting healthy soil are, according to many of the participants, not only in the interest of the Shire but also of regional, national, even global, interest. As Murray, an inland farmer, noted:

you know [we're] dealing with some of the best soils in the country [here], like these black soil plains [which] don't make up very much of Australia...less than 1% probably. If they could prove to me that it [mining] wasn't going to affect anything in the future, I wouldn't worry about it too much. But my biggest worry is you know, once they dig it up, it's gone.

Likewise Bryce, another farmer, suggested that:

the type of country [we're] talking about, it's genuine, high-production, high-value country... There might be something underneath it, but God forbid if we ever start digging up the Liverpool Plains or that sort of country.

For some members of the community, there was little differentiation made between the potential effects on soil of coal mining or CSG extraction. While some community members were neutral on the topic of the extractive activities in the area, the caveat was always—as in the case of water—that both mining and CSG could proceed as long as they did not have an impact on soil quality and its future security. As key stakeholder Michael noted when asked about his perceptions of people's main concerns:

well there are people [making a] living from that land, but it's such fertile soil and it will be productive forever if it's well looked after. But if that land gets ruined by mines, how can we grow food there?

Porter, a retired grazier, explained that he is 'not against the deep mines, just the open cuts.' This, he suggested, is 'because I think once they ruin that top, no matter what they do, it'll never [come] back again'. Similarly, Tania, a local sheep farmer, explained how she has 'never been opposed to coal seam gas [or] to coal mining'; however:

I've always said, and I'm on record as saying that, 'you can go ahead with your mining, provided it's done with respect'. And there's respect to the environment, respect to the laws of the land and respect of the people in the area where you're operating.

The perceived lack of respect and understanding of the value of water and soil as life-giving sources had some community members, such as William, ready to protest:

you start digging up the Liverpool Plains, I'll be the first bloke standing there with a placard.

Because it's just unbelievable that we would even think about doing that... In a hundred years' time, people are still going to need to eat some form of sustenance, and at this point in time I can't see that sustenance coming from anything other than the dirt. And we've got some of the best dirt in the world within 200 kilometres of Narrabri. It's that simple.

Carl, a retired farmer, sums up the general feeling of many when suggesting that: 'it's the farmers; it's always the little people that get hurt. I'm not doing [this] for my benefit. This is for the next generations'. Likewise, Bryce, another local farmer, explained that:

for a lot of people, this is the first time in their life they [have felt] passionate about something, and [want to] stand up. They've never had to do this before. They've never felt threatened or have never gone through this process.

Overall, what these comments signify is that the nexus between water, soil and food security is widely recognised within the community, as is the connection between stewardship, sustainability and sound decision-making around land use. Recognition of such values is not limited to the immediate agricultural zone in which Narrabri sits. Conversely, the notion of stewardship and the farmers' articulation of responsibility to protect water and soil transform into a sense of responsibility for what happens to the soil and water beyond their immediate vicinity (see Chapter 4 and the discussion about NIMBYism and NIABYism).

THE PILLIGA: DIFFERING CONCEPTIONS OF LAND USE AND LAND QUALITY

Despite the obvious connection between water, soil and land quality addressed throughout this chapter, a paradox exists in regards to the Pilliga. On the one hand, the Pilliga is recognised by environmentalists and some farmers as 'irreplaceable forest' and its 'shallow sandstone intake beds' as part of the 'southern recharge area for the Great Artesian Basin' (Kennedy, 2014: 4). On the other hand, it is suggested that it is a zone worth sacrificing given that it is not being used for agricultural production or part of the fertile Liverpool Plains. As Rhonda, a key stakeholder in town, suggested:

so long as things happen in areas that are more suitable and not on prime agricultural land...I mean I'm happy for them to put coal seam wells out in the Pilliga because it's a good spot. Obviously the geology allows it to be there, but that's a good spot for it. I believe it will have very minimal impact, [but] I don't know, if people with

all the irrigation farms, between Wee Waa and Narrabri would appreciate it.

One explanation for this is a commonly held view that, as the forest has had a history of logging in the past and the present trees represent only remnant forest, the area is of little to no value. For many, there is little recognition of the Pilliga's role as a green corridor for other species or as an ecological habitat that might be in need of protection; their attitudes to land use are centred on the question of soil and water for primary agricultural production, subsequently creating a classification of land where black, agricultural soil and green fields are evaluated above 'the scrub' (Hamish, local youth). Ted, who works in real estate, summed this up when noting that:

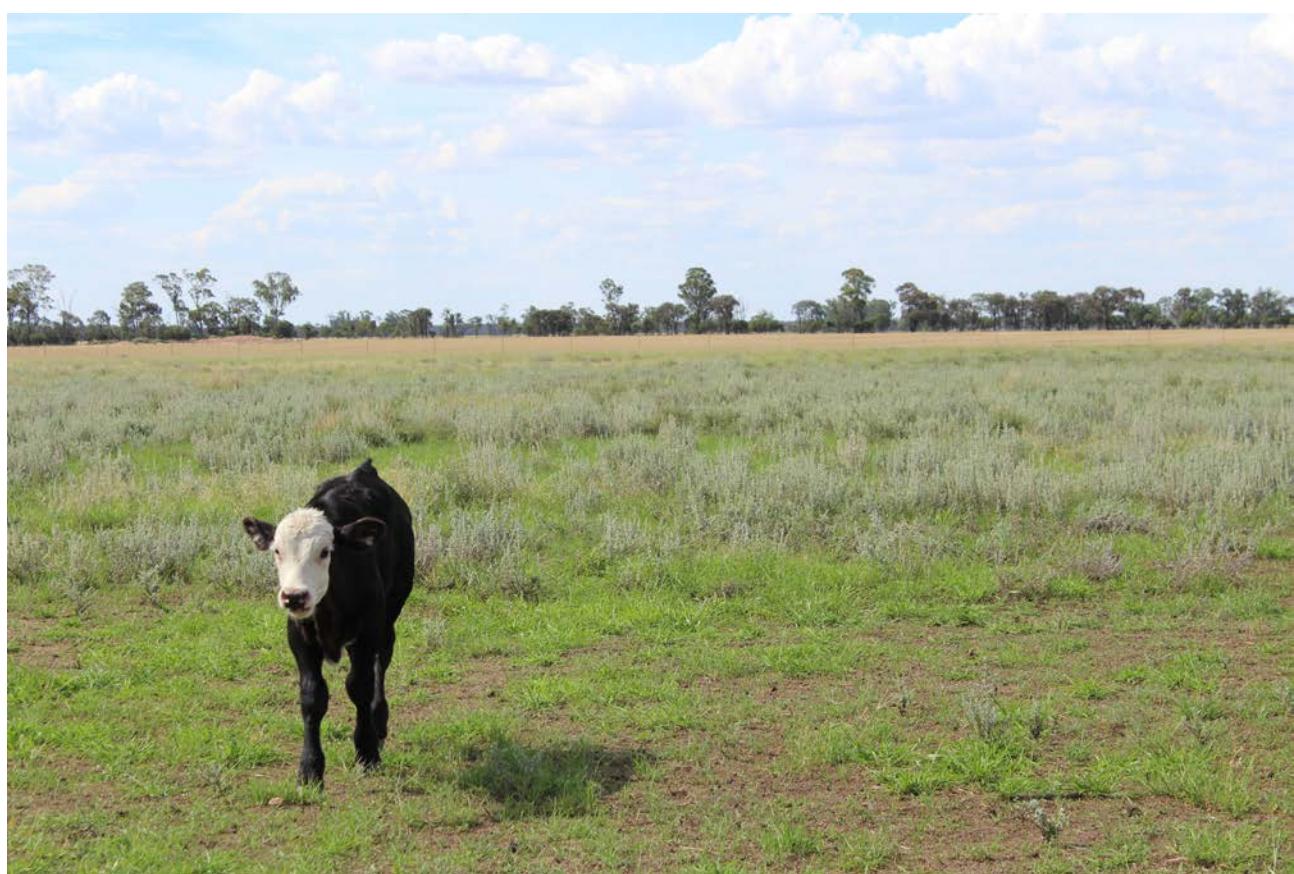
the gas is situated in areas that have no real agricultural benefit. People who don't live in these areas need to understand that. The Pilliga Forest and the Leard Forest, they're areas that 20, 30, 50 years ago were locked up for gas reserves. They have no agricultural benefit. There might be some minor environmental benefit with native species and those sorts of things, but they have absolutely no impact on our local economy whatsoever. If you could turn those into profitable operations, then by all means, I think that's something that needs to go ahead.

It is worth noting though that many of these arguments came from those who either lived

or worked in town and whose main livelihood was not from the land (see discussion about the three-fold notion of proximity, Chapter 4). Overall, what is apparent is that an obvious tension exists between the idea of a 'working landscape' and conservation of the environment (Abrams and Bliss 2013; de Groot 2006).

When many of the participants in the study reflected upon the Pilliga, it was either described as 'scrub' or 'good agricultural country'. These views seemed to be aligned with whether the participants supported or opposed CSG and the notion of what was short or long-term planning. Whilst the research team heard stories of some local farmers who were supportive of the CSG activities in the Pilliga, the farmers interviewed for the study were generally neutral to or opposed to these land uses. Their understanding of agricultural cycles and the temporal nature of farming can be linked with their valorisation of land, soil and water as something of value beyond that of short-term economic gain. Caitlin, a large producer and local farmer, summarised the essence of this debate when she stated that:

[it's] about those things that are priceless. It's about clean air, clean water, and land to grow clean, healthy food. I can't impress upon you enough the importance to the State and the nation of our food producing lands. We have them here, they're clean and green and we produce [a] great product, and to put that at risk,



is unthinkable.

This chapter has sought to demonstrate that the perceived notion of risk to essential resources drives much of the criticism of and opposition to land use change in the Shire. As indicated above, such is the power of these emotions that many participants have reached a tipping point where they have begun to take part in activist campaigns. For many, this is their very first foray into such activities and the bonds formed with activist groups represent a relatively new direction for a historically conservative agricultural sector. The emergence of these unlikely alliances between farmers and environmentalists is explored below.

MOBILISATION OF RESISTANCE IN THE NAME OF A SUSTAINABLE FUTURE

In the Narrabri Shire, as well as globally, an unprecedented public engagement with land use change is unfolding. Farmers and environmentalists are joining together in a battle against what they see as undesirable land use practices. Increasingly, these former adversaries meet across their differences to fight for what is intrinsically valued by both groups. Broadly, resistance and contestation is motivated by the perceived threats posed to water, soil and the future.

UNLIKELY ALLIANCES

...the most amazing phenomenon for us is the fact that now the farmers are joining with the Greenies and the Greens party, and we've actually got some of our largest...opponents now to the mining sector and whatever else are actually farmers' wives (Anna, agronomist, farmer and educator).

Over the past decade, an unconventional alliance between farmers and environmentalists has emerged in regional and rural Australia in response to the intensification of extractive activities and the associated threats perceived by those in agricultural communities. The association between farmers and 'greenies' is a curious affiliation given the former's typically conservative political leanings and the latter's past critique of agriculture's environmental practices. Nevertheless, farmers are increasingly uniting under the banners of Lock the Gate or Land Water Future and these bonds appear to be deepening beyond project-specific concerns and towards consensus on conceptions of place and land stewardship.

In the Narrabri Shire, these unlikely alliances have

largely evolved in response to CSG exploration; however, significant relationship building was also evident around the campaign against Whitehaven's Maules Creek mine. The association between farmers and environmentalists in Narrabri was seen as puzzling for some participants. Anna, cited above, most clearly articulated the extraordinary nature of the growing union of these 'strange bedfellows' (Colvin, Witt and Lacey 2015: 392), although a number of other participants also reflected on the novelty of the relationship.

Farmers and environmental groups in Narrabri meet in the face of what they experience as an antagonistic other; that is, an external force that threatens their individual and collective well-being. Both farmers and environmentalists are concerned about the perceived risks embedded in extractive activities. Farmers are concerned that minerals extraction may adversely affect agriculture through its negative impact on the environment and, subsequently, its impact on the lifestyles and wellbeing of local communities, local amenity and sense of place. It is in their interest to limit such perceived unsustainable practices. Similarly, environmental groups strive to promote sustainable development, to reduce the human footprint on nature, and promote alternative and clean energy. Whilst the intended outcomes that these two groups fight for are divergent—farmers wanting to preserve agriculture and the rural way of life and environmentalists wanting to preserve natural resources—they are both underpinned by the notion of stewardship, of caring for the land and conserving the environment for future generations. Subsequently, an association—even a sense of collective identity—may emerge through the logic of mobilisation against a common antagonist (Askland 2014a). This was expressed by Dana, a farmer's wife, who explained how farming activists acquire a sense of support and legitimisation through the association with 'Greenies':

[r]ight now, what they see is 'you're going to take my life, full stop. I don't want to hear what you've got to say. You're going to destroy everything. I've got every Greenie up a tree that's going to back me so whatever you've got to say, I don't care'

Farmer activists interviewed for this study did not consciously set out to become involved

Farmers and environmental groups in Narrabri meet in the face of what they experience as an antagonistic other; that is, an external force that threatens their individual and collective well-being.

in environmental protection and often did not classify themselves as activists. It was commonly stated by those opposing extractive activities in the Shire that 'I'm not a Greenie but...', and environmentalists were regularly referred to as an 'other'. Carl, a semi-retired farmer, explained how he is labelled as an activist despite the fact that he does not demonstrate or engage in civil disobedience activities. Asked how he defines an activist he said that:

activists in my mind are people who are prepared to go out there and chain themselves to a bit of machinery and do wilful damage.

Carl's association with the environmentalist movement and his 'activism' is limited to writing letters to government departments and engaging in public debate. Nevertheless, he explained that, as soon as he started being outspoken about his opposition to the industry, he became subject to what he describes as belittling. He explained how any complaints he may put forward, regardless if they are about the extractive industries or not, will be shut down with statements such as 'oh, you're an activist'. 'They belittle you straight away', he explained, even if

you're not [an activist]. This is the whole thing and this is—you talk about change—land changes and change of use, this is how change of usage happens. A bloke gets driven off his land and, basically driven – not necessarily by a spray or whatever, just by the simple fact that he can't get on with his neighbours anymore.

Thus, whilst an unconventional alliance is growing between farmers and environmentalists, a stigma continues to be associated with the notion of being a 'Greenie'. Counteracting this negative experience of stigmatisation and at times bullying, many of the farmers who have taken an active stance against extractive industries express a sense of community emerging through the relationship with the environmentalist movement. As farmer Sandra explained:

in one way that's a sense of community; it's a sense of community divided by both factions, especially those that are against coal seam gas. It's a wonderful feeling of support that you're all, you know, we've met farmers that we've never known before. We're sort of on the same wavelength with this topic. So that actually makes you feel a bit more empowered because, you know, you've got people who are supporting you for very good reasons.

The novel association with environmentalist groups, thus, offers a space in which people can meet with like-minded others who hold similar values and strive to protect what is, to them, the most precious elements of nature. Deep-seated values—such as those embedded in the notion

The novel association with environmentalist groups, thus, offers a space in which people can meet with like-minded others who hold similar values and strive to protect what is, to them, the most precious elements of nature.

of stewardship—are important in social contexts because they 'shape the way new information is processed and drive self-selection of new knowledge' (Stern et al. 1999). The issue of knowledge acquisition will be explored in detail in Chapter 5; however, at this point it is important to acknowledge the role of values as it helps explain how traditionally distinct groups such as farmers and environmentalists can come together under a shared banner. Groups with similar values are likely to share compatible understandings, or positions on, an issue (Colvin, Witt and Lacey 2015: 393). It is when faced with a common antagonist—in this instance the extractive industries—that such values become a springboard for collaboration and allegiances, and historical differences and perceptions of incompatibility of interests are obscured (Askland 2014a; Colvin, Witt and Lacey 2015; Haslam 2000).

It should be noted that several participants were highly critical of both the evolving relationship between farmers and environmentalists and of the 'greenies' themselves. According to this cohort of participants, the local support for environmentalist activities is minimal, but where it does occur it is misplaced or runs counter to traditional rural values. Some of the critical voices also belong to farmers. Cameron, a retired farmer, for example, explained how the activists

were causing a lot of tension up at one of the mines. They were tying themselves to the bull bars on the trucks; stupid things that could have had a lot of very bad outcomes. These were not only young people, these people in their fifties and sixties as well, and I think you've got to have...yeah, you might not agree but that's not the way to go about doing things. The truck drivers were only doing their job.

Several participants who expressed support for the coal and CSG industries in Narrabri argued that the environmentalist movement has drawn on the discourse of water and soil security to win the support of farmers. For these sceptical individuals, the actions of environmentalists in linking with farmers were deemed disingenuous; the environmentalist campaigns were only developed to 'spook people' (Carter, lawyer). This point relates to how information and knowledge is assessed, which will be explored at length in

Chapter 5 where further analysis of the processes leading to individual tipping points will be explored.

CONCLUSION

The conversation about land use change, farm succession and the impact of extractive industries in the Narrabri Shire is one that revolves around differing visions for the region's long-term future. At its heart it is about how local people in Narrabri value water and soil, and the importance placed on stewardship of these resources to 'protect the future'. Water and soil are the cornerstones that are seen to connect all facets of life, past, present

and future. They are imbued with the quality of safeguarding rural life and livelihoods.

The intensification of coal mining and emergence of CSG exploration in the Narrabri Shire have engendered significant concern about potential impacts on water and soil—the ultimate elements in the 'resources hierarchy'. Whilst this concern has shaped attitudes to land use change, it has also fostered the alliance of farmers and environmentalists in campaigns against resource projects. These deepening relationships create a new dynamic for the governance of major projects given that opposition to contested developments is strengthened through the knowledge sharing and capacity building functions of activist networks.



Land use change: key implications

Theme	Issue at stake	Local implications	Implications for government
Precious water	Water is a highly valued resource that is seen as being threatened by changing, intensified and competing land uses. The identified need to protect local water sources, the cornerstone of local agricultural activity and community sustainability, underpins local attitudes to changing land use.	If water supply and/or quality is jeopardised so too are the livelihoods, identities, and futures of many Narrabri residents. Impact on water is the key criterion for assessing the relative merits of particular land uses, and guides local decision-making and attitude formation around them.	Just as water sits at the top of the 'resource hierarchy', so it should also sit at the pinnacle of government policy and planning frameworks. Government could facilitate dialogue addressing the science, experiences and stories around water use to mitigate sectoral dissonance and perceptions of inequitable water allocations.
Sacred soils	Sitting with water at the top of the 'resource hierarchy' soil health and the risk of contamination act as drivers for attitude formation on land use changes and impacts.	Perception of risks to soil quality catalyses contestation and crystallises opposition to the source of the threat, which may come from within the agricultural sector itself (e.g. pesticides) or other industries.	Soil health must sit alongside access to quality water at the top of policy and planning frameworks. Risks to soil, particularly on strategic cropping land, must be a priority for government.
The future of the farm	Contemporary farming represents a significant departure from more traditional forms of working the land, requiring a multiplicity of skills, business acumen and entrepreneurship. Farms are increasing in size in order to be cost effective and profitable.	The increasing pressures of farming coupled with the decreased likelihood of intergenerational farming as youth look for other professional paths have implications for the social sustainability of Narrabri.	Continued corporatisation of land risks the level of care and protection provided by local landholders. Strategies to maintain local farming knowledge and retain youth can strengthen social diversity and skills in the Shire.
Stewardship and unlikely alliances	Farming and land stewardship have become synonymous. Agriculture has come to be associated with the environmental movement through the adoption of sustainability practices and natural resource management. Succession and generational legacies are big picture issues that go beyond the farming family to incorporate productive land as a social good.	Productive agricultural land represents more than just the livelihood of a particular landowner; it also underpins the current and future prosperity of Narrabri as a whole. Local farmers have joined with or emerged as activists to resist resource expansions and operations that pose potentially harmful impacts not just to individual parcels of land but to the whole region.	Recognition required of the growing significance of conflict around land stewardship issues such as soil and water on which the nation's food security and rural livelihoods are based. Local land use conflicts, such as those between farmers and resource companies, resonate beyond the region in which they are located to create powerful momentum for the green movement as a whole.

Santos



Chapter 4

Coexistence, proximity and reciprocity

We've had mining here for quite some time and it's been developing at pace in balance with the other industries. But when you actually have it get out of kilter based on an economic rationale of high coal price, it doesn't, it loses its balance. I think that's where the issue is; it's not so much about, you know, conflict in land use, it's about what's in balance. What can the local community sustain? What's the tipping point of where communities start to disagree and the fabric underneath has a fracture in it? (Bettina, Narrabri resident)

Whilst regional Australia is no stranger to minerals extraction and the coexistence of competing land uses, the latest mining boom and the advancement of the petroleum and gas industry have established an environment in which land use conflict is heightened. Industries that have previously coexisted are today at loggerheads, with farmers becoming increasingly vocal voices within campaigns against coal and gas. As explored in the previous chapter, the interface between extractive industries and agriculture presents particular challenges as the distinct practices associated with these sectors compete for, and rely on, the same vital resources.

In the present chapter we explore the dynamic of land use change and coexistence through the lens of perceived and experienced social costs and benefits in the Narrabri Shire. As has been stated earlier in this report, the Narrabri Shire is currently experiencing heightened land use conflict as a consequence of various coal and CSG activities. This chapter will focus on community attitudes to these land uses in particular, and address the notions of proximity, cost-benefit and reciprocity.

The chapter begins with a brief consideration of the idea of coexistence and investigates the participants' accounts about historical

coexistence. It is argued that the issue of coexistence is, ultimately, about the challenges of being together in a bounded, geographical space. The notion of geographical coexistence is, however, not straightforward and it is not sufficient to approach coexistence solely as a spatial concern. The data collected for the study suggest that coexistence is shaped by a three-fold notion of proximity that incorporates moral and socio-economic, as well as spatial, factors. This model of proximity is analysed in detail before the chapter explores questions of the relationship between proximity and locality and conceptions of costs and benefits. Finally, the chapter investigates how extractive industries have sought to gain a Social Licence to Operate (SLO) and analyses why significant community opposition continues to exist despite these efforts. Based on this analysis, it will be argued that a cultural code of reciprocity exists and that coexistence is dependent upon a 'social contract' of partnership, integration and balance of competing land uses.

COEXISTENCE

While this report broadly focuses on the unfolding land use conflict between agriculture and the extractive industries, the question of land use change and coexistence of industries has a long history in the Narrabri Shire. Along with the current tension between extractive and agricultural land uses, the main land use conflict that marks the history of Narrabri is that associated with the arrival of cotton in the late 1950s and early 1960s. As discussed in Chapter 3, cotton has been criticised for its environmental performance and its impact on water sources and soil quality. The section below examines this conflict, focusing specifically on the issue of coexistence of industries and community responses to land use change.

WHEN COTTON CAME TO TOWN: SUSPICION AND SCEPTICISM

Cheshire (2010) argues that communities evaluate new developments in land use through a lens of past exposure to land use changes. The assessment of projects and land uses will be based on individuals' past experiences, their present needs and their hopes for the future. As explored in the previous chapters, Narrabri has experienced significant land use changes through recent history. Reflecting on his childhood and the initiation of the cotton industry in the 1960s, Michael said that '[w]hen [cotton] came along, people were up in arms. People talked about the Agent Orange they were spraying and cancer, deformities in babies, the destruction of the water system.' Similarly, William explained that 'when cotton growers first came into this valley, they were considered to be mean, nasty, horrible people.' Michael and William are both long-term residents of the Shire with significant knowledge of planning and agricultural issues in the area. Their comments on local opposition to the cotton industry during the 1960s are reflected in a number of the interviews, including interviews with representatives from the cotton industry. All participants do, however, note that the animosity and scepticism towards the industry dissipated over time. As Michael noted:

[o]nce people had lived with the cotton industry for a while and they realised it wasn't as bad, that resistance reduced...People panicked about cotton in the 60s and everything worked out fine.

Similarly, Julianne explained that

today I don't think you would hear any or more than a handful of people complain about cotton, or not say that cotton has been a marvellous thing for this area even though there was a very significant issue with regards to a pesticide or an insecticide.

One of the oldest participants of the study, Malcolm, who started out as a dryland farmer growing lucerne but moved to cotton in the 1970s, explained that:

[i]nitially there was a bit of opposition against it because it was a change of lifestyle and, with all due respect, some of the older families were pretty set in their ways. There was initially a bit of opposition to it; to the change of lifestyle and change in the way the farming was done and so forth. But after about 10 years it was accepted and that's sort of not here anymore.

Whilst consensus exists in relation to the gradual integration of cotton into the Narrabri social psyche, the data is restricted in terms of how this came about. It is, however, possible to get

an indication of some of the issues at stake by looking at how the narratives of the cotton industry resonate in contemporary experiences of land use change.

TIME AS THE MEANS FOR ACCEPTANCE

Many of the participants drew parallels between what happened in the 1960s and current developments around Santos' Narrabri Gas Project. Henry, for example, explained how:

cotton was the enemy. [People saw it as having] the potential to poison babies, that it was making the community sick, that it was poisoning the river ways and the environment with the spraying...You have to look at it in that context, that cotton was seen as the great destroyer of the land and the water some years ago and a lot of the cotton industry are against CSG or pointing the finger for the same reason.

Pointing to the intersection of science and community acceptance, William explained that:

[w]hat the cotton industry did is largely what the mining industry did. They came in with some pretty unproven ideas, definitely some major changes in which the land was used. We started to pour water on to the country and do things that had never been done before in this valley. A lot of that was untried, unproven science, so we've got to be a little bit careful about having too much of a crack at those people who come in with genuine industry that genuinely contributes to the greater economy.

Henry and William, as well as other participants, indicate in their responses that uncertainties associated with significant land use change give rise opposition to proposed projects. The essential element for cotton was, according to these individuals, the matter of time and the opportunity to prove the legitimacy of the industry and its trustworthiness.

It is, however, problematic to use the contested introduction of cotton as a lens through which to view the current land use conflict in Narrabri. Cotton was introduced as an extension of existing agricultural practice and largely community-driven; extractive activities represent a completely new land use that are perceived to be externally-imposed and in direct competition for (or a risk to)

The essential element for cotton was, according to these individuals, the matter of time and the opportunity to prove the legitimacy of the industry and its trustworthiness.



natural resources. Furthermore, when cotton and intensified agricultural practices were introduced, the change was not said to be temporary. Cotton was framed as being part of the future, representing an ongoing, sustainable industry. CSG, on the other hand, has a set lifecycle that will be completed with decommissioning and rehabilitation (GHD 2014: 4, 10). Thus, whilst the Narrabri Shire has endured significant land use changes in the past, the process of acceptance and approval of this change does not in itself facilitate acceptance of present and future projects. Whereas past experience of land use change provides a sense of resilience—articulated in statements along the lines of ‘we’ve been through change before, we will get through this’ (Phillip, local business owner)—the intensity of the current change and the movement of temporary industry into settled areas translates into often-negative attitudes and represents a new challenge for community acceptance of change in the Shire.

It is important to note that those participants who oppose coal mining and CSG exploration in the Shire contend that they are not necessarily ‘anti-development’. Indeed, many express an openness to land use change and an interest in diversifying the economy by expanding current land uses (see Chapter 2); opinions that are often contextualised by the Shire’s past exposure to land use change and the relatively harmonious historical coexistence of competing land uses. However, for coexistence to be possible, there

must be a balance struck between the needs and aspirations of all industries, and this balance must be underpinned by adequate local contribution. All industries must, as cotton today is seen to do, meaningfully contribute to the local economy. As John, a key stakeholder who is supportive of CSG development in the area explained:

[t]he question would need to be asked: what does Narrabri really get from this? What do they get in the construction phase? What do they get in the operation phase? What does Narrabri see from this? There should be greater demonstration of this, not just assumptions, like ‘oh, we have “x” amount of workers who on average might spend “x” amount of dollars in the area’. Really, we need to find out whether those people are spending money...If you want to have a balanced approach, you need job opportunities for the whole community.

Whereas past experience of land use change provides a sense of resilience—articulated in statements along the lines of ‘we’ve been through change before, we will get through this’ (Phillip, local business owner)—the intensity of the current change and the movement of temporary industry into settled areas translates into often-negative attitudes and represents a new challenge for community acceptance of change in the Shire.

Proximity as a determinant of public views on land use change

Public views on land use change are complex and varied, and an individual's felt experience of such change will reflect a range of held concerns, including spatial, temporal, political and socio-economic factors (Williams 2011). Variables such as gender (Alston 2006), individual goals, occupation and life stage (Schirmer 2011), ontologies, discourses and culture (Connor 2016; Connor et al. 2008); health and identity (Albrecht 2005; Albrecht et al. 2007); place attachment, values and belief systems (Barlow and Cocklin 2003; Coverty et al. 2005; Devine-Wright 2009), community cohesion and adaptability (Ross and McGee 2006, Vanclay 2003b), and awareness and attribution of change (Williams and Schirmer 2012), have been identified as some of the factors that shape individual and collective experiences of land use change and related social impacts.

The concept of 'proximity' is used in this report to refer to the physical, moral or socio-economic distance between an individual and a land use change.

Spatial proximity refers to how geographically close an individual is to the area in which land use change has occurred, is unfolding, or is planned. Spatial proximity may result in direct social and environmental impacts through alterations to landscapes, impacts such as noise and dust, and competition for local resources.

Moral proximity refers to how particular land use changes align with an individual's moral framework and their world-view (overarching philosophy or outlook; conception of the world). Essentially, it points to how close an individual's sense of right or wrong is to the particular motifs and practices of the land use change. Moral proximity incorporates philosophical, ontological, ideological and affective dimensions and expresses the deep-seated ideas of the relationship between humans and land. First hand exposure to land use change leading to intense emotional experiences will often underpin moral proximity or act as 'tipping points' whereby underlying ideologies and philosophical positions will come to the surface (see Chapter 5). A person who is morally close to a particular land use change may be, for example, an environmentalist who supports 'green objectives' and seeks to improve and/or protect the natural environment through conservation and sustainable human activities, or, at the opposite side of the political spectrum, a (neo)liberal who supports free-market capitalism.

Socio-economic proximity refers to questions of employment, income/livelihood, political representation and voice. That is, a person who is socio-economically close to a particular land use or proposed land use will bear an economic consequence, which can be negative or positive (or in some cases, even a combination of both). In the case of CSG exploration, for example, a person who works for the gas company can be categorised as being socio-economically close, as could a farmer who is paid to have gas wells on her/his land, or whose agricultural productivity or property value is affected—positively or negatively.

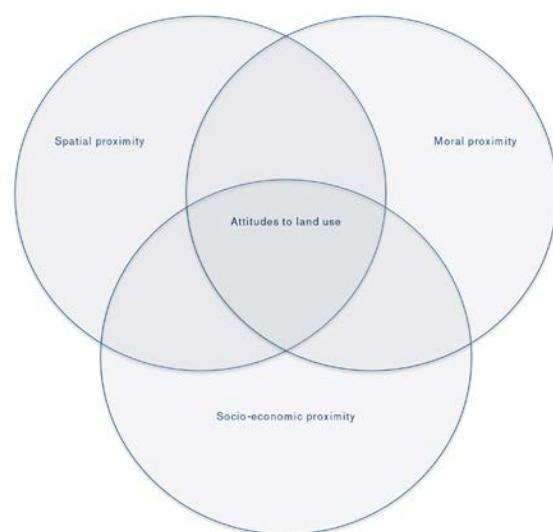


Figure 4.1 Three-fold notion of proximity (developed by Askland)

THE THREE FACES OF PROXIMITY

I'd say that the size of the [land use] issue in the eyes of the Narrabri community is inversely proportional to the distance to the activity (Paul, retired).

Anyone who directly benefits from the mine in the local community is probably reasonably pro, but they're not directly affected. So how do you quantify? Is it people who are directly affected? If they say no, do they get bought out? Is it the size of the cheque book? Or is it government's responsibility to say if it's appropriate to mine in this area? And, if we do, what are the consequences? And, if our conditions fail, what are the steps that we take to address that? (Bettina, key stakeholder)

As suggested in the two quotes above, attitudes and experiences of change will often reflect how close individuals are to areas of land use change. Yet, whilst people who live geographically close to a change articulate strong (and largely negative) sentiments to the development, spatial proximity is not the only factor shaping attitudes to change. Attitudes are also shaped by what we describe as moral proximity—how closely a proposed change in land use reflects pre-existing moral and political beliefs (such as environmentalist perspectives)—and socio-economic proximity (e.g. receiving a salary from mining activities).

As noted in Chapter 2, Narrabri as a community is split into three groups on the relative merits of extractive activities within the Shire. Those who are 'neutral' are, in general, individuals:

- who are physically distant to the site of extraction (lack of spatial proximity);
- who have had limited exposure to the political

and ideological contest underpinning the particular land uses, have limited personal experience of, or exposure to, the land use conflict, and/or whose sense of self remains disconnected from the land use conflict (lack of moral proximity); and/or,

- who are socio-economically independent of the extractive industries (lack of socio-economic proximity).

In contrast, those who articulate awareness of and a distinct opinion about the extractive projects (for or against) are people who can be classified as being close to the change, by:

- living within, or close to, the area of extraction (spatial proximity);
- taking a political or ideological stance for or against extractive industries (moral proximity);
- having endured an emotionally-loaded experience of engaging with representatives from the extractive industries (moral proximity);
- having been exposed to, or witnessed, the consequences of extraction (moral proximity);
- working for or subcontracting to the industry (socio-economic proximity);
- working within the commercial sector and gaining a boost in business through increased population numbers and movement of people through the Shire (socio-economic proximity); and/or,
- having their livelihood placed at risk due to the land use change (socio-economic proximity).

It should be acknowledged that the distinction between spatial, socio-economic and moral proximity is neither exclusive nor static; individuals who are socio-economically close to the extractive sector—for example as employees



Figure 4.2 Spectrum of attitudes to extractive activities, according to spheres of proximity (developed by Askland)



Figure 4.3: Simplified and generalised picture of attitudes to extractive activities in the Narrabri Shire, according to spheres of proximity (developed by Askland)

within the industry—may still live within the project area, and people who are emotionally close may be geographically distant from the activity. As such, proximity motivates attitude formation in complex ways.

SPATIAL PROXIMITY: NIMBYISM AND BEYOND

Reflecting on people's concerns about the planned Narrabri Gas Project and the current exploration activities, key stakeholder Michael stated that:

[i]n terms of communications, the people who are concerned are generally close to whatever change it is. It lessens as you get out and the communications need to be focused on those that are closest to try and work with them closely.

Similarly, when speaking about levels of concern about CSG, Henry, explained that:

people are concerned [about CSG] but not alarmed. The concern is a bit like the layers of an onion, so the concern tends to melt away the further you get away from the problem or the mine or the CSG well.

In relation to the two most contested issues in the Narrabri Shire at present—the Narrabri Gas Project and the Whitehaven and Idemitsu mining operations—those 'at the centre of the onion' are the residents around Boggabri and the Pilliga. The participants who reside within these areas expressed significant apprehension regarding mining and CSG activities. Daniel and Sandra, a couple whose farm is within the Narrabri Gas Project area and close to the current CSG exploration site, explained how being geographically close to the future exploration area

is logically a cause for concern. They are worried about what impacts the Narrabri Gas Project will have on their day-to-day life, the health impacts it might bring, and the damage it might do to their water and other resources. Daniel said that 'in the future, it could be [here] and they're not going to stop here, because we can't stop them'.

Their concern and sense of vulnerability draws on their past dealings with extractive industries and what they see as a process of disempowerment. The area in which they live is resource-rich and is not only subject to gas extraction but also coal development. Approximately one quarter of their property is subject to a mining exploration lease. Nearly ten years ago, they explained, a mining company approached them about drilling on their land as part of the exploration process. 'We didn't offer any resistance because we didn't know much about these sort of industries,' Daniel explained. Sandra said that they had been 'naïve' in their dealings with the mine and that the contract they had signed, which gave the mining company access to the property, had 'not been worth the paper it was written on'. As part of the deal, Daniel and Sandra received a sum of money, and promises of other benefits, such as casing of water and establishment of bores should they find water during the exploration. For Sandra and Daniel, this was very positive as they only had dams and no bores on their property. 'We signed the agreement,' Daniel recounted, and continued:

I think it worked out at \$1500. They were going to do this and that, and all the other things. It was really nice. They said, 'if we drill a hole and we find water, we'll case it and you can have a bore', because we don't have any bores on our farm. They're all dams. Anyhow, that was the start of our learning experience and it was not a very nice one. They didn't do exactly

It reflects a common pattern amongst people who are spatially close to this type of land use change, in which initial trust and openness erodes through experiences of dealing with the proponents of change and the direct impact that exploration, construction and operation activities have on livelihoods and day-to-day living.

what they said they were going to do. They left tracks all over the farm [...] They said 'we will limit the amount of traffic' [But] they had tracks everywhere. They gave us, I think, \$1000 and said 'we'll come and fix that up'. I said, 'no, you won't [...] you give me the money, I'll fix it up. Because I just didn't trust them. They were supposed to clean their vehicles down so they didn't bring on weeds and seeds and things like that. They were supposed to come back here later and check out everything and make sure everything was okay. They didn't.

Daniel and Sandra's account not only highlights the direct impacts of the exploration but also an erosion of trust and the failure of the company to provide adequate compensation for perceived costs. It reflects a common pattern amongst people who are spatially close to this type of land use change, in which initial trust and openness erodes through experiences of dealing with the proponents of change and the direct impact that exploration, construction and operation activities have on livelihoods and day-to-day living.

Opposition to commercial or industrial development within local communities is often

categorised by the term NIMBY (Not In My Back Yard). This is based on the observation that people who are geographically close to a project are likely to oppose activities that enhance social and environmental vulnerabilities or pose health risks. In basic terms, NIMBYism refers to the attitudes of 'residents who want to protect their turf'; it refers to 'the protectionist attitudes of and oppositional tactics adopted by community groups facing unwelcome development in their neighbourhood' (Dear 1992: 288). As Dear (1992) explains, it is often associated with residents who concede such development as necessary, but not near their home—hence, 'not in my back yard'. Subsequently, NIMBYs are often cast as selfish citizens, 'who care only for themselves, hypocrites who want the benefits of modernity without paying its costs' (Oreskes 2014: np).

The notion of NIMBY is, however, not an adequate explanation of the issues at stake in land use contestation. Sandra and Daniel's narrative, for example, illustrates how there is more at play than simply a wish to protect their land from unwelcome land uses. In fact, as Daniel said, they were initially open to the development and it was through their engagement with the company and the experience of having operations within their local area that their opposition emerged. Explaining their disapproval in terms of NIMBYism is therefore insufficient. Michaud, Carlisle and Smith (2008) illustrate how attitudes to energy development might follow a pattern of political activism rather than public opinion. Subsequently, living close to energy developments, they argue, does not necessarily translate into opposition, concern and distrust of the industry. Rather,

Change versus impact

While an intervention that leads to changes in land uses will trigger processes of social and environmental change, these changes are not the same as social impacts; the land use change will lead to particular positive or negative impacts, which in their own right will affect local people (Vanclay 2002, 2003a). This points to the importance of distinguishing social impact from social change processes; observable social change processes resulting from land use change are not necessarily equivalent to the perceptions and lived experience of such change (Vanclay 2002). The latter is what we here identify as 'social impact', which, simplistically, can be defined as:

the consequence to human populations of any public or private actions—that alter the ways in which people live, work, play, relate to one another, organize to meet their needs, and generally cope as members of society (ICGPSIA 1995: 11).

Social impacts also incorporate cultural impacts that lead to changes in values, norms and beliefs that guide and rationalise people's sense of self and their society (ICGPSIA 1995). Such an all-encompassing concept suggests that efforts to assess, understand and address social change and social impact will not be straightforward; indeed, as Vanclay (2002) observes, social impact assessments (SIAs) will often represent measurable outcomes of social change processes rather than the impacts caused by such change. Care must, thus, be taken to adequately understand the various social, cultural and psychological factors that are at work.

attitudes might be a reflection of people's environmental values (Michaud, Carlisle and Smith 2008: 34). In this way, proximity stretches beyond the geographical to incorporate a moral dimension.

MORAL PROXIMITY: NIABY AND THE COLLECTIVE ETHOS

One of the shortcomings of NIMBYism and other notions of spatial proximity is that they underestimate the influence of personal, philosophical drivers of attitudes. For example, Bettina, who does not live within the zone of affectation of the Narrabri Gas Project or any major coal mine, strongly opposed the extractive industry activities in the Shire and beyond. Her objection to such activities rested upon what she assessed as an unsustainable drive towards profit. Such values, she explained, are incongruent with the values underpinning agricultural businesses in Narrabri:

their value base is completely different. It's all about profit and return to shareholders and [ours] is about business sustainability...about family, about local community.

Whilst she held significant concerns about the environmental and social impacts of the extractive activities, her opposition was founded upon an assessment of the values underpinning these activities. That is, it was not simply about where the land use change was unfolding, what was being done or how it was done; it was about the inherent qualities of the land use change. Rather than being about NIMBY, this points to what Boudet (2011) calls NIABY—Not-In-Anyone's-Back-Yard—and it reflects arguments related to the preservation of 'beauty, safety and integrity of communities' (Oreskes 2014: np).

Ideological, philosophical and moral opposition to the extractive activity draws on values from the environmentalist ethos. Such values are often perceived as being in direct conflict with extractive activities. A number of participants, such as the local business owner William, did, however, display a more nuanced perspective; rather than dismissing the extractive industries completely, his opposition was related to the

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lack of balance between the needs of industry, rights of nature and desires of local community. For William, Bettina and a number of other participants, it was the breach of the principles of sustainable development that marked the threshold for their resistance to such change. William explained: 'I hate the concept of what the big coal mines are doing, gobbling up this land, chewing it up, spitting it out, and leaving an absolute wreck behind it.'

William did not believe in the promises about regeneration, and he was concerned that the extractive activities would have a long-term negative impact on agriculture and, subsequently, the community. Ideas about sustainability and the resilience of local community are, thus, central in shaping people's understanding of and attitudes to land use change (Chapter 2). The differences between those who support and oppose the land use changes commonly reflect the different ideological or philosophical ethos on which this understanding is based. William and others who are critical of extractive activities expressed a long-term, environmental perspective on development—this aligns with the concept of sustainable development, where 'the needs of the present' are met 'without compromising the ability of future generations to meet their own needs' (World Commission on Environment and Development 1987: 8). In contrast, those who are supportive of the industry tend to focus on the needs of employment and economic diversification within a shorter timeframe; for them, the current changes within the economic base of the Shire present challenges that must be addressed through the expansion of market diversity and generation of local employment and revenue. Both these groups can be argued to be morally close to the issue and this proximity informs their attitudes to land use change.

In some instances, the data illustrate how future spatial proximity has triggered concerns that have led to knowledge-seeking behaviours (see Chapter 5), fuelling moral proximity. Jenny, a local woman from the cotton industry, explained how the realisation of the geographical location of the project prompted her to become involved in the anti-CSG campaign and seek more information about what consequences such a project could bring. 'I didn't get involved until I saw that map there,' she explained (see: Figure 4.3). When I saw that and where it was going round Yarrie Lake, that's when I got involved'.

Concerned about the threats of CSG and the effects it could have on the water, Jenny travelled to Queensland to talk to people who live close to gas developments. 'I came back depressed,' she said, and explained how the issue subsequently consumed her:

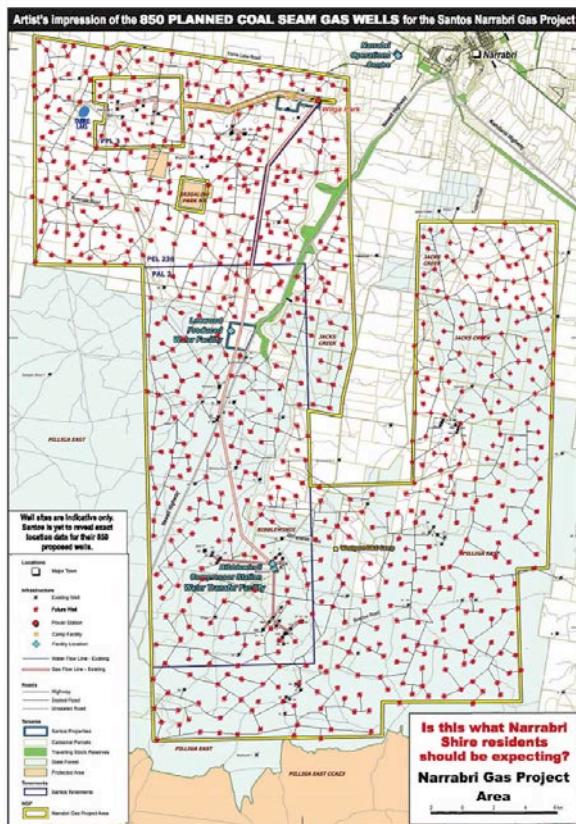


Figure 4.4: An artist's impression of the Narrabri Gas Project. Source: <http://www.weewaa.com/WeeWaaNews/CoalSeamGasWeeWaaandNarrabri.aspx>

[i]t was just consuming me. You can't let it consume you. There was the shock first when you find out and I can see people going through it. The shock when they find out what this thing is that's coming and it's like a train and it's not going to stop. Then there's the reality that, yes, it might come here and it might wreck the water and that's the anger. Then there's this slow... there's this period of time where you ease off or you're gung ho at everything. You want to go to everything and you're angry at Santos and you're cranky and then you'll ease off and you'll say oh well blow it.

Jenny's account illustrates how her health and personal relationships suffered in the wake of her trip to Queensland. Whilst spatially distant to current CSG activities in the area, she is emotionally close and this proximity is causing both social and health impacts in the present. The connection between moral proximity, personal experiences and knowledge acquisition will be further explored in Chapter 5.

SOCIO-ECONOMIC PROXIMITY: SUSTAINING INDIVIDUAL LIVELIHOODS

Attitudes to land use change are commonly shaped by the connection between an individual, their livelihood and industry; that is, an individual's

socio-economic proximity to the development. Business owners in town, contractors, and people working for Santos and Whitehaven expressed general support of extractive activities in the area and beyond. Philip, a local business owner, for example, emphasised what he sees as the contribution of extractive industries to the local community. He argued that as agricultural production is changing, there has been, and continues to be, a reduction in employment. This presents particular challenges to the community, and the extractive industries offer an economic boost to the region that fills employment gaps left by changing agricultural practice:

[t]he mining's come to town whether you agree with it or not. We have to look at it as an option and adapt it to - I mean if Narrabri wants to be this smart town and survive what can we get out of it and look what they put back in to it.

Similarly, Hamish, a young man who has a number of family members working for Whitehaven and who is considering future employment within the mining sector, is generally positive about the extractive industries and their activities. For him, the opportunity to earn good money through the mine is an incentive to stay in Narrabri; it offers him financial opportunities, and allows him to maintain a lifestyle associated with the freedoms presented with living in a regional area:

if I don't get into [proposed program of study], I'll definitely be coming back and I'll be trying to get a job with Whitehaven for sure because it's great pay, and I love Narrabri.

The pattern is, however, not universal, and working within the industry does not necessarily mean that individuals will be supportive of mining activities. Katrina, another young participant who is socio-economically close to the mining industry through her parents' work, explained how her mother 'hates working for the mine' and that she 'disagrees with mining wholly' but at the same time she 'can't get out of it' and is financially dependent on the work. Further data is required to explore the factors that lead to such diverse outcomes, though it is possible to hypothesise around the diverse attachments that the two families in question have: Katrina is from a farming background and her parents use off-farm income from the mines to add to their agricultural income; Hamish's family does not have a history of farming in the Shire. The data indicate that farmers

Attitudes to land use change are commonly shaped by the connection between an individual, their livelihood and industry; that is, an individual's socio-economic proximity to the development.

will often oppose or be sceptical to extractive activities in the area, suggesting that Katrina's observations of her mother's predicament could be seen in relation to her off-farm work environment placing a perceived risk to her farming activities (moral proximity).

The role of socio-economic proximity in shaping awareness of and attitudes to land use change can also be illustrated through people who are financially removed from the extractive industries; that is, people who are socio-economically distant to the change. Bryce, for example, explained that he remains neutral to CSG and mining because:

basically, I'm a farmer. My only other work outside of that is I do contract harvesting. That's got nothing to do with mining. I go and harvest other people's crops [...] As well as farming my own land, where I am situated [...] I'm nowhere near a coal mine and I don't expect to be. I am in the footprint of where the coal seam gas [will be], well I don't expect it to be where I am, but it's out in the scrub, and I'm on the Southern side of town. I don't really see any issues there. They'll go about their work on a daily basis, I don't see them.

Being in a different sector, such as farming, does not necessarily mean that people are socio-economically distant to the land use changes and, subsequently, neutral to the change. In contrast to Bryce—whose narrative suggests that he is spatially and morally distant to the issue at stake, and his livelihood is not affected by the industries' activities—other farmers expressed a distinct opinion about the industry on the basis of a socio-economic rationale. Farmers, such as Christopher, are socio-economically close to the land use change as they see the activities of the extractive industry as a threat to their livelihoods. Christopher, who is the owner of a non-conventional farming operation, explained how his livelihood is reliant on water and how the potential risks to water resources due to mining and CSG is cause for significant concern. Christopher is particularly concerned that CSG may impact ground water and affect his business; '[a]ll the people in the ag sector are concerned about what's going to happen', he said. This points to how farmers may be exposed to novel vulnerabilities and potential risks due to the land use changes, and, subsequently, perceive a threat to their livelihood. Thus, whilst new industry or intensification of existing industry may boost the local economy and generate employment, pre-existing industries may experience economic impacts and individuals may endure distress due to increased strain or risk posed upon shared resources.

People who are socio-economically close to current, unfolding or planned land use change

will often articulate a distinct attitude to such changes. Whether this attitude takes the shape of opposition or support will generally depend on a personal assessment of costs and benefits. The notion of cost-benefit and its relationship to local perceptions of 'give and take' will be explored further in the next section.

A MORAL CODE OF RECIPROCITY

Perceptions of costs and benefits associated with land use change form part of an intricate equation that underpins both individual and collective attitudes. The data collected for this study confirm observations from other regions, which suggest that 'while host communities are burdened with the harmful effects of mining, they miss out on the economic benefits that accrue through local employment opportunities, demand for services or population growth' (Cheshire, Everingham and Lawrence 2014: 332). In Narrabri, collective and individual calculations of costs and benefits reflect the different types of proximity outlined above. When reflecting on the costs and benefits of extractive projects, there was general consensus across the participant cohort that the majority of the benefits of mineral extraction flow across the Great Dividing Range to regional and national centres, and that the costs remain the burden of the local community. This common perception implies that locals see the exchange between extractive industries and the Shire as being unbalanced; that is, the 'give and take' relationship between proponents and the community is one-sided.

The data collected for this study illustrate how local attitudes to land use change transpire through personal experiences and interpretation of social relationships based on the premise of reciprocal exchange. Reciprocity—or the exchange of things for mutual benefit—is more than a question of economic flow back to the community; it points to an act of 'giving', 'contributing' or 'compensating' that is accepted and recognised within social norms and that fits with the cultural tenet of fairness. In the context of the land use conflict in Narrabri, approval and acceptance of extractive projects and their proponents is conceived as a gift that must be earned through counter-gifts. The benefits that flow back to the community must be deemed just, appropriate and fair given the costs that accrue at

Perceptions of costs and benefits associated with land use change form part of an intricate equation that underpins both individual and collective attitudes.

Reciprocity

Reciprocity as it is used in this report refers to the exchange of things for mutual benefit. It is more than a question of economic flows; it points to an act of 'giving', 'contributing' or 'compensating' that is accepted and recognised within social norms and that fits with the cultural tenet of fairness.

the local level.

Almost a century ago, the French sociologist Marcel Mauss (1872-1950), observed that much of 'everyday morality is concerned with the question of obligation and spontaneity in the gift' (2011 [1924]: 63). There is a connection between a giver and a gift that forms a social bond between the giver and the receiver, which will exist over time. The obligation to give implies the obligation to receive; a gift requires a counter-gift, and a gift that is not repaid cannot create social ties. The gift, thus, points to cultural and social elements that are beyond the economic rational of exchange; gifts represent total social phenomena that 'involve the entire person and embody, by symbolic association, the totality of social relations and cultural values in society' (Eriksen 2010: 190).

Whilst Mauss wrote about so-called archaic societies, his theory about gift giving still informs understandings of modern societies. Reflecting upon what is happening within the Narrabri Shire and the tensions that exist between the extractive industries and the local community, Kathy, who works in the public sector in Narrabri, said that 'to me it's about protecting your neighbour. You treat your neighbour how you want to be treated'. Kathy's words point to the Golden Rule, or the ethic of reciprocity. Much of the disappointment and tension embedded in the participants' narratives about recent land use changes reflect the sense of broken promises and disavowal of this core moral ethos. The key principle embedded herein is the objective to minimise local inequality.

SPHERES OF GIVE AND TAKE: STAKEHOLDERS AND REVERSE REPERCUSSIONS

To understand the issues at stake, it is necessary to identify who local residents identify as key stakeholders in the process of land use change. The study participants classify stakeholders according to geographical and socio-economic categories. According to them, the key stakeholders include:

- companies that are managed from national, and at times, global centres (e.g. Santos, Whitehaven and Idemitsu), and that are

subsequently disconnected from local concerns. The Narrabri office is simply seen as a 'shop front' that follows directions from central entities and is relatively powerless to implement alternative strategies and practices in response to local concerns;

- the State Government, which, as will be explained in Chapter 6, has a perceived bias towards Sydney and coastal regions and is seen to be oblivious to local matters;
- shareholders that are spread across the globe and, in principle, do not have connections with the local community;
- suppliers, some of whom might be locally based;
- employees, who will be part of the transient or the local workforce; and,
- local community members.

The data suggest that community members commonly hold a hierarchical view of the stakeholders. In this hierarchy, companies, governments, and stakeholders are described as particularly influential in decision making and gaining the greatest benefits, whilst the majority of risks and sacrifices are carried by local community. Participants argued that there should be a greater flow of capital (financial and social) to the local community.

At the core of the issue is the fact that many of the community members do not see those stakeholders connected to the extractive industry—or the industry in its own right—as being part of the community. The reliance on non-local labour and the managerial approach and practices of the companies result in the perception of a parallel structure in which local stakeholders are 'roadblocks' rather than 'partners' in the process (the issue regarding non-local labour is explored further below). The

The reliance on non-local labour and the managerial approach and practices of the companies result in the perception of a parallel structure in which local stakeholders are 'roadblocks' rather than 'partners' in the process.

perceived lack of integration is evident in people's narratives about corporations and the changes in managerial structures and practices over the past decades. According to a number of participants, including key stakeholder Bettina, the increased centralisation and the transnational nature of many companies have detached the corporations from their past local orientation. She argued that, as a consequence, corporate decisions are now made on the basis of what people in the boardroom or on the shareholder lists think, rather than on the interests of the local people. She claims that local community, subsequently, feels isolated and left out of the decision making process:

I think we've gone away from [integration] because of the change of ownership structure with mining and coal seam gas. That level of accountability and responsibility to the local community is missing. Even Santos' Peter Mitchley's decision making matrix is really based from his Sydney office not what's best for the Narrabri community. No matter how many football matches he sponsors, his decision is really about the financial benefits of the stakeholders.

Reflecting on how it has changed from past times when managers would live locally, Bettina continued:

[a]n interesting observation from a farmer at Boggabri, that's next door to Whitehaven and Idemitsu, they said when that mine was owned locally, they could ring the management and say 'hey, you guys are having a bit of a dust impact over here, is there something going on? What's happening?' And it would be fixed because that bloke lived in Boggabri or lived locally. Locally enough that if you called into the coffee shop someone would say 'hey guys, what's going on?' Or they would be talking to people that lived in Boggabri that manage the mine and they could say, you know, 'what's going on?'

Other participants explained how, when the mineworkers and, in particular, the mine managers live in the area and relocate their family to the area, there is a different level of interest in the day-to-day management and operation of the mines. Bryce, for example, explained how he has two neighbours who work for the coalmine and who chose to buy property in Narrabri. He sees these workers on a regular basis when dropping his kids off at the school bus and, as such, has

By living locally, managers and workers get a different understanding of what matters locally and there is an opportunity for informal feedback through everyday interaction.

a chance to speak to people in the mine about what is happening. By living locally, managers and workers get a different understanding of what matters locally and there is an opportunity for informal feedback through everyday interaction.

The data illustrate how there is a significant experience of change in terms of coexistence associated with the managerial changes to the extractive industry sector and the expansion of the sector in the wake of the latest mining boom. It suggests that local integration and investment were reduced subsequent to the boom, with local community increasingly missing out and the greater region, state and nation, as well as global shareholders, being better off (in economic terms). The reduction of local presence is related to an increased reliance on non-residential workforces.

EMPLOYMENT AND LOCALITY: THE FLY-OVER EFFECT

In 2010, it was announced that the MAC Services group was 'building accommodation for miners in Narrabri to service the growth of coal in the area' (Australian Mining 2010). According to Australian Mining (2010), the group had signed an agreement with Narrabri Coal to supply 150 rooms for four years. The village site is 1.2 km from the centre of town. The Narrabri Village is now owned by Civeo. It features more than 500 rooms, offers its guests three meals per day, access to a kinetic gym and an on-property convenience store (Civeo Corporation 2016a). Similar facilities are offered at the Boggabri Village, which also features rooms, and offers three meals a day and full access to fitness and recreation facilities, including a pool and landscaped gardens (Civeo Corporation 2016b). The Civeo Boggabri Village, approved in 2012 by the Joint Regional Planning Panel (JRPP) as a 850-room facility, is located approximately 2.5km from Boggabri and is primarily catering for the workers at the nearby Maules Creek, Tarrawonga, Boggabri and Narrabri Coal (see Figure 4.7). With both these facilities, there is an emphasis on the need for accommodation services to support the growth of mining in the region. As Garry West, Northern JRPP Chair said at the approval of the Boggabri facility, 'the expansion of mining operations in the district, and an increase in the workforce attached to the mines, has led to a shortage of available accommodation' (Walker 2012: np).

Whilst the Narrabri and Boggabri villages assist to ease pressure on accommodation supply and have reduced travel for shift workers, local residents express a negative experience of the facilities.

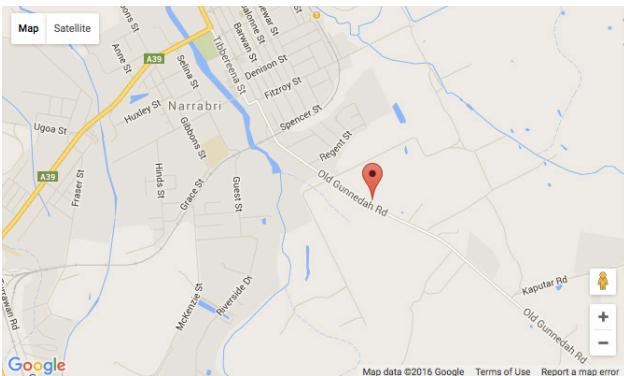


Figure 4.5: Location of Narrabri and Boggabri Civeo Villages. Map data © 2016 Google. Sources: <http://civeo.com/lodges-villages/australia/narrabri-village/> and <http://civeo.com/lodges-villages/australia/boggabri-village/>

Aware of the potential polarising effects that the workers villages could have on the community, Narrabri Council initially asked for strict controls of the villages. Hasham reported in 2012 that '[t]he village was built within the town limits and, to encourage guests to spend money outside the complex, no pool, bar or gym was built.' Four years later, both Boggabri and Narrabri Villages have in-house gym facilities, as well as other recreational amenities. Study participants stated that a parallel community has evolved, and further animosity towards the extractive industry sector has, subsequently, emerged. A local farmer, Caitlin explained that:

[e]verything is provided in those camps, so there's no reason for them to come in and spend their money in the community, but more so than that to join the local swimming club, or the local rugby club, or whatever it is.

Expressing her concerns about the isolation of the workers in the camps, Julianne, a managing director who is supportive of the extractive industries, explained that:

I don't like this aspect of [the MAC Camp] in our community where they are, that the majority of goods and services that they produce are externally produced [...] They provide all of their own meals, they've got a gym, they do their washing, they have their own cleaning services. There's basically no reason why [...] those individuals, mostly men, need to do anything in the community. They do not engage with community groups, and I guess they can't when they're flying in, flying out. They're here

It is noticeable that, in contrast to the common concern about anti-social behaviour (cf. Carrington and Pereira 2011), the major issue that the participants of this research have with the workers camps are their lack of contribution to local community, their isolation and the subsequent sense of alienation.



so inconsistently that they can't participate in things.

In line with Julianne's statement, participants expressed apprehension about the lack of engagement that the non-resident workers have with the locals and their limited contribution, financially and socially, to the town. One of the key stakeholders interviewed for the study, Michael, stated that:

[t]hey're not contributing back into the community. They're not in the sporting clubs, they're not in the pubs, they're not shopping on the main street...That's a key issue here, it's getting them to actually spend money in the area.

Similarly, reflecting on what happened during the exploration process for one of the mines, Kathy, a white-collar worker, stated that:

the driller's camp was 80 kilometres out of Narrabri, they didn't stop in Narrabri when they got off the plane, they were straight out, they did no shopping. They didn't even buy fuel for the drillers camp.

It is noticeable that, in contrast to the common concern about anti-social behaviour (cf. Carrington and Pereira 2011), the major issue that the participants of this research have with the workers camps are their lack of contribution to local community, their isolation and the subsequent sense of alienation. This same concern is evident in the participants' views about the non-resident workforce. Speaking about the Fly-In-Fly-Out (FIFO) or Drive-In-Drive-Out (DIDO) workers, Michael states that:

if you want to see the impact of drive-in-drive-out workforce, go along the road on the Kamilaroi Highway between the underground pit at Currajong, Narrabri Mile and Gunnedah, or Maules Creek and Gunnedah, and look at all the...look at all the vehicles with flags driving back to Gunnedah. The Shire's not getting the benefit of mining. The DIDO workforce takes it. There needs to be greater strategic

thinking about trying to keep the benefits of these industries into the areas that are directly adjacent to and impacted by them...The benefits of mining really need to flow back to the community and be sustainable in the long term.

Reflecting the paradox of a mobile workforce and the parallel depopulation of local townships, white-collar worker Kathy stated that:

the empty houses, the communities...you know, the communities that have lost all their [people]...they've got empty houses everywhere; they've lost their sense of community because everyone's shipped out. But our local council also are not...they don't...as part of their planning they do not put any emphasis on living [locally]. They want fly-in-fly-out workers. Or if they don't want them, they're accepting them. They don't put any emphasis on [...] people moving and becoming part of the community.

The impact of mining developments that are reliant on non-resident workers has been extensively explored in the literature. In their assessment of the social impacts of the resource boom on rural communities, Carrington and Pereira (2011) found that projects relying on more than a 25% non-resident workforce will have a low approval and acceptance level. According to them, the reliance on non-resident workforces is a growing social justice issue with significant policy implications. In contrast to the past, when mining and community development went hand in hand, the resource boom has seen an expeditious strategy for natural resource extraction that is based on an operating regime that is not conducive to local partnerships and cooperation. Referring to Gallegos' (2005) study of parenting transitions and FIFO workers, Carrington and Pereira (2011: 3) argue that '[t]he increasing reliance on non-resident workforces has resulted in an ever-decreasing permanent resident workforce undermining sustainable community development based on economic diversification.' Consequently, there is a 'fly-over' effect (Hogan and Berry 2000; Storey 2001), whereby 'host communities are burdened with the harmful effects of mining' whilst at the same time missing out 'on the economic benefits that accrue through local employment, opportunities, demand for services or population growth' (Cheshire, Everingham and Lawrence 2014: 332).

The notion of the 'fly-over effect' brings the discussion back to the issue of cost and benefit. This concept is at the core of the local residents' concerns about the lack of return to the local community. Key stakeholder Michael explained that:

when they [non-resident workers] came there was concern that they would be drinking in the pubs and having too much fun and causing

problems, and now everyone's just worried that they don't put anything back in.

Correspondingly, Henry noted that whilst his fears about drinking, wild parties and social unrest have decreased through living with a workers camp in the area, he is now increasingly concerned about the lack of contribution that the workers in the camps are making to the local community:

[t]hey're not in our pubs enough, they're not spending enough money, they just go to work, go to bed, and the head off to Newcastle or Sydney or Brisbane or wherever they're from and they don't spend the money locally.

Carl, a semi-retired farmer, expressed similar views, reflecting specifically on how the presence of the mines and the workers camps are moving Narrabri away from its agricultural core:

I want to see the gas go away and I don't want to see any more coal mines in the area. That's it. We are a farming community. Narrabri relies on farming. It's a beautiful little community, always has been. We've now got the MAC Village out here with a thousand FIFOs. We've got another at Boggabri, which do nothing for the community. If anything, they take away from the community. They're taking, not giving.

Carl, Henry and Michael all point to the question of 'giving back', reflecting a collective ethos that emphasises the role of reciprocity. Perhaps the primary vehicle for 'giving back' is gift giving. The bestowal of gifts to localities to 'compensate' for the impacts of major projects has been common practice for decades. The process of gift giving in the Narrabri Shire is explored below.

EXISTING EFFORTS AT COMPENSATION AND MITIGATION: GIFTS AND FAILED GIFTS

Industry and government recognise the issue of cost and benefit and the need to compensate local communities for the impacts that particular land use projects present. The Narrabri Shire is the recipient of generous contributions from industry and governments; however, the sense of industry taking rather than giving perseveres. So does the sense that governments largely take (through royalties and taxes) without sufficient reallocation back into the community. The industry strategies for compensating local communities are generally referred to as policies or strategies for Corporate Social Responsibility (CSR). Such strategies, it is implied, are the basis of the industry gaining a Social Licence to Operate (SLO); that is, they are the foundation

of community approval and acceptance. These strategies represent industry led attempts, often supported by governments, to transform 'the character of interaction from one of conflict to collaboration' (Knudsen 2016: 2). During the course of the fieldwork, the participants made specific references to Santos' CSR practices and, as such, it is deemed appropriate to explore these perspectives.

SANTOS AND THE NARRABRI COMMUNITY: GIFTS

Santos strives to 'be a valued member of the communities' of which they are a part (Santos 2009). To do so, the company aims to 'generate positive economic and social benefits for and in partnership with these communities' (Santos 2009), investing in care for the natural environment, developing a future for regional areas and young people, and empowering healthy, vibrant communities (Santos 2016a). In the preliminary Environmental Impact Assessment (EIA) of the Narrabri Gas Project conducted by GHD on behalf of Santos, the following benefits are identified: approximately 1200 jobs during the construction phase; approximately 200 additional jobs during the operation phase; direct and

indirect benefits to local economy through use of local goods and service providers during both construction and operation phases; injections of funds to the local community through payment of royalties to the community benefits fund; and gas security in NSW (GHD 2014: 41-42). The adverse impacts identified include: cumulative impacts from proposed development and other regional resource projects; temporary interruptions to property access impacting residential and agricultural activities; reduced access to the state forests; and impact on agricultural land and management (GHD 2014: 41-42). In addition, the EIA acknowledges that there are growing concerns from the public regarding what is perceived as insufficient research and community health impacts, and that increased population and employment opportunities can have an impact on the social fabric of small rural communities. Santos (2016b: np) states that, as part of its operations in NSW, the company employs locally whenever possible, and the 'Narrabri operations team is largely made up of local workers'. The company has invested a significant amount in and around the Shire, particularly through the creation of jobs, which, in addition to the direct job creation, includes local suppliers, contractors and service providers (Santos 2016c). In addition,

Social Licence to Operate (SLO) and Corporate Social Responsibility (CSR)

The term SLO emerged in the mid-1990s from within the mining industry as a response to the perceived risk associated with public disapproval and contest. Over the past few decades, the concept has been adopted by a wide range of actors within the extractive industry sector, and has spread to other industries in which land use contestation exists (Moffat and Zhang 2014), including agriculture.

The concept of SLO refers to a community's acceptance and ongoing approval of a company and its local operations. According to Moffat and Zhang (2014: 61), a SLO is a direct reflection of the approval and acceptance offered to a company from local community members and other stakeholders that can 'affect its profitability'. The concept is closely tied to that of CSR, which refers to the measures adopted by corporations to address public expectations about environmental and social performance.

Whilst CSR and strategies for corporate sustainable development are promoted as means by which companies and corporations compensate the affected community for the negative impacts of their actions, much cynicism and scepticism exist towards such strategies and practices. Owen and Kemp (2013: 29) explain how SLO emerged 'as an industry response to opposition and a mechanism to ensure the viability of the sector'. As such, it raises the profile of social issues within a predominantly industrial discourse, however it does not necessarily articulate or support a collaborative development agenda (Owen and Kemp 2013: 34). Strategies for CSR and SLO may, accordingly, be based on the assertion of risk as understood by the industry and it is underpinned by the desire to minimise this social risk more so than minimising the negative impacts on local community.

A SLO is tacit, intangible and specific to context. Accordingly, there is not a simple recipe for how to deal with local concerns, perceptions of risks and experiences of negative impact. One problem with CSR and SLO is that these terms easily shadow the multiplicity of experiences and expectations that exist and imply that there are means by which to compensate the costs associated with a project and, subsequently, neutralise protest and contestation.

the company has invested money in the local community through a range of sponsorships and community development projects, and a Community Benefit Fund estimated at \$160 million for infrastructure and regional development programs has been promised (Santos 2015).

APPROPRIATE GIFTS OR FAILED GIFTS?

Despite the stated company ethos and the significant investments that Santos has made, there is limited acceptance of the company and the proposed project within certain sections of the community. The nature of the project, the perceived environmental risks associated with CSG, and the local, national and global campaign against CSG and fossil fuels form part of community animosity and resistance. More acutely, however, opposition reflects the participants' sense of bearing the cost of the Narrabri Gas Project and receiving limited benefits in return. Many of the research participants are sceptical to Santos' community engagement and their contribution to the local community, arguing that these strategies in themselves result in negative social and cultural impacts. Bettina, one of the key stakeholders interviewed for the study, argued that Santos' investment in the local community is creating a 'welfare mentality'. Instead of gathering together and raising funds for local activities and needs, organisations will turn to 'easy money' provided by industry sponsorships. Similarly, another key stakeholder, Arthur, explained that:

the 'cargo cult' is really hooked in here because all the organisations, when they need to raise money, the first thing they will do is go to Santos. Instead of doing it the old-fashioned way of graft [...], really trying to get yourself going in all those different ways that country people have always done it in a very resilient sort of fashion, we'll just go to Santos and get some money from them.

Bettina and Caitlin both noted a cultural change within the community, whereby previously self-sufficient community groups transformed into groups expecting and relying on hand outs from coal and gas companies:

I think that it's a negative impact because [the organisations] were quite self-reliant and quite self-sufficient and they were actually only funded within their means. So they only had activities that were in their capacity to afford, whereas now you have Whitehaven, previously, and Santos, you know, and they funded a lot of things beyond what was necessary. So it creates a different level of expectation around what should happen (Bettina, key stakeholder).

In terms of the local sporting clubs, where once upon a time they'd say: 'we need to raise x amount of dollars. How are we going to do that? Cake stall?', which all serves to bring the community together, the first thing people say [now] is, 'let's go to the local mining company,' or, 'let's go to Santos', because that's considered the easy way out, but that does nothing for the community (Caitlin, farmer).

Harvey (2014) argues that transactional SLO approaches will often place an emphasis on 'outreach' and delivery of 'cargo'. This points to CSR policies that prioritise donations, direct funding or delivery of welfare programmes, unilateral construction of civic infrastructure, and community trusts, funds and foundations. The community engagement programs that the participants mention are examples of such outreach approaches, with a particular emphasis on sponsorships and donations. According to the participants, there is a general perception within the community of Santos as a simple one-stop shop for funding; if a community organisation needs money, all it has to do, they claim, is to approach Santos. Local farmer Nathan, for example, stated that: 'what we're seeing out at Santos at the moment is that if you want to sponsor an event, if you want cash, you go and see Santos. They'll cough up a coin for anything'. These sponsorships are, however, not straightforward, and might in themselves cause tension. Sarah, a farmer who remains undecided in her attitude to CSG, explained how Santos' investment in the local junior rugby club is a cause of contestation. She said that:

Santos sponsored our junior ruby [club] but we can't have their name on the jersey because so many people don't like them. So they won't allow their name to be written on the jerseys anywhere so we have it on their training shirts but it's not to be on their jersey that they wear when they play. That's because probably half the club don't want their sponsorship, so there you go (Sarah, farmer).

Whilst the community benefit schemes might be benevolent, within a contentious environment such outreach programs might, in fact, cause more opposition and concern. Some participants explain that, rather than leading to approval and acceptance of the company and the Pilliga project, these corporate contributions are fuelling scepticism and cynicism about the corporation's presence and activities. Nathan, cited above, perceives Santos' outreach practices as two-faced and argues that beside the sponsorships, the company 'does not spend a lot of money locally'. Rather than being seen as a sincere effort to compensate the community for negative

impacts, many of the participants describe these community programs as attempts to 'buy their social licence' (Bettina, key stakeholder). Murray, a local farmer, explained how he sees the community investments as 'a bribery type of thing'.

A local business owner, William, who works within the agricultural sector, argued that both Whitehaven and Santos 'have done a really good job of getting to the hearts of the community by donating substantial funds of money.' Reflecting on industry investment funds that facilitated the upgrade of the local swimming pool, he said that there is

[n]othing better than a fork out of \$5 million for a heated swimming pool. Whether you need it or not, doesn't matter. Our community can't afford a heated swimming pool, in my opinion, but Santos were good enough to hand over \$5 million. Makes the local politicians feel good, they can go out and say, 'look what we've done for you guys.'

William is referring to the new Narrabri Aquatic Centre, which features a 25-meter indoor heated swimming pool, outdoor children's splash pad, meeting rooms and a café. It should be noted that whilst William, as well as a number of other participants, gives Santos the credit for the new pool, the infrastructure assistance necessary was leveraged from the NSW Government, as well as Boggabri Coal and Whitehaven Coal (Ausleisure 2013). The Council secured \$4 million in community contributions from the coal companies. The new centre makes Narrabri one of only two towns in the north-west NSW region that has an all-year aquatic facility and it is, according to Mayor Conrad Bolton, 'a desire of the Narrabri Shire Community' (Ausleisure 2013: np). The centre caters to the needs of senior citizens, children, those with disabilities and injuries, and those just looking to improve their general fitness. It opens up a range of opportunities and provides, as Mr Bolton states, 'the place where many of our children will either hone their skills or learn to swim' (Ausleisure 2013: np). Nevertheless, the narratives of the participants of the research starkly contrast the stated benefits of the pool. Those who spoke of the centre mentioned the unsustainable nature of the project due to the increased maintenance

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...all the participants in one way or another speak of this moral code of reciprocity as the key to social ties and acceptance of land use change; the divergence within the community and the social tensions surrounding extractive industries rest upon the question of what the social contract guiding the reciprocal relationship should entail, and if the industry is honouring the moral code.

costs that the Council now has to cover and the added expenses for individual families. Gina, for example, explained that the swimming club never had to pay lane hire in the old 50m pool but now, after the new pool was built, there is a \$25/hour fee to hire a lane. According to her, the local swimming club has lost half of its members due to the increased costs.

The Research Team has been unable to verify Gina's statement about decreased memberships and increased costs; however, her observation and those of other participants who emphasise increased costs and difficulties with maintenance, suggest that the pool can be classified as a 'failed gift' that further alienates and disempowers the community. Within a space of multiple competing land uses and various actors driving land use change, 'failed gifts' such as this can have significant implications for corporations and for governments. In the situation with the pool, this 'failed gift' is justifying and acting as a lightning rod for criticisms of local governance and Santos. However, as stated above, Santos was not involved in this particular development. Despite familiar entities such as Whitehaven and Boggabri Coal engaging in outreach programs, Santos has become the dominant symbol of 'gift giving' and, subsequently, major 'sponsorships' are easily attributed to this corporation—for better or worse.

The shortcomings of CSR strategies are evident, with sponsorships and community grants often fuelling community animosity rather than easing them. Yet, for those supportive of resource companies and their activities in the area, these gifts are seen as overwhelmingly positive and 'community enhancing'. It is important to note that all the participants in one way or another speak of this moral code of reciprocity as the key to social ties and acceptance of land use change; the divergence within the community and the social tensions surrounding extractive industries rest upon the question of what the social contract guiding the reciprocal relationship should entail, and if the industry is honouring the moral code. All participants agree that industry has an obligation



to repay the community for what it gives in the process of changing local land uses. Furthermore, this act of giving must go beyond mere economic exchange. It must be aligned with and contribute to the community's values, beliefs and future aspirations, whilst being seen to be fair and just and free from ulterior motives.

CONCLUSION

This chapter has explored the question of coexistence through the particular lenses of proximity and reciprocity. It demonstrates how participants almost universally perceive an imbalance between the costs and benefits associated with the unfolding and planned land use changes. Many of those interviewed for this study see the local community as disproportionately bearing the costs of development. Many express a sense of local disempowerment in the process of land use change, where the interests of companies, shareholders and decision makers beyond the local area determine the future of the Shire. At the same time, where individuals experience direct benefits of new developments—particularly in terms of employment or other financial gains—the social impacts expressed by others in the shire are mitigated. These individual stories point to an experience of partnerships, where the moral code of reciprocity is adhered to and a social contract between the proponent of change and the individual is established. This social contract is essential to coexistence, which ultimately is a matter of balance, integration and partnerships.

Coexistence, proximity and reciprocity: key implications

Theme	Issue at stake	Local implications	Implications for government
Past experiences of land use change	Perceptions of current land uses and proposed land use changes are based on a combination of variables, of which an individual's biography, dispositions and experience of change represent important frames of reference.	Locals cite the contentious introduction of cotton in the 1960s as a prism through which they interpret current land use conflict and the implications for Narrabri's viability and resilience.	There is no 'one size fits all' approach to land use change and local particularities and historical experiences of such change must be taken into account when seeking to understand the array of community attitudes.
Proximity	Proximity is a three-fold concept that incorporates spatial, moral and socio-economic conditions.	The social impacts of land use change exceed the spatial domains of particular projects. The interlinking of moral and socio-economic variables with spatial proximity mitigates or enhances people's experience of social impact.	The interlinking of moral and socio-economic variables with spatial proximity must be considered when addressing the social impact of existing and planned land use change.
The Sandstone Curtain and the 'fly-over' effect	Narrabri residents express a sense of 'reverse repercussions' by which the local community disproportionately bears the burden of land use change whilst the benefits of these industries travel to regional and coastal Centres.	The reliance on a non-resident workforce and managerial changes within the minerals sector can create a sense of disempowerment for local people who no longer feel in control of the decisions underpinning the current and future well-being of their Shire.	The cumulative effects of diverse land uses, particularly those related to exogenous and large-scale industries, must be carefully considered in the assessment of social impacts. The difference between social change and social impact, as well as the impact of social change, should be better incorporated into government planning policies.
Reciprocity	Land use change taps into a moral dimension that builds on the notion of reciprocity as a total social phenomenon.	Current CSR strategies to compensate the local community for the social impacts of certain industries are based on a transactional approach. Corporate outreach policies, particularly those of the monetary kind, are seen as inducements rather than sincere gifts based on recognition of community needs and desires.	Questions of mitigation and compensation must be carefully considered in the planning assessment process and in the regulation of industries that have identified social and environmental impacts. Opportunities for a dialogue between diverse interests based on needs and desires within the community should be facilitated.
Coexistence	Coexistence is about balance, integration and partnerships. Where coexistence relates to land uses that are regarded as incompatible, locals may express fear or frustration and resort to politicised behaviours.	A sense of imbalance between different industries relying on similar resources has created local tensions between farming and extractive activities and generated significant political debate and activism.	Balance is essential for coexistence, and can be achieved through locally embedded approaches to integration and partnerships that are based on respect for diverse views and interests.

NEWELL HIGHWAY

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Chapter 5

Risk, trust and the politics of knowledge

We've gone to a lot of seminars about the drilling processes and all of that and they assure us it's safe, but I'm not convinced (Jenny, Narrabri farmer).

This chapter describes and analyses issues concerning knowledge and knowledge generation. With the expansion of coal mining and the emergence of CSG in the Narrabri Shire, conflicts over land use have intensified and questions of risks, trust and knowledge have been raised. What counts as legitimate knowledge about the risks generated by the recent changes in land use for exploratory and extractive purposes have become important in how individuals view such developments and establish their opinions, and, subsequently, their politics about those issues. The interviews raised questions about local knowledge of land use changes in the Narrabri Shire and primary sources of information. Whilst a number of land use changes have taken place over the past decades, including the changes in agricultural production described earlier in this report, participant responses to these questions centred almost exclusively on the issue of the extractive industries, with a particular emphasis on CSG and Santos' Narrabri Gas Project. A key finding of the study is that there are deep ambivalences about what counts as knowledge and truth when it comes to information about these developments, especially in terms of the politics of land use, the influence of certain actors, and the trustworthiness of companies and governments.

The comment from Jenny in the epigraph of this chapter sums up the way some Narrabri residents, particularly concerned farmers, feel about what is happening in their community. Jenny has been provided information and even demonstrations from companies and levels of government, but she does not trust the—

regardless of their assurances about relying on scientific data or claims of 'world's best practice'. There is a growing literature that shows how contradictory information, misinformation and politicised debates about scientific knowledge create ambivalence, anxiety and conflict when it comes to dealing with risks (e.g. Beck 1992; Woodman, Threadgold and Possamai-Inesedy 2015). Increasingly, the idea of progress through scientific knowledge is being replaced by the realisation that the very 'successes' of science have produced risk: GM food, Mad Cow disease, virus resistance to antibiotics, soil degradation and the like. Science is now employed to solve new problems created by previous scientific 'advances', generating widespread questions about the status, reliability and purpose of scientific knowledge.

Many of the participants suggested that the specialised knowledge associated with the risks of coal and CSG extraction is usually too technical for the average person to understand. This, in itself, fosters anxiety in people and leads to a widespread view that scientific knowledge does not create consensus or 'truth'. Rather, understandings of science are wound up with politics, PR and spin. Many Narrabri residents who feel threatened by the extractive industries, and even those who are neutral in their position, are cynical of industry-produced science, viewing it as inherently biased.

From this point of view, risk—and individuals' attempts to insulate themselves from it—becomes a central factor by which understandings of the world are produced, generating an anxious and insecure existence (Lupton and Tulloch 2002). Additional knowledge can lead to more, rather than less, uncertainty (Norgaard 2006; Threadgold 2012; Leahy, Bowden and Threadgold 2010). These general changes in societal attitudes towards the connections between risk, science, knowledge and trust frame

Processes of social change in terms of risk, knowledge and trust

Risk becomes visual or ‘material’ when connected with doubts or concerns about the increasing influence of science and technological change. This degree of change may not be readily understood and, when associated with new and/or historical industries such as mining and energy production, perceptions of risk or uncertainty can arise. Authors such as Beck (2001) suggest that perceptions of risk also draw attention to the limited controllability and uncertainty associated with any new or untested technique or development utilised by industry. Changes in societal attitudes towards the connections between risk, science, knowledge and trust can be sketched as follows:

- large scale global risks such as nuclear fallout, terrorism and climate change, alongside risks that individuals must negotiate in their day-to-day existence (such as unemployment, high cholesterol, or depression) have led a major change to how individuals engage with knowledge;
- whereas rationality and belief in the potential offered by harnessing scientific knowledge once offered people certainty, the world is now perceived as an uncertain place where we are constantly confronted with unpredictable and uncontrollable risks;
- the status of scientific knowledge has shifted due to the very consequences of scientific ‘progress’ on society. People no longer trust science in the way they once did;
- ‘rational’ science causes uncertainty. This is especially the case for environmental issues;
- risks are staged in the global media, but are consumed, interpreted and dealt with locally;
- this whole situation creates ambivalence and politicises knowledge itself; and,
- people are in a position of having to individually manage risk and contradictory information in conditions of anxiety and insecurity.

the ways Narrabri residents engage with what is happening in their community, particularly around issues of CSG exploration. In this chapter we explore these issues through: firstly, an evaluation of the types of knowledge that exist and how people go about garnering knowledge; and, secondly, consideration of the means by which local residents validate existing knowledge. The chapter centres on the current land use conflict presented by the Narrabri Gas Project, as this was the core issue and focus for participants.

The chapter focuses in particular on the voices of those who are sceptical to or opposing CSG. In contrast to their counterparts, those who are in support of the new technology articulate a distinct trust in the overarching narrative presented by industry and government. Many of these individuals are socio-economically and morally close to the industry; either working for Santos or representing political and economic interests within the Shire. Their understanding of the issue at stake aligns with the narrative of those in power (government and industry) and their knowledge regime is confirmed by the dominating discourse surrounding CSG. As such, there is no distinct tipping point in their process of knowledge generation and risk assessment; conversely, they present a relatively linear process of knowledge acquisition in which their opinions and thoughts

are confirmed by what they perceive as reliable sources. Conversely, those who are sceptical to or opposing the development will have a different idea about what constitutes knowledge and reliable sources; in contrast to the former group, their interests and experiences make them question the official sources and, subsequently, look for alternative sources. It is within these accounts that the issue of tipping points are most evidently illustrated, which is why these narratives gain prominence within this chapter.

‘THERE’S A LOT OF MISINFORMATION OUT THERE’: KNOWLEDGE ABOUT NEW RISKS

This section addresses how Narrabri residents garner knowledge about the important issues they face. People go through an array of processes to learn about risk. One’s own position on what is ‘true’ is shaped by the past (such as connections to place and the land, discussed in Chapters 2 and 3), the way people feel in terms of how they are treated by the provider of information (along the lines of reciprocity, discussed in Chapter 4), and their own perception of how change will affect their future. What we see is that ‘science’,

in one way or another, is used to legitimise everyone's point of view, regardless of whether those points of view are in conflict.

THE AMBIVALENT STATUS OF SCIENTIFIC KNOWLEDGE

When asked how she learnt about the new risks facing Narrabri, Claire, a white-collar worker, sketched out an ideal path for using 'legitimate' information to make decisions about the future of Narrabri and the surrounding area. She suggested that it is the Government's job to legislate to ensure that development only occurs when it has the 'best science' behind it and expressed confidence that 'we seriously do have some of the best science in the world'. But she was also concerned with vested interests, stating that 'what we've got to be very careful about though, is there are some scientists out there that have got a political agenda or a commercial agenda'. Claire pointed to how she sees different sides of the debate manipulating scientific knowledge to suit their own agendas:

generally, the greener side of politics will come out and say, 'this will happen, science has proven in the Valley that this has happened, and it's because of extractive industries'. Now, there will be some modicum of truth in that, but you've got to dig the truth away from the bullshit, or the bullshit away from the truth. On the other side, we get [companies] like Santos who have got some good scientists working for them, but they have to tow the company line. So we've got to be a little careful about that.

Claire subsequently pointed to universities as sites of 'independent' knowledge:

universities should be the ones that come forward. Universities get funded by government, but hopefully there's enough people within that scientific community—within universities—who could genuinely put the sort of information that we need together.

Claire outlines a process of rational apolitical scientific knowledge providing the legitimacy to make sensible decisions about how to progress. At the same time, she also points to 'agendas' and different perspectives on what people present and believe to be 'true'. The ideal picture painted of independent and legitimate scientific knowledge creating a cooperative, consultative and consensual form of progress at the start of Claire's discussion is shown to be increasingly difficult, if impossible, by its end. She points to 'universities' as a potential independent scientific source, but as discussed below, the source of scientific information, regardless of perceived independence including that of university-

produced research, does not create certainty. In the end Claire expresses ambivalence about the status of scientific knowledge, highlighting the way that the politicisation of science leads to uncertainty.

Lay-knowledge of the new risks that Narrabri faces in the present and the future were mostly discussed in terms of the recent appearance of CSG companies and—as discussed in Chapters 2 and 4—can be loosely categorised into three camps: those for CSG; those against CSG; and, those who are sitting on the fence. For instance, after doing some research on the Internet, Bryce, a local farmer, has become comfortable with CSG:

there's just been quite a lot of anti-CSG activity. I tend not to like the group mentality of thinking. I go away and do my own reading. To be quite honest, the more I've looked into it, the more confident I've become, of accepting of it. Yes, they do drill down through the aquifer, but the coal seams themselves are up to 1,000 metres underground. There is no inter-connectivity. People can say there is, but there just isn't because they just aren't connected. It's as simple as that.

Bryce has done his research and came to a specific conclusion: 'it's as simple as that'. Those 'for' CSG tend to come to conclusions like this quite quickly and are less likely to go into detail about the complexities of extraction or experiences elsewhere. This has to be seen in relation to how their understanding of what is going on mirrors the dominating discourse about CSG; that is, their understanding is a reflection of the narrative that at present has the most political clout. Bryce's experiences, perceptions and interests are aligned with the logic that underpins the dominant political narrative and, in contrast to people who oppose or are neutral to CSG, he does not need to seek alternative or additional 'proof' to assert his views of the issues.

Similarly, Theo—who works in the extractive industries—states:

there's been no cases...now the media will report some cases but no technically verified cases...where ground water or water contamination of coal seam gas here in Australia has had an effect on farmers' water. Now there's perceived effects, and there's been misreported effects, but when it comes to the science and the data there's nothing to support that. So if you think about the operations you get in Queensland, and using that as an example, even going for the filthy states, there have been some mishaps but has it caused a long-term detriment to this water? No it hasn't...When you go on talking to activists and you take them

through the water cycle, and take them through diagrams, and well integrity, and all the physical pinch holes are in place, and that they just don't cause contamination or loss of people's water. They go, 'yes but it's still bad', and you kind of think, 'well I can't beat that'. I don't know how to beat that other than this is just the science and it's very hard to make science up. Maybe it's a parallel reality they live within, so what I'm saying is all gobbledegook to them and it just doesn't conform to their parallel reality of what their activism is based upon.

Theo legitimises his argument with 'this is just the science' and says that 'it is very hard to make up science'. By drawing a distinction between ground water contamination events that are 'technically verified' and those that are defined by 'the media', Theo suggests that institutionalised scientific knowledge can be relied upon to produce truth claims that are superior to forms of knowledge that are more widely available. However, this approach to scientific knowledge does not reflect the complexity of the way that knowledge is approached and utilised within the local politics of land use. Indeed, many residents draw on scientific studies that contradict such 'scientific' claims. The same logic applies to those whose views he is criticising, such as Caitlin, a local farmer who has done her own Internet-based research about the consequences of CSG extraction in other parts of the world and is very concerned about the side-effects of CSG activity:

there is research in the US over a longer period of time, but also in Queensland more recently, and it pointed to the fact that coal seam gas was highly destructive of agricultural land and the water resources, and that it was also a risk to human health. Human and animal health. That started to raise some pretty serious red flags for us, particularly as ground water irrigators.

These examples illustrate how scientific knowledge is drawn upon to support a range of sometimes-contradictory attitudes. Opinions about the impact of CSG exploration on ground water are justified through application of scientific knowledge, regardless of what these opinions are. Both sides claim to hold scientific knowledge about risks associated with CSG, but this does not result in consensus or 'truth'; conversely, it results in conflict, uncertainty and frustration. Other exchanges from the data display how people are aware of the 'two sides' and find it difficult to weigh up the argument to come to a specific conclusion. For example, husband and wife, Dana and Heath, who are farmers, expressed ambivalence about the possible risks:

Dana: Two very different ends of the spectrum [when it comes to CSG], and you're being bombarded with both.

Despite the faith in scientific authority articulated by some participants, attitudes land use change in Narrabri cannot be understood through the dissemination of scientific facts alone; change is socially embedded in the processes of learning and knowledge formation that community members participate in.

Heath: Yeah, you've got one side saying that it wrecks your water and saying everything bad about it, and on the other side saying there's actually no issue.

Dana: There's nothing in the middle.

Heath: Yeah, that's right. There's no one taking the middle line and saying, 'this is just how it is'.

Dana: 'This is what's good, this is what's bad'.

As these examples show, there are those who are certain on either side of the debate, and there are those who are unsure. These positions all come from engagement with information about exactly the same issue and are usually justified with 'science'. Appeals to scientific authority therefore cannot provide the level of certainty that many participants—and, for that matter, proponents and governments—would like. The uncertainty and perceptions of risk that land use change in Narrabri has created, and the different kinds of technical knowledge that have been produced in other local areas, generates a situation that is too complex to be simplified by appeals to science. Despite the faith in scientific authority articulated by some participants, attitudes land use change in Narrabri cannot be understood through the dissemination of scientific facts alone; change is socially embedded in the processes of learning and knowledge formation that community members participate in.

SEEKING INFORMATION: LEARNING ABOUT RISKS

There are many different means by which people learn about the land use issues facing the Narrabri Shire. These include: industry and government led information sessions; media; company statements and media releases; peer-reviewed scientific work published in reports, journals and books; government reports; social media and blogs; social networks and groups; word-of-mouth; and, not least, a wide variety of information available online. Many of the participants explain how the Internet is a central starting point from which they seek information, though they also expressed a need to decipher

the contradicting sides and negotiate the multiplicity of sources available. Bryce, a farmer, explained how:

there's a whole heap of stuff on the Internet. What I followed is the debate, and as the information came up, I read all the information from both sides. That's what I try and do. I don't believe in people only saying, 'yeah well, that's propaganda, that's facts, that's science'. I get rid of that and then just read the facts and the science.

Others, such as Arthur and Rebecca, discussed a combination of methods to garner information:

Arthur: Well I'm a voracious reader online really. I do a lot of research in the wee small hours of the night, just reading up stuff and checking it out. I've always had this idea that you'd never believe anything that you read until such time that you can validate it yourself.

Rebecca: For the People for the Plains group, we've actually got people come to speak to us. We've had Skyped things from Water Scientists and things like that.

Arthur: That's right.

Rebecca: I guess in a way, one of the things that when we formed the group, was the fact that everything that we talked about had to be based in fact. We weren't allowed to have any opinion. It all had to be fact. We've been to Santos meetings. We've been to Santos forums.

Arthur mentions a need to 'validate it yourself', which is discussed below in terms of witnessing, and Rebecca is concerned with dealing in 'facts' to try to avoid bias. Farmers that felt threatened by CSG spoke of the hard work involved in doing research, as the volumes of information:

it's quite arduous to be honest. I guess initially we used the Internet. We spoke to other people, other people that had viewed the coal seam gas industry not only in the United States but also the coal seam gas industry in Queensland, and in particular the Santos infrastructure in Queensland. There was a group of landholders from here that went up last year and had a look at potentially what is in store for our community. Yeah, so it's just been a lot of work. Hours and hours and hours of research, and in doing that, looking at it with a very critical eye because obviously not everything, as you would be aware, that you read on the Internet is kosher. We looked for things like peer review papers, and things that were truly independent, that there were not links back to industry, for example, or vested interests (Caitlin, farmer).

This variety of sources provides rich opportunities to get diverse information about the issues at stake. The often-contradictory narratives that exist do, however, mean that individuals must interpret the various sources and make a decision as to which sources they deem trustworthy and which are not. Thus, the same sources of information may lead to very different feelings about issues



based upon the individual's personal situation and general attitudes towards land use (see Chapter 4 and the discussion about moral proximity). Those who remain neutral to the issue express particular anxiety when reflecting on the need to navigate contradictory information. For some, this results in a withdrawal from the issue, especially in social situations, to avoid conflict and confrontations (see Chapter 2, section 2.3).

UNCERTAINTY AND TRUST: THE PERCEPTION OF (MIS)INFORMATION AS 'PR'

There is clear scepticism over where people on the opposite side of the debate get information to justify their position. For instance, some participants—such as farmer Dylan—saw the Santos information seminars as being clear and fair:

anyone could ask any question they liked and they were answered. If they wanted to hear further detail about it, all they had to do was request it and it would happen. Everything was on the table. There was nothing hidden. It was answered, I believe, very truthfully. I take my hat off because I've been to see a lot of different company people talking, and I tell you what they're pretty good spin doctors some of them. But this mob I believe did very well and they said everything in real layman's terms. No one could misunderstand what was being said.

Dylan was impressed by the Santos presentations and what he perceived to be the scientific basis of what they had to say. He was willing to trust them and take what they had to say at face value. Others have developed deep suspicions about the information presented in these sessions, especially as there are things said by company and government representatives that contradict each other, contradict information people have sourced themselves, and contradict experiences and observations. These contradictions create reservations about what is presented and a distrust of those who present it, as suggested in the following excerpt from the interview with farmers Denise and Stuart:

Denise: Santos tell people here, they have a photo of a 100 metre by 100 metre gas field with their pipe. Just one site. Of course, there's many of those. They say, 'look, they're only taking up a small bit of land'. Then people in the community who are already believers say, 'oh, yeah. So what are all these other people carrying on about?' They don't show you the rest of the infrastructure: the pipes, the retaining points. I mean, out here...this is how crazy it is. Santos, they still have not worked out how to get rid of the salts. That's one big problem.

These contradictions create reservations about what is presented and a distrust of those who present it...

Stuart: They know they've been given the go ahead by the government. But they don't know what to do with the bloody stuff. It annoys me.

Denise: A friend said it's like taking off in a Jumbo Jet and saying, 'well, we've taken off but we don't know how to land it yet.'

Stuart: We haven't got any wheels. We'll work that out up there.

These contradictions reflect broader changes in the status of scientific knowledge described in the introduction to this chapter. As outlined in Textbox 5.1, these changes have produced what the sociologist Ulrich Beck (1997) has described as 'the art of doubt'. In this situation, 'experts' are continually questioned and challenged, and the legitimacy of their expertise is acknowledged with scepticism. Retired farmer Lynne and her daughter Lisa compare company sponsored information sessions with politics and public relations strategies:

Lisa: You're dealing with the best PR strategies, up against the humble farmers.

Lynne: There has only been a handful of times that I can remember, where I've actually been able to speak to a Santos staffer in a situation where I can ask 'how does this work'? I just found that confirming and denying the things that the farmers are saying has just been a pointless exercise because you're never going to get a straight forward answer.

Lisa: They are like politicians aren't they?

Cynicism was especially palpable in cases where people noticed contradictions from different events that they had attended. This resulted in increased suspicion of all companies and frustration towards government. For instance, after outlining a contradiction between the way Eastern Star Gas and Santos presented information on shields, pumps and water flow, Carl, a farmer, said:

I mean one company tells you one thing and one company tells you another, but you can't find out

Cynicism was especially palpable in cases where people noticed contradictions from different events that they had attended.

from the government. The government won't tell you a damn thing. I remember as plain as day that presentation because I was there, I was dumbfounded.

Company advertising that quoted scientists was often seen as particularly questionable:

the ads claim, 'CSIRO and government studies have shown that ground water is safe with coal seam gas.' The CSIRO has denied this, but that's what the CEO of Santos said in the newspaper.

The phrase 'world's best' whether it was referring to science or practice also drew cynical ire:

when their 'world's best scientists' came up and did their water plan before that went in, they said that the water table would be lowered by something like ten centimetres. It's now been lowered by four metres. So that scares me when out here they're saying we won't interfere with anything, the 'world's best hydrologist' here telling you that. So they've made a mistake there. Whatever 'world's best science' says at the time, it's still no guarantee. No one is going to promise that, they just say this is our 'world's best science'.

This suspicion is compounded by the perception that the local council and state governments have been too quick to support CSG. This is one of many frustrations expressed about governmental practices at both the local and state levels (see Chapter 6). Again, participants interpret the same information presented to them based on established positions. Essentially, the various sources of information and their politicised management are summed up in the following exchange between educators Dana and Anna:

Dana: Who do you believe? You get one person saying it might make a difference, one person saying it will make a difference. Who do you believe?

Anna: But you're never going to get an unbiased account of what goes on.

Dana: But it's our livelihood. Do you know what I mean? So it's our livelihood.

Issues about transparency, honesty and respect all point to the ways some residents feel that their basic citizenship is being eroded by these new developments. There are strong feelings that they, as local residents, have little control over what is happening and their livelihood and lifestyle are being threatened. This speaks directly to issues around reciprocity discussed in Chapter 4 and local participation in decision-making in Chapter 6.

It is important to note here that the actual source

Issues about transparency, honesty and respect all point to the ways some residents feel that their basic citizenship is being eroded by these new developments. There are strong feelings that they, as local residents, have little control over what is happening and their livelihood and lifestyle are being threatened.

of information and their scientific legitimacy are largely irrelevant when it comes to forming a position for or against the extractive industries. Both sides draw on a 'scientific argument'—the resource companies cite studies that are seen as reliable, and those against cite other 'independent' studies, which they argue highlight that the industry's studies are biased. Given that 'scientific knowledge' can be used to justify anyone's interests, regardless of their position, moral proximity (Chapter 4) and emotional attachments to place (Chapter 2) become the key mediators of knowledge about CSG. These forces outweigh so-called 'rational' arguments, especially as the politicisation of 'rational science' and its increasing use as a form of PR contributes significantly to confusion and conflict in the first place.

'THE SURVEY': AN EXAMPLE OF THE POLITICS OF KNOWLEDGE

As well as relying on scientific knowledge, some local community members have gone as far as to make their own knowledge claims on the basis of research conducted themselves, such as the Gasfield Free Survey. This survey is a grassroots led survey taking place across the Northern Rivers—but which includes Narrabri—as part of community opposition to CSG (Gasfield Free Northern Rivers 2016a). The fate of this locally produced knowledge provides an example of community mobilisation of knowledge claims within a local context. Several participants mentioned this locally-produced survey, which provided statistics that suggested that the vast majority of local residents were against CSG exploration. As a local farmer points out:

in this region we've become involved in the Gasfield Free survey process. Basically, it involves members of the community going door-to-door, road by road, and interviewing every landholder over the age of 16, and asking them just one simple question which has been, 'do you want to live gas field free? Yes or no?' Now to date over 3 million hectares have been surveyed, and that includes 87 communities

The Gasfield Free Survey

The Gasfield Free Survey is a grassroots democracy initiative launched in April 2012 as part of the anti-CSG movement in the Northern Rivers. The initiative sets out to survey local communities 'house by house and road by road' (Gasfield Free Northern Rivers 2016b). Concerned community members have conducted the Gasfield Free Survey in a number of communities in the North West, including Narrabri, to ascertain the attitudes of residents about the arrival of the CSG industry. The survey is reported to have covered over 3 million hectares with an average of 96% of community members supporting the proposition against CSG and 87 communities in the North West declaring themselves as 'gasfield free' (Schwager 2015; The Land 2015). The survey is a simple yes/no question, asking residents to respond to the question 'Do you want your road/land Gasfield Free?' (Lock the Gate Alliance 2013). Assessment of the relative methodological rigour of such an approach is beyond the scope of this report.

across 9 local government areas, and emphatically people are saying that they want to live gas field free. By emphatically I mean 96% of people.

By itself, this information would convey a sense that it is 'true' that most people oppose CSG, but there was also scepticism directed at the survey, as one extraction industry employee expressed:

you hear a lot that 97% of this area has voted to be gas field free. But you speak to a lot of the people and they go, 'yeah they come knocking on my door on Sunday morning, and ask 'do you want to live in industrial wasteland of gas filled developments?' 'No?' I think, well I'd say no too. It's push polling...So I suppose this opposition momentum gathered and some of the activists have gone out and said 97% of them want to be gas field free, and you speak to a lot of people and they go, 'yeah, it was Sunday morning, yeah,

Push polling

Push polling is a form of marketing research, often used in political campaigns, where the researcher attempts to influence the opinions or actions of the research participant through the manipulating bias of the questions being asked.

The widespread distrust of knowledge disseminated by corporations or government authorities has led interested parties in Narrabri to participate directly in the politics of knowledge production themselves, creating locally-produced knowledge that allows participation in discussions about land use change and the extractive industries.

what do you want me to sign, yeah okay off you go, and do I have an opinion, not really, but I felt a bit pressured into signing just to get rid of them'.

It is not the intention of this chapter to assess the reliability and validity of the Gasfield Free Survey. The survey does, however, provide an instance of the variable interpretations of locally-produced information, depending upon where community members are individually positioned. Moreover, this example speaks to an attitude towards knowledge that differs from established notions of scientific authority. The widespread distrust of knowledge disseminated by corporations or government authorities has led interested parties in Narrabri to participate directly in the politics of knowledge production themselves, creating locally-produced knowledge that allows participation in discussions about land use change and the extractive industries. The public debates that take place on the basis of this knowledge therefore go beyond appeals to established scientific consensus. In this context, other ways of forming knowledge become critical. The next section describes ways that participants formed knowledge on the basis of direct personal experiences, rather than appeals to scientific authority. These personal experiences were critical in the formation of their attitudes towards the extractive industries.

VALIDATING KNOWLEDGE: WITNESSING, EXPERIENCE AND CIRCULATING STORIES

As has been outlined above, there are multiple sources of information and authority at play around land use change in the Narrabri Shire; however, information only goes so far in producing what people 'know' about risks. Participants' points of view were, at times, transformed by what can be called 'witnessing events', as well as being reinforced by stories that circulate throughout their social network (Askland 2014). The significance of witnessing and collective community narratives are articulated by Rapport and Overing (2000: 154), who argue that, through

Circulating stories

The data collected for this project reveal a practice of story-telling that encapsulates particular narratives. These narratives, what we here classify as 'circulating stories' (Askland 2014b), move through social networks and become collective sources of knowledge. Through their telling and retelling, these stories become autonomous accounts that provide maps of the social environment and offer information about happenings, individuals and their dispositions, by which the community members align their attitudes and actions. Reinforcing the authority of these stories are collective notions of morals and ethics; which, in this instance, emphasise the values of honesty, respect and politeness. Similar to gossip, the circulating stories are narratives that maintain group unity, morality and history; they represent accounts of what is seen as culturally determined and sanctioned behaviour. Circulating stories, such as the example of the Knitting Nannas retold in this chapter, represent meta-communicative processes through which it is possible to get insight into the rules and conventions by which individuals live (cf. Rapport and Overing 2000: 153-154).

direct experience, individuals develop 'a map of their social environment' by which they 'align their actions'. Narrabri residents draw on their own experiences, the experiences of significant others, and stories that circulate within the community (gaining legitimacy through their telling and retelling). They also draw on information from local political groups in person and via social media, sharing stories, photos and videos with one another. This, then, has a strong effect on the ways that individuals engage with the politics of risk and land use change.

WITNESSING AS CONFIRMATION

What people see with their own eyes has considerable effect on their perception of issues, as it turns 'theoretical' knowledge into experiential confirmation. This was the case for farmers in Narrabri and their opinions about environmental damage. For instance, Carl and Tania talk about an incident where they went to a friend's property to see the effects of water loss. Seeing this damage convinced them not to trust Santos. Carl explained that:

there was a back area where just everything was dead. All the trees around it were just all

skeletons. There was a tank over in the corner and I said to [the property owner], 'Is that how much water was supposed to have escaped, you know into this area?' And he said 'yes, about a tank – half a tank full'. And it spread all the way – it was like a river of deadness, and it spread all the way into the bush for about 500 metres, and even went uphill. That's why I don't trust them because actually seeing it you could say that's absolutely not possible.

Witnessing is an important factor in the development of knowledge in that it can transform theoretical information into empirical 'facts'. In this way, knowledge is validated by experience. Witnessing turns a gut feel into 'truth', and these instances can act as tipping points in attitude formation.

TIPPING POINTS

The interviews addressed whether individuals experienced a 'tipping point', or a point at which they once and for all decided which (if any) 'side' to take, in relation to the developments happening in Narrabri. Such tipping points were, as mentioned in the introduction to this chapter, especially prevalent for those against CSG and less significant for those 'for' or those unsure. A level of trust in public assurances of safety prevails in those who see no problem with CSG, principally for those that feel that they will profit from the developments or those who feel that it will not affect them. Sometimes those 'in the middle' maintain an ambivalent attitude and withdraw from the issue; however, the data suggests that, for those who start at a neutral point without a strong opinion, a particularly intense personal and emotional experience leads to the adoption of a strong attitude against CSG exploration. This is specifically the case when participants witness what they perceive as dishonesty. Such experiences result in people beginning to lose trust and, subsequently, move from being neutral to actively seeking information to validate or falsify their experience. Residents who felt that they have something to lose often began by cautiously looking at information to develop an understanding of how changes will

Sometimes those 'in the middle' maintain an ambivalent attitude and withdraw from the issue; however, the data suggests that, for those who start at a neutral point without a strong opinion, a particularly intense personal and emotional experience leads to the adoption of a strong attitude against CSG exploration.

affect them. The information they garnered was then evaluated through observations of events in their lives and the experiences of those around them. Their opposing view seems to resonate in, and be validated by, events they witness. These events may subsequently become emotionally-loaded stories that circulate within the community and affect the attitudes of others.

Participants often spoke of a specific event in their life that shaped attitudes. For example, Nathan, a farmer, said:

we're lining up again for a hit on our surface water for what seemed to be a very ambiguous kind of a reason. That really probably sparked my interest, and since then it's just been the development of extractive industries coming in on top and just seeing the very contradictory position that governments have taken on agriculture versus mining.

For some, becoming politicised started gradually, but could then be related to a specific event or a specific piece of research through which an individual became more sure about their position or confident about the legitimacy of their own understanding. This is particularly the case when someone personally witnesses an event or situation that does not match his or her imagination. Holly, a parent, described just this scenario:

I'd known people that were against CSG, but I had no idea what it was, I knew nothing about it. When the protests started up in the scrub, there were green groups joining farmers. I'm like, 'oh God that might be interesting'. So, we actually jumped in the car and went for a drive. We went out to a drill site, we walked around it and we had a look at it. It was disgusting. We saw the clearing, the working on Sundays, the big pipe layers, track layers. So I was just blown away. They say it's the size of a tennis court, but to actually see a drill rig in place, and the smells, it was horrendous. We came home, we talked, we looked, we talked to a few people, and we started reading about it. We're like, 'we don't really want this' (Holly, parent).

At first Holly was not passionate about CSG developments in Narrabri, but as she came across more information, alongside the interest and invites from friends and colleagues, her interest was spurred. A tipping point came when she personally witnessed pipes that were much larger than she previously imagined. Her physical senses were invoked – smell, size, disgust – and these challenged her preconceptions. It was at this point that Holly's attitudes against CSG exploration were crystallised. While this process took place over a number of months, her attitudes were confirmed and stabilised in one moment of

personal witnessing.

There were also several instances where people experienced (what they describe as) unacceptable behaviour, such as deception and bullying, in their dealings with resource companies, and this became a tipping point for being vehemently against CSG. For instance, one farming couple told us:

in about 2011, when Eastern Star Gas started to really do some nasty things and Santos started to do some camouflaging, we basically – well, pulled the pin on any development. Just after Santos announced its Narrabri Gas Project we had a knock on the door. Well actually it was the night they announced it, they talked to me about purchasing our place from us and they came out the next day to talk to us about it. We settled on a price that we thought was good, however then they started to lay down the conditions that we weren't to talk to anybody about it, that we approached them, they didn't approach us. I was not too...I won't say protest...but I was not to go out and fight and associate with protesters. I was not to go out in the forest and do extra work and talk to the media and anything like that, and if we shut up for two years we'd get extra money. You don't do that to me. If you want to talk you can talk open and honest, full stop.

During her interview, Hazel retold the story of the couple above and reflected on her friends' account—an example of how one's experience, when told to others, can circulate amongst networks of personal relationships, becoming important forms of collective knowledge:

[a] friend of ours who owned land was approached for his...and his land was wanting to be bought by Santos and I think he thought long and hard about that. But one of the conditions was that he had to say that he had gone to Santos and asked them to buy his land. That had to be part of the deal, not that they went to him to buy his land. You have to say that you came to us to buy. You came to us saying you wanted to sell your land. I thought that was really underhand. Dishonest. I just lost confidence in a company that would blatantly take that approach and I thought well that's a very obvious example of the attitude.

In Hazel's example, the dishonest behaviour did not happen directly to her, but to people she trusts; hence, the story is validated and her attitude is formed. Another example of such a story that is evoked to confirm suspicion or a sense of distrust is the story of how, during a peaceful protest outside Santos' Narrabri office, a 'knitting nanna' had her chair pulled out beneath her. This story symbolises the lack of integrity that

many of those who oppose the CSG development associate with Santos and its supporters. The Knitting Nannas is an organisation that opposes CSG and aims to spread awareness of exploration for unconventional gas in agricultural areas. For many within the no-to-gas movement, they represent nurturing and care, symbolically playing on the role of the supportive grandmother who is acting in the interests of her grandchildren and future generations. This story was recounted on three separate accounts by different participants and is an example of a circulating story that is used by individuals to verify their assessment of trustworthiness and truth. These stories, and the connected emotions that are generated in terms of honesty and respect, contribute to a diminishing SLO, discussed in Chapter 4.

Other stories that have the ability to influence people's perception of truthfulness are those related to witnessing environmental damage or practices deemed unethical or dishonest. Such stories have the power to change someone's mind, as was the case for Rebecca and Arthur:

Rebecca: We have a friend who's a horticulturist. Santos asked for him to do some work in the forest to rehabilitate a section of it – you know, plant and re-plant stuff, because of a 'spill'. It turned out that where they asked him to do it, there actually hadn't been a spill. It was just window dressing...

Arthur: They're just contrivances.

Rebecca: So they could say this has been re-established.

Arthur: Yeah, we've got local people collecting seeds and they're re-planting areas. Well he was re-planting areas that have never been affected!

Rebecca: He had been so pro-CSG, well of course, he was then one of the first ones who then said we need a [anti-CSG] candidate!

Another participant told of an incident where they felt bullied by Santos:

we had gone out to the Pilliga Forest on a Sunday with some friends. We had a picnic lunch. One of the people accompanying our group showed us, from afar mind you, some of the Santos infrastructure in the forest. Santos became aware that we were in the forest and they proceeded to follow us. They proceeded to film us and to film the children in quite a threatening, bullying, harassing type manner. I asked them to cease filming the children. I said, 'You can film me, I have no problems with that, but I just ask you to respect the privacy of the children'. They refused to do that. You can imagine the upset that that caused to my children. I wrote to Santos after that episode, and I asked them to destroy the footage, which they refused. They also said that they did not apologise for the behaviour that we were subject to that day. It's not a pleasant experience.





Coming to a strong position against CSG was usually developed through a gradual learning about the issue via research, combined with a specific event that acted as confirmation for the individual. Incidents where participants sensed unethical treatment certainly affect how they then view any information about CSG. The impact of these incidents is felt beyond the individual level—experiences commonly transform into stories that circulate throughout the community and influence a wide array of others. In this regard, witnessing and hearing about what has happened in the recent past in Queensland and the Hunter was also positioned as a primary tipping point.

THE GHOST OF QUEENSLAND AND THE SCARS OF THE HUNTER

Witnessing and 'living through' change is central to the ways people come to an understanding of, and take a position on, changes in land use. For instance, the introduction of the cotton industry and GM crops in the local area over previous decades had lessened concern about extractive industries for some participants (see Chapter 4). For some residents, the experience of this change—where nothing 'bad' happened—creates 'familiarity through witnessing', thus reducing anxiety about the change. But for others, witnessing a possible future, by visiting areas that have previously gone through the introduction of

CSG, can prove to be a pivotal moment in the formation of attitudes to land use change.

As CSG has been in Queensland for some time, information about and experience with what has happened 'up there' loomed heavy in the background of many concerned Narrabri residents. For other participants, their personal experience comes from trips through the Hunter Valley where they saw the impacts of coal mining and could imagine the mirroring of impacts if the industry was to expand in the Narrabri Shire. As William, who is in agri-business, said:

when somebody like me flies over the Hunter Valley and sees the dirty great big holes in the ground where there should be some sensible management. It makes me cry. That's an emotive thing as much as anything.

In seeking confirmation of what might happen in Narrabri through expansion of CSG, a number of the participants had travelled to Queensland to personally bear witness to the impacts. These journeys and, subsequently the stories about these journeys, have tremendous influence

Witnessing and 'living through' change is central to the ways people come to an understanding of, and take a position on, changes in land use.

on people's attitudes. Experience becomes a measure of truth. These trips involved witnessing the physical landscape and towns, and talking to local residents. For instance, Denise, a farmer explained how she:

went up to Queensland. We had a look at this stuff and it is just so - it is massive. You'd have to be rocks in your head to want to live next door to this stuff.

The Santos-organised trips to the Pilliga and areas of Queensland are met with suspicion, especially as several participants in the trips believed that they were not shown areas that would give them 'the truth'. This was particularly palpable when comparing the Santos trips to those that were independently organised by local community members. Arthur and Rebecca explained:

Arthur: Yes, I've been on the trip [to the Pilliga].

Rebecca: Yeah, but they don't take you to anywhere where there's been any problems.

Arthur: No.

Rebecca: But a whole heap of our friends went on a bus trip up to Queensland and went to places where there had been issues.

Arthur: They just came back. They were speechless.

Rebecca: They were gobsmacked.

Arthur: There were some farmers up north of here who were quite pro-coal seam gas, and one of the guys in our group said, 'Look you just give me a couple of days and come with me.' Anyway they went and they came back so anti, because he took them to places where they could actually see the damage, whereas Santos don't.

Rebecca: Santos give you an extremely sanitised view of the world.

Many see the Queensland experience as a touchstone for the formation of their own attitudes towards CSG, and as a basis for assessing knowledge claims made by Santos about local CSG developments. Some Narrabri residents were so aghast at what they heard about or witnessed in Queensland that it haunted their visions of the future. Jenny, a white collar worker, explained how for her:

[i]t's a huge concern as to what are we going to do when they've stuffed everything. Fifty thousand mines in Australia that haven't even started to be rehabilitated and there's no money to rehabilitate them. So they're a concern when you look at it like that. The other concern is that they say that they will bring jobs, and yes that's fine. The gas will probably bring 5000

Witnessing a spill, hearing about sick children, feeling bullied or seeing contradictory pronouncements in seminars is how knowledge on a theoretical level turns to belief and practice. It transforms what people 'know' into what they 'feel'.

jobs in the first three years that it's established and then that's it. They will then go and leave us with lots of houses empty like they've done up in Queensland, where in Chinchilla they had 400 houses that were empty because the guys had left. With coal seam gas, these guys have come in, they don't live in the community except, well a few that do, but the fly in/fly outs that will be here, and they won't stay. It's not a great community industry. It doesn't gel with the community very well. Santos tell you it won't happen, but I mean it's happened in Queensland. I mean all of a sudden now all these kids are sick up there, they've got no water, they've got to truck in the water. Up there at Tara where I've been, I met six families at a little place there and all their kids were sick and had bleeding noses, some had headaches. These guys here [Santos] tried to say it doesn't happen and I said 'well if you've seen it, it's there'. They're probably six years ahead of us, six or eight years ahead us, not even that.

The gathering of facts, reports, studies, and watching news media has a strong influence on what people 'know', but seeing with one's own eyes and hearing from people who one trusts are equally important for the transformation of inclinations into attitudes. Many residents have rigorously researched the potential risks they face. In this sense, they all have 'knowledge'. But it is through witnessing and hearing stories from trusted confidantes that perception becomes belief. Witnessing a spill, hearing about sick children, feeling bullied or seeing contradictory pronouncements in seminars is how knowledge on a theoretical level turns to belief and practice. It transforms what people 'know' into what they 'feel'.

'Emotional' responses are often dismissed as being selfish, to be solved by a more 'rational' evaluation of the science, to become more 'knowledgeable'. But for many participants, it is 'rational' science that causes uncertainty. Where knowledge is politicised, requesting more rationality is futile. In a situation where individuals are left to deal with ever-more conflicting information, and where they are also aware of the politicisation of knowledge, all they are left with is a situated understanding of what is around them. As Ahmed (2014: 8) argues, 'emotions should not



be regarded as [individual] psychological states, but as social and cultural practices'.

Many of the residents of Narrabri hold deep concerns about future unforeseen manifestations of the new extractive activities; these concerns are well founded given the impossibility of 'knowing' the consequences of development until decades after they actually happen. Some residents experience a form of emotional social suffering—where one's pre-existing expectations are challenged and threatened by rapid social change, and where one is pushed and pulled by forces beyond one's control. When it comes to trying to reflexively negotiate the myriad sources of information, witnessing and circulating stories are central factors shaping one's position. These experiences then haunt all future thinking about and negotiation of potential risks.

CONCLUSION

As outlined in previous chapters, emotions are intimately tied to place and the land. One's perception of the future is also intimately tied to place: how one imagines their place; how one's livelihood and culture depends on place; and whether the stewardship of one's place is done in a way that meets basic needs such as sustainability and reciprocity (see Chapters 2, 3 and 4). This nexus of place, risk and imagined future is the background for the battle over what counts as legitimate knowledge.

The deep connection many residents feel towards their property, livelihood, and community, and their desire to see it continue for many future generations, invokes intense emotional responses

that are aggravated by the burden of having to understand the implications of new industries forming around them. This is further exacerbated by the uncertainty produced by understanding that the future is unknowable. Unpredictability is reflected in the malaise and frustration caused by a feeling that those who are in positions of power that are meant to represent, support and assist their needs have let them down (see Chapter 6).

This chapter has addressed the complexities of knowledge acquisition in terms of how Narrabri residents engage with information about the issues and risks that are developing around them. It has described how there are multiple points of view about risk that largely correspond to individuals' positions in the community. Individuals gather knowledge in a variety of ways that combine research, witnessing, experience and circulating stories. Regardless of where individuals stand on the issue of land use change, sources from the opposing side of the debate are seen as the product of vested interests and as biased. This has led to heavy scepticism throughout the community, especially towards levels of government, media coverage and resource companies. For many residents, particularly farmers, the ghost of Queensland and the scars of the Hunter Valley hang heavy over their perception about what the future entails, leaving them to despair about what is to come and feel let down by those in power around them. With this in mind, the next chapter explores community perceptions of land use governance in the Narrabri Shire and how these influence attitude formation.

Risk, trust and the politics of knowledge: key implications

Theme	Issue at stake	Local implications	Implications for government
Acquiring knowledge	Individuals garner knowledge about issues of concern through a combination of information (which comes from a wide array of sources), witnessing events, and stories from trusted others.	The assortment of contradictory information pertaining to important local issues causes confusion and conflict.	The ability to acquire and generate knowledge is held by all. Navigating through this 'knowledge maze' becomes a key task for local and state agencies. Dismissing local knowledge as myth often serves to strengthen its veracity.
Politics of knowledge	There are many sources of information that people struggle with to ascertain how changes will affect them. People must also negotiate politicised versions of knowledge and navigate the agendas of those who have the power to decide.	The sources of information that opposing sides of a debate use are often seen as the product of vested and biased interests. Local decision-makers and political representatives sometimes claim truth on behalf of a community, which does not reflect all interests.	Information provided by government sources will not be automatically trusted and is often treated with the same scepticism as all other knowledge sources.
The ghost of Queensland and the scars of the Hunter	For many Narrabri locals, particularly farmers, the ghost of CSG in Queensland and the landscape scars of mining in the Hunter affect their perception of what the future holds.	These negative exemplars are causing despair about the fate of Narrabri Shire and their own futures.	Witnessing and collective story-telling are powerful drivers of attitude development. Any contradiction between what one reads and what one experiences reinforces the 'truth' of the latter and the 'bias' of the former.
Tipping points	A tipping point occurs when small changes accumulate to the point of causing a significant shift. Perceptions of contradictions in government information, blame shifting between levels of government, not being seen to be democratically accountable and not representing locals' needs are key tipping points in attitude development.	People become politically activated when they witness events or hear stories that legitimise their position on an issue or when these contradict expectations. Members of the Narrabri farming community have reached significant levels of concern in relation to the impacts of resource operations.	Government needs to better understand the limits of communities dealing with land use impacts that have serious consequences for people's livelihoods and well-being. The validation of knowledge happens through witnessing, experience and circulating stories, in particular when people perceive unethical, inconsistent, and/or dishonest behaviour.
Emotions	'Emotional' responses are often dismissed as being irrational and childish, to be solved by a more 'rational' evaluation of the science, and the onus is on the individual to become more 'knowledgeable'.	For many Narrabri residents, 'rational' science does not adequately address the unknown (such as in relation to groundwater) or the attachments they hold to the land and their genuine fears about irrevocable damage.	Different and competing perspectives must be recognised, and emotional responses must be acknowledged in parallel with rational science.



Chapter 6

Government and governance

We didn't want to live in a mining area. We wanted to live in a farming community and that's really what it comes down to, so you can't help but feel a little bit resentful...people will blame the mining companies, but really the government allowed them to do [the] work, and you...lose faith in your democracy...it's a bit of a joke really
(Patrice, professional and farmer).

Narrabri Shire's transformation from a primarily agricultural region to one that increasingly encompasses coal mining and CSG exploration is both complex and contested. At the nexus of this transformation sits government. State and local government play a critical role in land use change at every stage of the process: establishing planning regulations and policies; assessing the relative merits of projects; determining planning applications and development consent; issuing licences; and providing services to and liaising with communities. As such, the role of government is of critical importance to locals.

In the Narrabri Shire, the State Government and the Council must navigate governance in a region of increasingly varied and competing sectors with a view to supporting the all-important principles of economic development, community well-being, food security, energy security, water security and environmental sustainability for the betterment of the Shire and NSW. Tension in the community stems from the diverse interpretations of how these principles ought to be realised.

This chapter explores participants' perspectives on government and governance in the Narrabri Shire. It considers the perceived manifestation of an urban-rural divide in government policy, planning and engagement and the observed preferential treatment of the extractive industries by governments, political actors and parties. The chapter then introduces the concept of metagovernance and considers participants'

concerns about the effectiveness of this coordination and collaboration function in the Narrabri Shire. It also explores perceptions of fairness and rigour in legislative, regulatory and policy platforms and the notion of 'two sets of rules', before addressing participant attitudes to regulatory and compliance frameworks. The chapter concludes with an overview of participants' perspectives on both government and resource company engagement, and discusses the extent to which participants feel they have a voice in matters of local significance.

GOVERNING NARRABRI

Understandably, the majority of Narrabri residents interviewed for this study expressed concerns about the future of their Shire and the role played by the different tiers of government (and elected representatives) in shaping that future. As this report shows, matters associated with natural resource management (e.g. water and soil), employment opportunities and local amenity are regarded by study participants as key issues currently shaping Narrabri. Accordingly, much of the discussion in interviews about governments and governance was tied up with tensions produced by the intensification of mining and CSG exploration in the Shire, as these activities were seen to most impact the environment and the community. Of particular importance for participants was the perceived approach of governments to land use planning in the region, coupled with the perception of bias towards extractive industries at all tiers of government. It

...much of the discussion in interviews about governments and governance was tied up with tensions produced by the intensification of mining and CSG exploration...

should be noted that the critical voices presented here are not necessarily the voice of people who oppose or are sceptical to CSG and mining. Conversely, many of those cited in this chapter are outspoken supporters of the new technology and believe the industry can contribute to the future of the Shire. They are, however, critical of the process that has been leading up to this and they are concerned about protecting the interests of Narrabri; criticisms and interests that are not contradictory to supporting the industry but rather help understand the diverse factors underpinning people's attitudes to local land use change in general and the Narrabri Gas Project in particular. This points to what was mentioned in Chapter 1, where we point to the complexity of the issues at stake and how a yes/no division is misleading and distracts from the complexity underpinning people's attitudes to land use change.

THE URBAN-RURAL DIVIDE

Underpinning participants' attitudes to governance in Narrabri is the perception of an urban-rural (policy) divide (Hogan and Young 2015). The idea of such a divide is increasingly apparent where energy and export demands come face-to-face with traditional farming communities. Criticism of the NSW Government by study participants was commonly founded on the belief that decisions were made from a city-centric position without much thought for impacts on rural people, especially where mining-related impacts were concerned.

For instance, Daniel, a local farmer, stated: 'I mean, they certainly don't want wells and coal seam gas in the middle of Sydney'. Another farmer, Caitlin, asked:

[a]re we the guinea pigs? Are our families second class citizens?...Why are the residents of Sydney, why is their health protected but we here in the Narrabri Shire don't deserve, or aren't deserving of the same protections?

Indeed, the concept of a ' beleaguered rural' being exploited by a 'powerful urban' was pervasive across the participant sample. This sentiment points to a perception by members of the Narrabri community (particularly from the farming sector) that the government sets different agendas and priorities for rural and urban populations. This has an adverse effect on local attitudes to

...a perception by members of the Narrabri community (particularly from the farming sector) that the government sets different agendas and priorities for rural and urban populations.

government approaches to land use planning, and has contributed to the contemporary rise of farmer activists, and new allegiances between landholders and conservationists who traditionally have not acted collectively (Colvin, Witt and Lacey, 2015; and see Chapter 2 of this report on 'Unlikely Alliances').

In Narrabri, the idea of the urban-rural divide was reflected in the concept of the 'Sandstone Curtain', referring to the Great Dividing Range. This metaphor was evoked by several participants to represent the physical and symbolic barrier that exists between a Sydney-based State Government and the people of Narrabri. The Sandstone Curtain is seen as a service delivery and communications barrier for government. Moreover, participants view it as a 'screen' whereby government can approve potentially damaging land uses that would never be permitted in the metropolitan areas, thus allowing impacts in rural areas that are not felt by those in the 'decision-making seat in Sydney'.

PREFERENTIAL TREATMENT AND PARTISANSHIP

Many participants also expressed concern that mining and gas interests are favoured over agricultural interests at all tiers of government and, correspondingly, that resource companies have more influence over government decision-making than farmers. This was largely attributed to the allure of associated state revenue along with potential employment growth and economic multipliers for the Shire. The NSW Government and the Narrabri Shire Council were seen as being closely aligned to coal and CSG companies and several participants saw this alliance clouding planning policy, decision-making and debate on the subject. Even many of those strongly advocating for the expansion of extractive industries related concerns about the influence of the sector on governments. Caitlin contended that the perception that government favours mining companies over communities is engendering strong mistrust in government and compelling locals to disengage on important issues:

I think there's also the view that government, and that's all levels of government, including local government, has been complicit in that people have become disenfranchised and disengaged with the process of government because they believe that the government is there to represent the interest of the extractive industries rather than the people who elected them to represent them...Certainly our local council are very pro coal seam gas and they are not listening to the landholders who are going to host this industry. They are not listening to us and representing our

The NSW Government and the Narrabri Shire Council were seen as being closely aligned to coal and CSG companies and several participants saw this alliance clouding planning policy, decision-making and debate on the subject. Even many of those strongly advocating for the expansion of extractive industries related concerns about the influence of the sector on governments.

concerns...It's as if the government is there to serve the interests of the industry.

Nathan, a cropper and grazier, was of the opinion that royalties from mining had been influential in government decision-making and garnering government support. He stated that:

it's extractive industries development at any cost, anywhere. That's what our elected representatives, that's how they see that they're going to fund and feed and clothe us is by royalties. Unfortunately agriculture doesn't pay royalties directly to a state government. Mining does.

Murray, a fourth generation Narrabri farmer, agreed and wondered whether:

they [State Government] just see dollar signs... It's a lot easier to get money out of royalties from a company than it is to get tax from a farmer who's not making an income. When you've only got to deal with one or two entities versus seven or eight hundred whinging farmers...It's a lot easier for the government to just get a royalty cheque and that sort of stuff from the coal mines.

Regardless of whether these statements about mining royalties are valid or not, they capture a widespread sentiment espoused by agricultural stakeholders in the Narrabri Shire that, as farmer Daniel put it, 'government is run by corporations'. A number of study participants gave examples to explain how they had arrived at the conclusion that government was too closely aligned with mining interests. For instance, Carl cited the oft-told story of government 'closing off the Pilliga forest' as an example of how much influence industry has over government, whilst Holly mentioned the presence of the 'Santos prospectus and advertising kit' in the Shire Council building as 'evidence'.

Concerns about Narrabri Shire Council's explicit support for CSG exploration were consistently raised in the interviews, with Vera, a retired grazier, noting that 'within our Shire, Council are very pro [CSG]' and Rhonda, a public servant stating that:

I can't speak for them, but my feeling was that there was a desire to try and retain young people within the shire and to have those additional employment opportunities, and in some ways, given that rural industry was in a bit of a decline at the time, Council probably thought this was a great opportunity; but I suppose I was just a bit surprised by the way in which it was embraced so wholeheartedly and that there wasn't more questioning around what perhaps some of the ramifications might be for the community.

The attribution of preferential treatment for coal and gas companies was extended beyond governments to individual political actors and political parties. Several participants conveyed a sense of 'partisanship' on the part of elected representatives when it came to coal and CSG interests. Criticism was levelled at the 'overt support' offered by the key political actors in the Shire to mining companies.

Again, Vera stated that:

our local member, has come out, our national member [that is], and stated in our faces that he is very pro-CSG...because he just says its jobs, jobs, jobs.

William, a local business owner, also expressed concerns about the alignments of local representatives:

...there's no debate involved. There is a strong opinion on one side. I frankly think the council should be allowing the...they should or could be the people who genuinely allow the debate to have an unbiased hearing. They're not. They're allowing the debate to be aired, but it's a very strong positive debate on behalf of the mines.

Sandra, a Baan Baa farmer, spoke more broadly of the connection between individual political actors and resource companies and the impact this has on her faith in politicians:

you get very cynical because we've seen these government fellows, so many members of parliament, whatever, as soon as they finish their stint, where are they on the boards? Fossil fuel companies. So you think you're flogging a dead horse and that's how frustrated we feel.

The position of the National Party was also consistently raised, with a sense amongst some participants that the party had given up on its traditional support for farmers and the agricultural sector and shifted its weight behind further expansion of coal and CSG with the promise of regional jobs and economic growth. Narrabri Shire sits in a National Party stronghold with both State and Federal MPs and the current shire mayor all being members of the party. Whilst some participants upheld the virtues

of the National Party and its representation of local people—including Gina, a farmer, who stated ‘thank god [for the Nationals]...I think that they’re definitely a voice and they are in tune with farmers’—many of the farmers interviewed expressed a loss of support for the Nationals at all levels of government. According to Hope, a consultant:

[t]he message pretty loud and clear from the National Party at a state and federal level is that coal and CSG are a good idea, they will help us...it will be a great solution to everyone’s problems and so whoever has ambitions to rise in that environment has to tow the line.

Carl, a retired farmer and businessman who has lived in Narrabri all his life, shared a similar belief:

[m]y thoughts are, and a lot of other people, that the National Party connections throughout federal, state, [and] local government is what’s driving the agenda for Narrabri...I think the agenda from all governments is to progress the coal and gas industries irrespective of community thoughts or wants or needs or long-term any thought put into it, short-term gain, long-term loss...the emergence of the industries has been forced upon us.

Offsetting the criticisms of current governance practices, several participants (most notably those identified as key stakeholders/decision-makers in the Shire) expressed support for the approach of the Council in balancing community representation with laying the groundwork for the coal and CSG industries. Narrabri Shire Council was perceived by many as doing the ‘best it could’ to establish a development-conducive environment given its limited decision-making and planning powers. These participants saw Council’s role as being fraught; that is, the growing land use conflict around CSG had placed Council in a difficult position where it was destined to upset a large section of the community no matter which stance it took (supporting or opposing CSG). Such positive reflections on the role of government were less apparent when referring to the NSW State Government—although there was some recognition (largely from those supportive of coal and CSG) of the State Government’s efforts in

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These concerns were not exclusively expressed by those in opposition to extractive projects but were shared across the majority of the study sample—including by those overtly supportive of the intensification of extractive activities in the Shire.

community engagement and providing stability for industry in advancing projects.

That a multiplicity of views on the role of government exists is not unique to Narrabri. Nevertheless, the findings of this study demonstrate that the majority of participants believe that government decision-making is removed from the realities of rural life and that government is too closely aligned with extractive industries. These concerns were not exclusively expressed by those in opposition to extractive projects but were shared across the majority of the study sample—including by those overtly supportive of the intensification of extractive activities in the Shire. The implications of these concerns for attitude formation are where divergence occurs: for those opposing further expansion of coal and gas projects, the perception of an urban-rural divide and the preferential treatment of industry produces mistrust and disillusionment in government; for those in support, an attitude of acceptance manifests where participants see the practicalities of governing and ensuring economic development logically leading to city-centric and preferential governance. Besides the consensus over an urban-rural divide and government alignments with industry, accord was also apparent in the concerns that participants had over the coordination of government activities, both between the State Government and the Shire Council and within the State Government itself. These concerns will be explored below.

METAGOVERNANCE: COORDINATION AND COLLABORATION ACROSS GOVERNMENT

For those participants directly involved in local government or state government agencies, much of the discussion of governance dynamics in the Narrabri Shire centred on the issue of coordination between and within tiers of government. Brian, who is involved in local government, believed that land use issues

in Narrabri often stemmed from problems at the ‘interface between federal, state, local government’ where the ‘State Government needs to do more in terms of pulling everyone together’. These sentiments were echoed in the interviews with a number of other public sector employees, including John who suggested that the ‘State Government needs to pull everyone under the one tent’ and Henry who wondered whether ‘the situation in Narrabri might have been less hostile had they [NSW Government] got their departments on the same page’.

These reflections point to a perceived failure to adequately coordinate the planning and engagement functions of government. In this report, we use the term ‘metagovernance’ to encapsulate this coordinating function. Metagovernance might be thought of as the ‘government of governance’ (Bell and Park 2006: 63); that is, the frameworks and practices that provide ‘oversight, steering and coordination of governance arrangements’ (Bell and Park 2006: 66). Metagovernance includes the frameworks that establish: authority and hierarchies in governing across the tiers of government; how resources are allocated; communications and engagement protocols; information sharing; capacity building; and, any functions that set the parameters for planning and service delivery within and between governments.

Metagovernance, in this sense, has both a vertical function (coordination and collaboration between the tiers of government) and a horizontal function (coordination and collaboration across government departments). Participants in this study expressed a strong concern about the effectiveness of vertical integration between

the State Government and Narrabri Shire Council and horizontal integration across State Government departments. This perceived ‘lack of metagoverning’ (Cheshire, Everingham and Lawrence 2014: 337) is explored further below.

VERTICAL INTEGRATION: COORDINATION BETWEEN COUNCIL AND THE STATE

Governance arrangements between the NSW State Government and Narrabri Shire Council were a prominent theme in interviews with key stakeholders from the public sector. There was a general consensus across this participant cohort that the Council was left in limbo when it came to key land use decisions and planning functions, and yet it was best placed to represent local interests and engage the community. Oliver, a key stakeholder, claimed that:

the State Government are overruling the authority of the Local Government...So why should we have dropped our standard just to let the coal industry in? The State Government said, ‘matters of state significance we’re going to take over.’ Now they did not put that to Council, because I’ve been on Council...Matters of state significance have been taken up by the State. They are making rules, they’ve taken planning rules away from us, taken laws away from us, and dropped them in Macquarie Street in Sydney. Now that’s serious...Why should we have let the State Government take away our planning laws when in actual fact they can’t do it?

The notion that local governments are ideally placed to adopt a more prominent role in

Governance and metagovernance

Governance ‘describes the institutional arrangements, both formal and informal, through which the state interacts with other stakeholders’ (Eversole and Scholfield 2006: 321). Whilst the term has come to be used in myriad ways, such as the popular use of ‘corporate governance’ in organisational settings, the original and prevailing use of the term is to encapsulate the processes of governing between the state and civil, institutional and corporate society. Given the plethora of processes involved in governing, coupled with the stratification of government into spatial tiers (e.g. local, state, national), the success of governance is largely dependent on the effective coordination of government actions and actors. This coordination function we call metagovernance. As Bell and Park (2006: 66) note:

[m]etagovernance implies that the state should play a key role in the oversight, steering and coordination of governance arrangements, that it play a role in mobilising the requisite resources used in governance, and that it takes prime carriage of legitimacy and accountability issues in relation to governance arrangements. Metagovernance is necessarily a key function of the state because it alone has the ability to assign the rules and resources on which all forms of governance depend.

Metagovernance includes the structures that institute authority, resource allocation, engagement protocols, and service functions both between and within tiers of government.

The notion that local governments are ideally placed to adopt a more prominent role in land use governance was a notable feature of interviews with key stakeholders.

land use governance was a notable feature of interviews with key stakeholders. Fred, another key stakeholder, argued that controversial rural land use matters are not handled well by the State Government primarily because local government is shut out of the process. He contended that:

they [State Government] not set up for community engagement and they are not set up for advocacy, so any major change you need community engagement so that you can tell them what's going on and consider their beliefs and then you need advocacy, so when you've made a decision, leaders advocate why it's the right decision. State Government aren't set up well to do that on a regional basis. They can do it on a state basis, but they don't do well regionally. So the engagement and the advocacy for open cut mining and for coal seam gas in this region has been done badly by the state. And the ones who could do community engagement and advocacy—mainly the shires—were not involved. The state didn't involve them and say, hey look we can't handle this, can we have your help? They didn't do that.

Rhonda, a NSW Government public servant, discussed the importance of coordination between the tiers of government (vertical integration) and her intention to work cooperatively with local government, but noted that this intention was not realised:

government at all levels needs to be involved with local government planning. So you'll understand from your own research that the way in which the legislation works is different now and you know, local government has to do its 10 year plans and they have to include a social element in there. I think I always had the best of intentions of, you know, feeding into local government planning processes and a lot of the time, due to time constraints, we just didn't do it, our team. Almost have to be mandated. But I think that you need all levels of government in the room to plan constructively for a community otherwise you get duplication and you get inefficiencies.

The participants' reflections on land use governance reveal a kind of 'bureaucratic void', in which the Narrabri Shire Council had relatively little authority or decision-making power but was burdened with various engagement and negotiation functions, which are central to the

governance of new extractive projects. This 'governance in the gaps' scenario (Eversole and Scholfield 2006) arises out of the failure to establish a framework for integrated planning, engagement and service delivery across the tiers of government. Consequently—whilst performing a critical role at the interface between the state, the private sector and the community—local government operates without any institutional arrangements that assign responsibilities and accountability. The concerns of participants in this study around fragmented governance between state and local governments are echoed in the research of Cheshire, Everingham and Lawrence (2014: 334-335), who note that governance problems arise from the 'limited status ascribed to local government as a legitimate stakeholder in proposed mining developments'; thus leaving councils, particularly in NSW, with the 'same status as any other concerned citizen in environmental and social impact processes, which makes it difficult to strategically plan'.

Furthermore, several participants believed that the Shire Council—a body traditionally oriented towards the governance of agricultural practice and rural lands—was relatively inexperienced in matters of extractive industry governance. With little assistance or knowledge sharing from the State Government or other jurisdictions, the Council was consequently fated to make errors in community engagement and planning negotiations. Brian, an influential local stakeholder, noted that 'the Council was handed a ticking time bomb and didn't know how to diffuse it'. He added that 'it was really the first time we had to deal with this degree of bitterness and attention around a planning development [with the introduction of CSG exploration]'. Brian suggested that 'many mistakes were made' but that these could have been mitigated or avoided had 'the government [NSW] and other councils who have dealt with these issues' provided guidance in navigating major land use change.

With the escalation of coal mining activities and advent of CSG exploration in the Shire, the breakdown in metagovernance between the State Government and Narrabri Shire Council has generated issues for effective community

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The breakdown in horizontal integration was largely positioned as a communications problem, but there was also some insinuation of inherent discord between the objectives of various agencies. This was seen to impact the consistency of the State Government's response to land use issues in the Shire, particularly in relation to policy development, planning assessment and stakeholder engagement. Several participants spoke about the consequences of poor coordination and collaboration, and cited failings in leadership for allowing community resistance to grow. As Michael, a key stakeholder, contended:

[i]t's very change resistant in a country town. So you've got to lead, got to step up, get ahead of it. Make decisions, tell people why you've made the decisions, make sure they're based on independent research and facts and then people will eventually see the benefits of it.

The failure to adequately coordinate the planning, engagement and leadership functions of government has, according to participants of this study, very real consequences for governance outcomes in a situation of land use conflict—such as that facing Narrabri with the growth of extractive activities. Given that governments operate at 'the intersection of both state and civil society' (Cheshire, Everingham and Lawrence 2014: 331), any deficiencies in metagovernance frameworks undermine efforts for tailored and consistent planning and engagement, which can consequently engender mistrust and confusion in the community (see Chapter 5 regarding the issues of knowledge and trust).

HORIZONTAL INTEGRATION: COORDINATION BETWEEN STATE GOVERNMENT DEPARTMENTS

Participants also reflected on fragmentation within the NSW Government and the perceived lack of coordination between departments (horizontal integration). There was general agreement from interviewees in the public sector that NSW Government agencies had no effective overarching coordination framework (metagovernance) to ensure collaboration across departments and consistency in engagement with external parties.

As noted, for Henry this requirement for a more coordinated approach from the NSW Government across its departments was about being 'on the same page'; for John it was about pulling together 'under the one tent'; and for Fred it was about 'inter-departmental communication'. Some of the key State Government agencies involved in land use planning and assessment were seen to not work together effectively to deliver optimal outcomes for NSW, industry and communities.

REGULATION, PLANNING AND PERCEPTIONS OF FAIRNESS

This section explores attitudes to regulation, planning and the role of government. Many participants expressed a strong sense that there are two sets of rules around land use; one set governing farmers and the other set governing resource companies, with the farmers invariably coming off second best. The findings of this study also suggest that some participants are concerned about the practical outcomes of planning regulations and feel that locals are doing the government's job by monitoring extractive projects and their perceived non-compliance.

Several participants spoke about the consequences of poor coordination and collaboration, and cited failings in leadership for allowing community resistance to grow.

TWO SETS OF RULES

When exploring attitudes to governance of land use in the Narrabri Shire, the discussion invariably came back to participants' perceptions of fairness and rigour in legislative, regulatory and policy platforms. Those supportive of coal and CSG extraction generally felt that the planning assessment process was too cumbersome for proponents, whilst those in opposition felt the process was firmly stacked in favour of proponents and not rigorous enough. This latter group also contended that 'two sets of rules' existed: one for the resource companies and one for everyone else. The concept of inherently unfair planning laws and processes—or, at least, unfair application of those—featured prominently in interviews with farmers, who believed that they face much stricter enforcement of planning and environmental rules than the mining companies do.

Murray, a farmer, felt aggrieved at the perceived unfairness in the application of land use regulation:

I've got no sympathy for the extractive industries really...Maules Creek Mine went and knocked over 4000 hectares of scrub, I can't even knock over a tree. You know and then they go and buy farms that have got trees on them to offset the trees they knocked over; well those trees were already there when they bought the farm to offset the trees they knocked over, so the trees were already there but it seems like one set of rules for one group of people, another set of rules for another group of people and that sort of rubs me the wrong way.

Carl, also a farmer, connected the concept of 'two sets of rules' with the perceived failure of governments to enforce the licence conditions of extractive operations. Carl linked the unfair application of regulations to broader imbalances in the distribution of costs and benefits from extractive activities (for more discussion of cost-benefit perception and reciprocity, see Chapter 4). He noted:

there seems to be two sets of rules. One for the mining industry and please, because we don't have coal mines out our way, the only – and I've had very little contact with them, but I've had a lot of contact with the coal seam gas industry, there are two sets of rules. One to suit them, one to suit us but ours are more rigidly enforced...and this is what's really annoying us. We don't get any financial benefit from them in any way shape or form. We have to fight for them to stick to their rules and regulations if they damage the roads and everything like that, but of course what the other thing that annoys us is that the townies and those that don't live in

Those supportive of coal and CSG extraction generally felt that the planning assessment process was too cumbersome for proponents, whilst those in opposition felt the process was firmly stacked in favour of proponents and not rigorous enough.

the area, are the ones getting all the so called benefits and want all the so called benefits from the CSG industry. You know, in my mind it should be spent out where they're actually digging the bloody stuff up from.

The sense that extractive industries are 'getting away with' breaches of environmental regulations whilst farmers face strict enforcement featured prominently in the interviews with farmers and others connected to agriculture through family, friends and the stories that circulate through the community (see Chapter 5 for more on the function of circulating stories in the community). For example, Rebecca, a professional, stated that:

one of the things that really bugs me about coal seam gas and coal mining is the fact that they have unlimited use of water and our farmers don't. Some of our farmers are actually quite close to the Pilliga and they are petrified about what might happen. I think you would find that most people don't realise how much water coal uses. This town is always on water restrictions.

For others, perceived imbalance and unfairness in the planning system is most apparent in the planning assessment process for major projects. Paul, a retired agriculture consultant, addressed this by citing the NSW Gateway Process. He expressed scepticism over the Gateway Panel, which was established as an independent, scientific committee that assesses development on strategic agricultural land:

[s]o when the government did this they were going to set up this gateway committee and what that means is if you're on strategic agricultural land which is high value land and someone comes along with a proposal to mine that, coal or coal seam gas, whatever, they will have to go through the Gateway Panel. Be reviewed and...Yes. Good, okay, fine. Because this was fallout from the agitation of hey stop developing our prime agricultural land...Well the Gateway Panel - it's not a gate. It's an open spot on the fence with a ramp. Either you can go through unmolested or you go through with conditions. But there is no provision to shut the gate. It's going to be approved...there's no barrier. It's called a 'gateway panel'. It's [makes whooshing sound] either go through with the gate open or go over the ramp but you're going to get through.

In contrast, several participants perceived the imbalance to be in favour of opponents to resource projects, raising concerns about government indecision in the face of opposition and the subsequent impacts on project approval and local businesses. For example, Steven, a consultant, maintained that:

we've got young people that have taken a punt on promises that this [Santos' Narrabri Gas Project] is happening. They bought equipment and they're sitting there waiting for it while these clowns, need to sign off on this...That's the major barrier and I've phoned the Premier and I've written letters saying: make a decision, yes or no and let these people...because what you're doing, you're not holding Santos up. The gas isn't going anywhere, it's still there mate. They can get that anywhere. What you're busting is the little people that have committed their life and their business and the future of their family on this thing starting...that's who they're hurting.

Steven's reflection on perceived imbalance in planning assessment contrasts strongly with the views of local farmers quoted previously. Whilst Steven—and others who saw the planning system firmly stacked in favour of opponents to coal and CSG activities—aligned his concerns with the economic impact of imbalance in the planning system, the participants who saw the cards stacked in favour of coal and gas companies were more concerned about environmental impacts, especially water, and the impacts of unfair rules on their livelihoods and identities as farmers. Similar dichotomies between supporters and opponents of extractive activities, where one side reflects on economics whilst the other focuses on the environment or what it is to be a farmer, are evident in previous chapters (around issues such as place, reciprocity and trust).

REGULATION AND COMPLIANCE

Participants from the agricultural sector also shared concerns about the real-world outcomes of regulation, and the community's role in ensuring regulatory compliance by extractive industries. Attitudes are shaped by personal experience. For some participants of this study, observing the practical results of planning regulations generated apprehension about changing land use. As farmer Nathan argued, the difficult process of navigating water entitlements, and the perceived negative impacts involved, raised questions about the intentions of government and the everyday outcomes of regulation:

I guess I'll probably just set the scene that we've been regulated into the precautionary principle. That what we are doing [as irrigators]

Attitudes are shaped by personal experience. For some participants of this study, observing the practical results of planning regulations generated apprehension about changing land use.

is generally being considered a risk and that we need to be saved from ourselves...we've had to give up water entitlements you know, that comes at an economic cost. It's been compulsorily acquired with little compensation. So that's a net loss to our working capital, our asset and so in the last...eight years since we've seen exploration licences given for coal and gas, it's a very different process for extractive industries to get a start than what it would be for any other industry and we're not seeing the same precautionary principle approach taken to extractive industries as what we are for agriculture...And so we've become very cynical; is the government really trying to environmentally look after our natural resources or are they trying to create jobs and royalties and putting at risk the very same resource they've just spent millions of dollars buying back entitlements for?

Key stakeholder Bettina believed that, whilst the regulatory environment had been simplified in recent years, the results stayed the same: the planning assessment process is more akin to an 'approvals process' whereby mechanisms to question the merits of particular projects remain elusive. As she explained:

I think there's been a fairly significant change over the last five years in terms of tidying up legislation and how it actually applies, how it practically works on the ground. But it hasn't really resulted in anyone saying 'is this appropriate to mine here? Is this appropriate to have CSG?' So there's no trigger to say 'no', as a community, and as a government, [so] we're saying 'this project should not proceed' it's really about at what point can we approve it? What level of impact do we approve this project at?

Bettina continued on this theme by noting the deficiencies in government oversight of compliance conditions for extractive projects:

I think that's really where we've learnt from, you know, the failure of conditions. So we applied that same process to coal seam gas. So I don't think they expected the same level of resistance but it was really only because of our experience with mines failing to comply, and Maules Creek is a great example. If the Maules Creek mine had been presented to the PAC process, with the level of impact that they're actually having

now that they've started mining, it would never have been granted approval. So I think what we're seeing is mines tailor their information and their assessment impact to get approval and then what happens after is then they go into adaptive management which basically means whatever level of impact they have is supposedly managed by whatever consent authority deals with the piece of the legislation. So you actually have no direct responsibility.

Bettina added that the sheer number of government bodies involved in regulatory oversight around extractive projects generated confusion and errors, and that the community was often left to take up the role of ensuring compliance with consent conditions. She noted that:

in terms of coal seam gas and mining, we've learned a lot from our experience with mining companies where the conditions fail repeatedly and that it's often left to community to do compliance. And a lot of that is actually because the legislative framework has so many different departments that are responsible for parts of different legislative acts.

The notion that compliance assessment is deficient and is often left to the community was mirrored in the comments of Nathan, who asserted that:

a lot of the monitoring and the compliance is done by the community and it's only once there's been an undeniable problem and the EPA go 'oh xxxx we need to make available some resources to go and investigate this'. They're under resourced. So you know it has to hit the media before it becomes managed.

The sentiments articulated by Nathan and Bettina were shared by a number of participants in this study, particularly those in the public and agricultural sectors. The concerns expressed about the outcomes of regulation and the fragmented compliance system point to the development of uncertainty and mistrust around the governance of extractive projects. The development of such attitudes undermines public confidence in government, and can produce feelings of a system 'out of control' and 'out of the control' of locals. These feelings are exacerbated by perceived communications failures, which are further addressed below.

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ENGAGEMENT AND CONSULTATION

The last three decades have been marked by a gradual escalation of engagement and consultation activities around land use planning, particularly for new or expanded mining projects. Governments and proponents are conscious of the almost certain land use contestation that accompanies extractive projects in regional and rural areas and, as such, have put in place compliance frameworks and engagement protocols to ensure that affected communities are included in planning discussions. For example, in NSW, prospecting titles are granted with the requirement that titleholders undertake 'adequate, inclusive and appropriate community consultation in relation to the planning for, and conduct of, exploration activities' (NSW Department of Industry, Skills and Regional Development 2016: 1). Furthermore, as part of this expectation, a 'community consultative committee will generally be required for all major new mines in NSW under the conditions of the approval by the Minister for Planning' (NSW Department of Planning 2007: 1). More broadly, the NSW Government has committed to extensive community engagement in rural and regional NSW through such channels as: the development of regional plans; the development and implementation of the Strategic Land Use Policy; and, community engagement through the planning assessment process for State Significant Developments (NSW Department of Planning and Environment 2016).

It could be argued, therefore, that contemporary land use changes occur in a context where affected communities have significant opportunity for participation in, and feedback into, the planning process. Yet, despite these engagement efforts, communities in rural and regional NSW continue to question the consultative practices of governments and whether meaningful and transparent stakeholder engagement has occurred during the planning assessment process around major projects. In this study, general consensus across the research sample was evident in the cynicism towards stakeholder engagement and local input into planning processes. The data illustrate that Narrabri residents are becoming disillusioned with government (particularly the State Government) with a nearly universal belief that their voices are not heard. Government stakeholder engagement practices are perceived as lacking substance and transparency. Many participants asserted that the voices of external stakeholders who are not part of the local social structure (but who benefit from the land use changes) are heard over those who live locally. Additionally, participants

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described feeling little control over matters of local significance, with local farmers expressing a distinct sense of marginalisation from planning processes.

Responses by Narrabri Shire residents to a question regarding communication with government over mining concerns were often pessimistic: '[i]t's merely a waste of time talking to them' stated Daniel, a local farmer. Sandra, also in agriculture, believed farmers feel 'really ignored', whilst another farmer, Tania, argued that: 'they should listen to people; they should listen to the small person. They're not listening. They don't want to listen'.

It is clear from these comments that farmers are likely to have strong reservations about government engagement processes; however, this sentiment was not exclusive to those on the land, nor was it just the perspective of those opposing coal and CSG projects (see, for example, Fred's comment earlier in the chapter under 'Vertical Integration'). Richard, a professional and advocate for extractive projects, noted that the State Government 'didn't get in early enough with talking with the community'. John, a public sector employee and supporter of local economic diversity, stated that, whilst 'to Santos' credit they invested a lot of time and money in being transparent and engaged', the '[NSW] Government could have improved its management of issues'.

John's comparison between Santos' 'effective' engagement and the State Government's 'ineffective' engagement was a feature of several interviews in this study. Positive reflections on Santos' community engagement included reference to: the friendly and helpful staff at the local office, the tours to the Pilliga, printed information, and other material available via Santos' website. Some participants did, however, express disappointment with the engagement practices of the resource companies more broadly. For example, William, a business owner, thought that:

[the mining companies] didn't start to communicate early enough...Whitehaven, for instance...they spoke to the leaders of the

community and the Council, they went and spoke to the Chamber of Commerce, but they didn't talk with the people. They did a fair bit of talking to the people, but they didn't do much talking with the people.

Participants also commonly reflected on the role of Council in engagement and communications. The perception that Narrabri Shire Council is 'pro coal and CSG', discussed in the opening section of this chapter, extended to criticism around local engagement processes. For instance, Kathy, who works in the cotton industry, recalled that 'when the council developed their Extractive Industries Policy, there was no community engagement'. Hope, a consultant, also expressed frustration with local government:

I have been personally really disappointed that our local government have just stopped asking questions...So their line is constantly, we will remain independent about this but we will constantly have dinners, information sessions, nights, meetings with Santos as the company but groups or individuals [opposing the development] don't get that same level of credibility because we're not a corporation, and it seems to me that our society puts a lot more faith in company's than it does in the individuals. Because they're worried that we'll get emotional, they say that we get emotional and therefore we can't have you at the table virtually.

Her final point about landholders becoming 'emotional' over land use issues exposes a fundamental contradiction with the aims of stakeholder engagement, whereby the perspectives of those people who are directly impacted by proposed or existing land uses are supposed to be particularly acknowledged; yet, according to this account, these perspectives are dismissed as lacking in rational and objective thinking (see Chapter 5 on the issue of what constitutes 'legitimate knowledge').

Study participants also frequently cited the Community Consultative Committee (CCC) model as either an example of effective engagement or an example of failed engagement. Since the CCC is a significant component of the State Government's engagement expectations around CSG exploration in the Shire, it is necessary to highlight the perspectives of Narrabri locals who have had dealings with the committee. For example, Holly, a parent, stated that:

I think it's condescending. The way that they set up the CCC and you've got to send your questions in through people, and then they...quite often their answers are very condescending to questions. And they don't give you the answer to the question directly...

they go 'oh see this website, see that thing.' So they're making it as difficult for people as they possibly can...That's the community consultation, that's what they call community consultation. But it's not an open meeting, it's not an open agenda.

For Carter, a Narrabri-based professional, the CCC was a basis for sound community engagement:

[t]here have been some attempts to improve it, which I think have been excellent...the coal seam gas consultative committee, I think, has been good. If for no other reason than issues that can get raised, Santos or whoever can say well hold on that has been talked about at these very meetings. So they're essential as a fall-back position. The average punter wouldn't know they existed, but I think they are essential. I'm not sure that the...you know, you've got [the pro] ten percent who jump up and down and the anti ten percent who jump up and down...and I'm not sure that those in the middle really want to get engaged. I think they're happy just to trust someone to get it right.

Carter's assertion that, for an 'apathetic majority', engagement on extractive activities is beyond their realm of concern may be correct. Indeed, in conversation with those who remained undecided on the land use debate, it became evident that many 'put their blinkers on', 'looked the other way' or 'just got on with their job'. It was often suggested that this desire to be disengaged from the land use conflict was due to the lack of a mediator between the strong, opposing voices of the debate. Many believed that this mediator role should be shouldered by the State Government and expressed disappointment with them for failing to do so. This study did not set out to assess the depth of participants' feeling on engagement. Nevertheless, the concept of 'ineffective engagement' on the part of the State Government was relatively ubiquitous in the sample, reinforcing participants' concerns about an 'urban-rural divide' and fuelling mistrust in government.

CONCLUSION

This chapter has examined participant perspectives on the role of government and the processes of governance in the Narrabri Shire. Despite clear divisions between residents on the relative merits of extractive projects, the findings on government and governance discussed here demonstrate relative consistency in views across the study sample. Whilst a few study participants shared positive reflections on the role of the NSW Government and the Shire Council in navigating the contested land use terrain, the overwhelming

It was often suggested that this desire to be disengaged from the land use conflict was due to the lack of a mediator between the strong, opposing voices of the debate. Many believed that this mediator role should be shouldered by the State Government and expressed disappointment with them for failing to do so.

picture revealed a community with concerns about city-centric policy making, alignment of government with industry, a lack of coordination between and within the tiers of government, fairness in regulation and policy, and problematic engagement and consultation practices.

These perspectives tended to fuel feelings of uncertainty, mistrust and marginalisation in the community—particularly amongst the cohort sitting in opposition to extractive industries—which may further complicate efforts by government to address community concerns.

Whilst disenfranchisement with government is a commonly held sentiment across regional Australia, the findings from the Narrabri Shire study indicate a recent fracturing of historical goodwill between locals and government, and an increasing sense of abandonment by government in the community. For government, restoring some of that goodwill will require more than information provision and public meetings; it necessitates consideration of the fundamental issues of perceived alignments and fairness that underpin community scepticism towards government at all levels on the question of land use change.



Government and governance: key implications

Theme	Issue at stake	Local implications	Implications for government
Urban-rural divide	Consensus across the majority of the sample that decisions are made from a city-centric position to the exclusion of rural issues and impacts.	Perception of the 'Sandstone Curtain' separating urban decision-makers from affected rural communities, such as Narrabri, creates feelings of isolation and disenfranchisement.	The notion of an urban-rural divide fuels suspicion of outsiders and cultivates formation of alliances to protect 'the rural', making policy development, planning and engagement in rural areas more problematic.
Perceived alignments	There is a commonly held belief that mining companies have greater influence over government than do farmers. It is said by some community members that agricultural interests are overlooked in favour of mining interests.	Community division and political activism is exacerbated by real or perceived inequities of influence. People are questioning if local debate on land use matters is being undermined by this influence.	Government should be careful to manage public perception and stakeholder relations by operating in a transparent and equitable policy arena.
Political representation is problematic	Support for extractive industries by elected National Party politicians at all tiers of government, to the perceived detriment of agricultural livelihoods and the well-being of farmers, is seen as a failure in representation and a rejection of the traditional voter base.	Political antagonisms are mounting and there is clear evidence that community division is based on those who see extractive industries as the answer to growth and prosperity and those who see the sector and its impacts as a threat to agriculture and the families it sustains.	Government could weigh up decision-making in terms of the broad range of local voices rather than accept the influence of those who claim to represent the community.
Metagovernance failures	Participant recognition of ineffective coordination of land use governance between and within the tiers of government. Local Government left in a 'bureaucratic void' despite their key governance role.	Council is left with relatively little authority or decision-making power yet is burdened with various engagement and negotiation functions that are central to the governance of new extractive projects.	State Government agencies should adopt a cohesive approach to land use planning and conflict. Failures of metagovernance undermine effective governance of land use issues.
Two sets of rules	Belief that two sets of rules exist: one for resource companies and one for everyone else (particularly farmers).	Perceptions of unfairness in the planning system create real and enduring divisions and engender mistrust and a sense of inevitability over outcomes.	Considerable work ought to be undertaken to strike a balance in regulation and policy development around competing land use interests and to ensure fair application of those rules and programmes.
Loss of faith in engagement processes	Local stakeholders have a desire to be involved in decision-making that impacts on their lives but are critical of engagement strategies used by government and/or mining and energy companies.	The ability of local Narrabri stakeholders to engage effectively with government decision-makers and/or extractive companies operating in the Shire has implications for further political action.	Government needs to address these failures by improving the arrangements and outcomes of engagement processes for community stakeholders and restoring their faith in consultative and participatory democracy.



Chapter 7

Conclusion

Land-use conflicts have some inherent characteristics that make them difficult to deal with. On the one hand, land-use decisions involve complex natural systems and processes, long time scales, and uncertainty. On the other hand, land-use decisions are often felt on the regional and local levels, which encompass heterogeneous political, cultural, and societal systems. These are often influenced by supraregional forces like globalization and broader societal trends, for example, demographic changes, and may substantially differ in their local institutional contexts (Mann and Jeanneaux 2009: 121).

As Mann and Jennueaux observe, land use change and contestation are complex phenomena that are fundamentally difficult to navigate. They are bound up with intricate local, regional and supraregional variables that give rise to unique manifestations and outcomes at each site of contention. Compounding this complexity are the distinct processes of social change and impact that are triggered by the land use change, and the socio-psychological factors that shape individuals' experience of change. As Williams and Schirmer (2012: 539) argue:

[b]eyond the complexity of land use change itself, those endeavouring to understand socio-economic impacts of rural land use change are further challenged by the different ways people experience impacts of change.

Accordingly, just as land use change is complex and multifaceted, so are people's responses to, experiences of, and attitudes to these changes.

When discussing land use change and engaging in land use planning and policy, it must first be recognised that all types of land use change—regardless of scale—will impact rural communities through subsequent positive and negative social and economic change. Second, it must be acknowledged that these changes

will be accompanied by contention and debate. While governments at all levels ultimately seek to promote positive benefits for the communities they represent, benevolent actions may be complicated by contrasting and conflicting views of stakeholders and the general public (Williams and Schirmer 2012; Schirmer 2007; Wester-Herber 2004). By better understanding the reasons and logic underpinning different views about the impacts of land use change, more appropriate responses to community concerns can be developed. This notion of diverse actors with very different perspectives aligns with the research of Walton et al. (2013: 18), whose study demonstrates the importance of thinking of a community as not simply a 'geographic location, but as a community of different interests and concerns'.

Furthermore, responses to community concerns will be advanced by exploring land uses and land use change through a holistic perspective that incorporates a comparison of current and past land uses, as well as imagined future land uses. That is, rather than focusing on public views on single land uses, 'concurrent evaluation of land uses is also important for understanding public acceptance' (Williams 2011: 56). This latter point is illustrated in the context of the present study: in order to gain a thorough understanding of attitudes to land use change within the Narrabri Shire, it is not sufficient to look at the community's views on a single land use. Local attitudes—individual and collective—are formed through diverse filters that incorporate past exposure to negative and positive impacts of land use change. The attitudes that local residents are forming to CSG, for example, are reflections of their individual biographies and the history of the Shire. It is thus necessary to adopt a holistic view that moves away from 'dichotomising discourses that separate the economic from the social or from the environment' (McManus et al. 2012: 28). The reality for local residents, farmers and others is

a lived experience of a combination of the social, economic and the environmental.

Like any vibrant region, Narrabri is a community of diverse interests and concerns. This study does, however, find a common denominator across the varied opinions and experiences that exist within the Shire; namely, a collective interest and desire to see Narrabri prosper as an agricultural community in the future. For some, land use change through the growth of extractive projects and the coexistence of diverse industries are pivotal to the realisation of such a future; for others, intensification or introduction of competing land uses such as extractive activities will be to the detriment of this future. The purpose of this study is not to assess the 'validity' of either of these discourses but rather to illustrate how and why such diverse perspectives might exist and to initiate a dialogue about how governments might address complex land use issues.

Land use change does not occur in a vacuum. It is framed by the particular social, cultural, economic, political and natural dynamics that define localities. These dynamics represent filters through which land use changes are interpreted and understood. This project has sought to better understand the process by which local attitudes to land use change are formed within the Narrabri Shire. Whilst it is difficult to encapsulate all the important outcomes from a research report of this size, some of the key findings of this study are outlined below.

KEY FINDINGS

Place matters. Conceptions of place are critical mediators of attitudes to changing land use. In Narrabri, place is connected to notions of rurality, economic diversity and harmony. Land use changes that are perceived to support or enhance such notions of place are embraced and promoted. Land use changes that are seen to threaten these visions of place—and, subsequently, local people's sense of identity and belonging—will cause tension, friction and conflict.

▪ **Implication:** Perceptions of place may be relatively consistent across a local community, but be interpreted in divergent ways. In Narrabri, the notions of rurality, economic diversity and harmony are widely-held place descriptors, but the assessment of how land use changes will affect them varies greatly. Government must work to ensure that competing visions for Narrabri are acknowledged and that place attachment is recognised as an essential part of human experience that must be taken into consideration in planning processes. Further

attitudinal research is required in other regional contexts to create a more holistic picture of place attachments to inform broader planning processes.

Water and soil are the ultimate resources that must be protected.

Water and soil sit at the top of the 'resource hierarchy'. They are essential to life and, as such, are non-negotiable and must be protected at all costs. Land uses that are believed to jeopardise these resources are perceived as a threat to the social and economic vigour of Narrabri and a threat to individual well-being. Perceived risks to water and soil represent the ultimate concern for farmers and can push them into overt opposition to specific projects.

▪ **Implication:** If water and soil are perceived as threatened by unfolding or planned land use change, resistance will exist and will become entrenched in an agricultural community. The role of water and soil as long-term resources with life-giving capacities must be recognised and incorporated into policy, planning and engagement platforms. *Community engagement strategies* that specifically address the contested risks around water and soil should be facilitated. Due to the role of witnessing as a key measure for validity, it is essential that stories from elsewhere and 'proof' brought to the table by community participants are debated and assessed. Avoiding discussion of potential water and soil impacts will leave an information/ knowledge gap that will be filled by other sources, regardless of the credibility of that source or the veracity of their information.

Attitudes to land use are shaped by spatial, moral and socio-economic variables. Whilst *spatial proximity* will commonly lead to largely negative sentiments to development (NIMBY), this is not the only driver shaping attitudes to such change. Attitudes are also tightly bound to one's relative *moral proximity* and *socio-economic proximity*. These three modes of proximity cannot be viewed in isolation and people's location in spatial, moral and socio-economic terms is not static. As one's situation changes and experiences of land use expand, so may their spatial, moral or socioeconomic distance to the activity, which in turn may act to transform attitudes.

▪ **Implication:** Policy makers and planners should not assume that spatial proximity is the ultimate determinant of attitudes to a particular land use change. Whilst the concept of NIMBY can be pervasive, the moral and socio-economic proximity of individuals to change can equally influence attitudes to new developments. Furthermore, the relative effect of the proximity is not static, meaning that changes to 'closeness' induce changes in attitudes. To

better understand how the synthesis of spatial, moral and socio-economic variables manifest and how these best can be addressed, comparison of different localities and areas is recommended. This will enable more targeted research on the issue of proximity and its influence on attitudes.

Local communities become ‘casualties of spatial proximity’. Spatial proximity is not just a determinant of individual attitudes to land use change. In Narrabri, there is a general consensus that the local community is disproportionately carrying the costs of extractive activities and are disadvantaged simply because they are at the centre of impact. There is a sense that the local community is not getting a ‘real return’ and that they are being inadequately compensated for the negative impacts the land use changes are having on the local community. A sense of unfairness is unfolding as locals feel benefits flow to stakeholders who do not bear the burden of the developments.

- **Implication:** The perceived inequitable distribution of cost and benefits leave local communities feeling disadvantaged and disillusioned. Questions of mitigation and compensation must be carefully considered in the planning assessment process. Projects should, as far as possible, build on local capacity and local expenditure. A ‘trickle down’ approach is not sufficient and distinct strategies for integration and partnership building should be developed. Further research into how to reduce the ‘fly-over effect’ is recommended.

The cultural code of reciprocity demands a fair and appropriate exchange of costs and benefits. The benefits that flow back to the community from ‘hosting’ extractive activities must be deemed just, appropriate and fair given the costs that accrue at the local level. Much of the disappointment and tension embedded in the participants’ narratives about recent land use changes reflect the sense of broken promises and disavowal of this core moral ethos. Reciprocity or ‘giving back’ is more than a question of economic flow and financial compensation; it points to an act of ‘giving,’ ‘contributing’, and ‘compensating’ that is accepted and recognised within the social norms of the community.

- **Implication:** Until proponents and governments can establish a reciprocal economic and social relationship with affected communities, conflict will escalate. To coexist, the principle of reciprocity as the articulation of everyday morality must be incorporated into strategies for compensation and mitigation of social impacts. When seeking approval and acceptance of new or expanded projects, a contractual or

relational approach—rather than transactional approach—must be adopted. Understanding what is acceptable as fair return for enduring the impacts of new developments is a key task for proponents and governments. Assumptions about ‘what the community wants’ must be replaced with rigorous assessments of what the local community deem as fair and reasonable.

Knowledge and scientific ‘truths’ are contested. The nexus of place, risk and imagined future forms a background for the battle over what counts as legitimate knowledge. Different sources regularly provide conflicting information about the risks and benefits of land use change (in particular coal mining and CSG extraction). These sources often hold specialised knowledge and are usually too technical for the average person to understand and information is commonly wound up with politics, PR and spin. The politicisation of knowledge and the subsequent uncertainty associated with technical science leads many local residents on their own fact-finding missions. Uncertainties surrounding knowledge are particularly prevalent in relation to new or novel technologies, such as CSG. The lack of local exposure to CSG underpin the ambiguities surrounding knowledge and make people look for alternative sources with which to test the validity and reliability of scientific claims.

- **Implication:** The contested nature of knowledge means that scientific analysis is not necessarily interpreted as truth but may just as easily be seen as PR or spin. The role of rigorous, independent research is essential when negotiating a contested field. Local residents believe that this is largely the role of the State Government but, as long as the State Government is seen as being disproportionately influenced by one sector over another, scepticism and cynicism to Government material will exist. *Independent advice*—underpinned by methodologically rigorous and peer reviewed research—that avoids being dismissive of local concerns is likely to assuage uncertainty in the community.

Witnessing and circulating stories hold a validating force and transform ‘gut feelings’ to ‘truths’. When the legitimacy of information and information sources are contested, *witnessing* and *circulating stories* become particularly persuasive. Witnessing refers to a commonly adopted strategy whereby local residents endorse or dismiss their evolving understanding through comparing it to what they can see with their ‘bare eyes’. Circulating stories are testimonies removed from their original source, told and retold within the community as ‘truths’. The familiarity of the source, coupled with the retelling of these stories by significant others

(friends and family), make them 'threshold stories' that are used to validate or falsify other sources.

- **Implication:** When first-hand accounts contradict technical evidence and when stories begin circulating throughout the community, 'facts' are questioned and trust builds in those espousing a contrary position. Dismissing eyewitness accounts and stories as 'myths' strengthens their veracity in the community. Witnessing and collective story-telling are powerful drivers of attitude development. Any contradiction between what one reads and what one experiences reinforces the 'truth' of the latter and the 'bias' of the former. Considering the dominating narratives within the community and understanding the social norms from which they derive will support governments in their engagement practices.

The Sandstone Curtain is a service delivery and communication barrier that shields decision makers from the consequences of their decisions.

Local residents subscribe to the notion of an urban-rural (policy) divide, symbolised by the Great Dividing Range or the 'Sandstone Curtain'. The notion of a curtain attains metaphorical force in that it not only represents the physical separation between Sydney-based decision makers and rural communities, but also illustrates the perception of governments being able to 'pull the curtain' and remain oblivious to what happens on the other side.

- **Implication:** Local people feel as if they are not adequately represented and their voices are not heard, they feel disadvantaged and disempowered. Alternative citizenship strategies, such as civil protest and campaigns, become means by which local residents assert their voices. It is recommended that a concerted effort be made to empower local decision makers in their dealings with complex and contested land use issues and to improve coordination and collaboration between the Shire Council and the State Government and across government departments (particularly with those established in the Shire).

Perceptions of preferential treatment are profuse.

The State Government and Local Council must navigate governance in a region of increasingly varied and competing sectors. Many express a sense that a bias in favour of the extractive industries is guiding decision making and there is a concern that mining and gas interests are favoured over agricultural interests at all tiers of government. Attribution of preferential treatment for the extractive industries extends beyond governments to individual political actors and parties, and a sense of 'partisanship' exists.

- **Implication:** There is a loss of trust in Local and

State Governments and elected representatives to equitably represent all stakeholder perspectives and interests. Further insight into the processes leading to perceptions of bias and partisanship is required to be able to identify strategies for how to address this. This study merely touched on these issues; further work is needed across diverse case studies to ascertain patterns of bias attribution and potential strategies to restore perceptions of balance.

Effective land use governance requires local empowerment.

The Council is seen as being in a 'bureaucratic void' in which it has limited authority or decision-making powers when it comes to critical land use changes yet is burdened with various negotiation and engagement functions that are central to the governance of new extractive projects. This 'governance in the gaps' scenario emerges from the failure to create a structure for integrated planning to ensure coordination and collaboration between tiers of government. Fragmentation can be addressed through the development of an overarching framework to coordinate planning and engagement activities. This framework should empower local governments to play a more authoritative role in land use issues and provide State Government agencies with a foundation for collaboration and consistency.

- **Implication:** A lack of institutional arrangements for assigning responsibilities and accountability impedes effective local governance of major land use change. This is particularly problematic when local government has little experience in navigating significant land use issues, such as the emergence of extractive activities in an area. Opening dialogue between the NSW Government and local councils on governance arrangements for extractive activities, and establishing a framework for knowledge sharing between councils on land use planning, will build local capacity for effective governance of contested land use issues.

New alliances are emerging within the Shire.

Many local farmers and environmental groups meet in the face of what they experience as an antagonistic other (extractive industries) that are seen to threaten their individual and collective well-being. These 'unlikely alliances' represent a relatively new form of rural citizenship by which local farmers find alternative channels to raise their voice in a political space where they feel disenfranchised and disempowered.

- **Implication:** Farmers opposing extractive activities in the Shire are expanding their traditional networks to include environmental and public advocacy groups. As distrust

and disenfranchisement builds in relation to conventional sources of representation and engagement (e.g. local government, National Party), some farmers seek alternative outlets for voicing concern and sharing and acquiring knowledge. Further research is needed to gain a deeper understanding of tipping points for individuals, the role of translocal and transnational networks in framing local debate and discourse, information sharing and knowledge generation, alliances and value orientation, the extent and nature of land use-based local conflict, and opportunities for compromise and collaboration.

COEXISTENCE AND NARRABRI

Ultimately, land use conflict is a logical consequence of having competing interests bound in a geographical space with shared natural resources. It is often assumed that attitudes to land use change in such a context are solely shaped by personal interest or political persuasion; however this is a simplistic and misleading assumption. Attitudes to land use and land use change are formed through complex interactions between perceptions of place, relative impact, proximity, reciprocity, and knowledge acquisition and trust, coupled with demographic/socio-economic drivers at the community and individual level. These variables

are wrapped in a particular natural, political and cultural setting, making land use conflict extremely difficult to manage. Nevertheless, understanding these variables and their interactions can assist stakeholders in navigating a path to coexistence.

Coexistence does not imply the absence of contest or conflict; coexistence is rooted in the ability to compromise and establish fairness in the relationship with competing land uses and other stakeholders. It is about balancing new developments with notions of place, advancing independent and transparent knowledge and information systems, integrating principles of equity in the cost-benefit exchange, building local capacity and authority, and paying adequate attention to the issues that concern local residents. In Narrabri, many of these foundations for coexistence have been prudently maintained across decades of significant agricultural land use changes. With the expansion of coal mining and the emergence of CSG extraction, these foundations have been shaken. Consequently, it is the responsibility of all stakeholders to re-establish balance, integration and partnerships across the Narrabri Shire and to align land use and industry planning with community expectations, conceptions of place and interests. Establishing open dialogue to determine what these expectations, conceptions and interests are—and how various land uses correspond with them—is the logical first step to coexistence.

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