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# CSIRO survey of Community Wellbeing and responding to change:

## Western Downs region in Queensland

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## Important disclaimer

# Preface

This report presents the findings from the second stage of a three year project entitled "Impacts of Coal Seam Gas mining on communities in the Western Downs: How features, resources and strategies of a community affect its functioning and well-being" (or the *Community Functioning and Wellbeing Project*). The Western Downs local government area in southern Queensland is in the Surat Basin where most of Australia's coal seam gas (CSG) reserves can be found and where most CSG development activity is presently taking place.

The Community Functioning and Wellbeing Project is one of a suite of projects examining social conditions of coal seam gas communities in the Western Downs. It compliments other projects examining the demographic changes in the region and the communities' aspirations for the future.

The first stage of the Community Functioning and Wellbeing Project, conducted in 2013, investigated how communities were responding to change in the context of a rapidly expanding CSG industry. Using a case study approach, it centred on the town of Chinchilla and surrounds in the Western Downs (WD) region. This second stage, in 2014, focuses on *measuring* community functioning and wellbeing across the whole Western Downs region using a representative survey of residents.

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# Acknowledgments

The *Community Functioning and Wellbeing Project* was funded by the Gas Industry Social and Environmental Research Alliance (GISERA). GISERA is a collaborative vehicle established to undertake publicly-reported independent research addressing the socio-economic and environmental impacts of Australia's natural gas industries. The governance structure for GISERA is designed to provide for and protect research independence and transparency of funded research. See www.gisera.org.au for more information about GISERA's governance structure, funded projects, and research findings.

The telephone survey was conducted on behalf of CSIRO by Q&A Research, see http://qandaresearch.com.au

# Executive summary

***Aim:*** The aim of this research was to investigate community wellbeing and responding to change in the Western Downs Region, an area which has seen major development in coal seam gas. The key topics were community wellbeing, community resilience, the expected level of future wellbeing; and the attitudes and feelings towards coal seam gas development in the region.

***Method:*** Attitudes and perceptions were collected from a representative sample of 400 randomly selected residents in the Western Downs region using a survey design, telephone interviews and quota sampling. The sample comprised residents that lived in town and out of town and that identified with one of four major communities within the region: Dalby, Chinchilla, Miles, and Tara.

***Benefits of the research:*** The research provides rich data that can be used by policy makers, community groups, community leaders, and coal seam gas companies to enhance community wellbeing and resilience processes in the Western Downs region of southern Queensland, Australia. The data provides opportunity to support and enrich the region as follows:

- Identifies those areas of wellbeing and resilience that residents believe are functioning at unfavourable or unsatisfactory levels
- Identifies the most 'important factors' underpinning wellbeing and resilience now and in the future
- Provides a depth of analysis for more targeted interventions and improved outcomes for different segments of the community in need of support, based on social and geographic characteristics
- Provides the region with baseline data, which can be used for goal setting and measuring progress of interventions

***Key findings and conclusions:***

**Current wellbeing is robust but there are concerns for the future:** Although wellbeing in the region was robust (3.82 out of 5) and higher than many other regions in Queensland, some aspects of wellbeing and resilience were cause for dissatisfaction to residents. Moreover, at present Western Downs communities feel they are on a downward trajectory with expected future wellbeing (3.62 out of 5) being less than current wellbeing. Findings indicated that 50 % of residents expect their wellbeing to decline.

**The need to invest in wellbeing:** Our analysis suggests that investments made in several dimensions of current wellbeing and resilience could lead to a more optimistic outlook for the future. Most notably, addressing **roads**, **community participation in decision making**, and **management of the environment** over the long term would be intervening in three key areas of dissatisfaction relevant to wellbeing. We found that the important factors contributing to a sense of wellbeing were not the same as those that people were reporting as unsatisfactory. Whilst roads, decision making, and environmental management were cause for concern, it was **services and facilities**, **community spirit** and **cohesion**, a **socially interactive** community, and levels of **personal safety** and **environmental quality** that were the drivers of community wellbeing. These are a mix of social, physical and environmental ingredients that seem to account for a good quality of life within a community.

**Differences across the region**: Differences in wellbeing were found across the region. Tara reported significantly lower levels of overall wellbeing than the other sub-regions and was also lower on eight of the fifteen wellbeing dimensions. Employment and business opportunities were statistically higher in Chinchilla than the other regions with both Dalby and Tara indicating unsatisfactory levels for this dimension. People who lived out-of-town reported lower levels of social interaction, services and facilities, employment and business opportunities, and overall community wellbeing than in-town residents.

**Resilience actions create a positive outlook**: The research identified the importance of community resilience actions in creating a positive outlook for the future. When residents feel their community is responding to change with **good planning**, **leadership**, and **access to information** they feel more positive about the future. Moreover, when the community feels that all parties can work together, they feel even more optimistic. Although the community felt there were **good working relationships** between community groups and that they could **support their volunteers** over the long term, three areas of resilience were considered as unsatisfactory: planning, leadership, and access to information. Our research shows that together these aspects are important drivers of community resilience, which in turn contribute to wider feelings of coping within the community and a sense of wellbeing into the future. When resilient actions are perceived to be low people are less optimistic about their future and more likely to see their community as 'not coping'.

**What do people think about coal seam gas?** Most people were not enthusiastic about coal seam gas but they tolerated or accepted it. Our results indicate that more positive attitudes to coal seam gas are associated with a community feeling that they are being resilient and working together effectively to deal with changes, that the environment is being managed well for the future and that there are good employment and business opportunities. Those that believe their community is adapting and working towards something better are those that see community actions as strong.

**Opportunities to reassure residents about their future:** There are numerous opportunities to improve resilience, perceptions of trust, and reassure residents about their future including: demonstrating effective planning by working together to solve some of the bigger issues, such as roads and dissemination of information; demonstrating leadership by collaborating to initiate responses to problems and opportunities; ensuring the implementation and follow through of interventions to those pockets of lower wellbeing within the community; and to ensure adequate monitoring and rule enforcement, particularly around environmental management.

**A combined stakeholder effort:** In combination, these findings provide many reasons for all stakeholders to ensure that the community has the best opportunity to be resilient and for levels of wellbeing now and in the future to be supported. By building on strengths and attending to areas of weakness the region can strengthen its current wellbeing and build its resilience. Thus, it is in the interest of all stakeholders to work towards building wellbeing and resilience within the community.

# 1 Introduction

This report examines community wellbeing and responses to change in the Western Downs Regional (WD) local government area in southern Queensland, Australia. Community wellbeing refers to the 'quality of life' within the community and is viewed as an evaluation of important aspects or 'dimensions' of community life at a point in time. Responding to change describes the resilient responses a community undertakes when it experiences significant change. Underpinning each concept are a range of factors that influence a sense of wellbeing and community responses to change, however, these factors have been under-researched in the coal seam gas (CSG) context. Thus, the purpose of this research is to understand the factors underpinning community wellbeing and community resilience, and how these relate to expected future wellbeing and acceptance of coal seam gas. In addition, we seek to understand how these matters are influenced by social and geographic differences, such as age, gender, income levels, and location.

Adopting a survey design, this research used telephone interviews to collect data from 400 participants randomly selected across the region. The survey measured the attitudes and perceptions of residents to investigate four main areas:

1. Levels of ***community wellbeing***
2. Perceptions of ***community resilience*** or responses to the changes associated with CSG development
3. Expected levels of ***future community wellbeing***
4. An indication of ***community acceptance*** of coal seam gas development or attitudes and feelings towards coal seam gas development in the area

These perceptions were examined for differences across four communities or sub-regions within the Western Downs region (Dalby, Chinchilla, Miles, and Tara), and between town-based and out-of-town based residents. The research participants were randomly selected and quotas used to ensure that there were 100 participants from each of the four sub-regions and similar numbers of town-based and out-of-town based participants. In addition, demographic differences such as age, gender, income levels and newness to the community were also investigated.

By understanding these matters we believe that our research provides a comprehensive empirical base useful for policy makers, community leaders, service providers, and coal seam gas companies in their planning and decision making. This research makes a valuable contribution because it provides quantitative data on important aspects of community functioning and builds on previous qualitative findings. Although previous qualitative research has provided a rich and deep understanding of the issues experienced by CSG development in the region, it is unable to accurately measure the extent of the findings. This research addresses this gap by using a quantitative approach.

The report proceeds in four sections. First, relevant concepts are explained and prior research is introduced, together with our aims and research questions. The second section describes the research method including details of the sample, the survey procedure, and the measures used. The third section presents the results in five parts: levels of community wellbeing; community resilience (responding to change); expected future wellbeing; attitude and feelings towards coal seam gas development; and demographic factors (age, gender, income and newness to the community). The final section of the report is a discussion of the results summarising relevant findings and their implications for decision makers, community development, community participation, and future research.

## 1.1 Community wellbeing

A measure of community wellbeing is a snapshot in time of the perceived 'quality of life' within the community; the community as a 'good place to live' (McCrea, Walton, & Leonard, 2014). The notion of community wellbeing means different things to different people and thus a comprehensive measure of wellbeing that incorporates different '***dimensions***' of wellbeing is used to gain a deeper understanding of the various aspects of wellbeing that may influence the quality of life or happiness within the community. Drawing from the literature and previous research in the WD region, we investigated wellbeing across 15 dimensions, which in turn can be grouped into six main areas: social, environmental, political, services and facilities, economic, and health (McCrea et al., 2014). Each of these areas was measured by collecting people's judgements and perceptions about the 15 different dimensions. Figure 1 depicts the dimensions grouped into the six areas (domains). In addition to the dimensions of wellbeing, the literature suggests that place attachment is also linked to a sense of wellbeing. Place attachment encompasses the notion, not only, of attachment to the physical or natural elements of place, but also, of the social and community aspects of place. Studies have suggested that disruption to aspects of place, either physical or social elements, can result in negative emotions (grief and anxiety), place protective behaviour, and impacts on social networks and social cohesion (Devine-Wright, 2011).

*Our first aim was to understand the level of wellbeing within the community and the various factors that contribute to an overall sense of community wellbeing.*

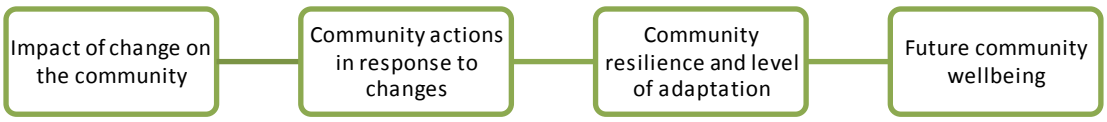
**Figure 1 Dimensions of community wellbeing grouped into six domains**

## 1.2 Community resilience: responding to change

The WD region has experienced significant and rapid change from the major economic development associated with CSG activities in the area. These changes have created both opportunities and challenges for the community from social, economic, and environmental perspectives (Measham & Fleming, 2014). Previous research identified different types of ***community actions*** that are important in helping a community adapt to change in a CSG context, for example, strategic thinking such as planning, positioning and leadership; timely access to relevant information; and cross linkages within a community (Walton, McCrea, Leonard, & Williams, 2013). Moreover, the research suggests that the way in which the community responds to the changes is linked to wellbeing within the community, see Figure 2. However, it is unclear which processes or actions associated with the responses are considered important to perceptions that the community is dealing effectively with changes. Furthermore, the extent to which community resilience responses contribute to levels of current and future community wellbeing is unclear.

*Our second aim was to understand which community actions contribute to a community effectively dealing with change, and how these actions relate to future community wellbeing*

**Figure 2 Responding to change**




In addition, research indicates that a belief that the community can work together to achieve change (***community efficacy***) is also important for dealing with change, (McCrea et al., 2014). Particular community actions may enhance community efficacy; however, trust within the community and a sense of community participation in decision making also play a part in communities working together to effectively deal with change (Walton et al., 2014; Williams & Walton, 2014).

*Our third aim was to investigate which factors contribute to a collective sense of community efficacy*

Finally, the literature suggests that responding to change can be viewed on a spectrum of types of adaptive responses (Brown & Westaway, 2011). These responses can range from resisting change, to coping, to adapting, to transforming. Resilient responses are considered those that result in outcomes beyond returning to the original state. Rather, resilient responses suggest that communities adapt and potentially transform into something different but better.

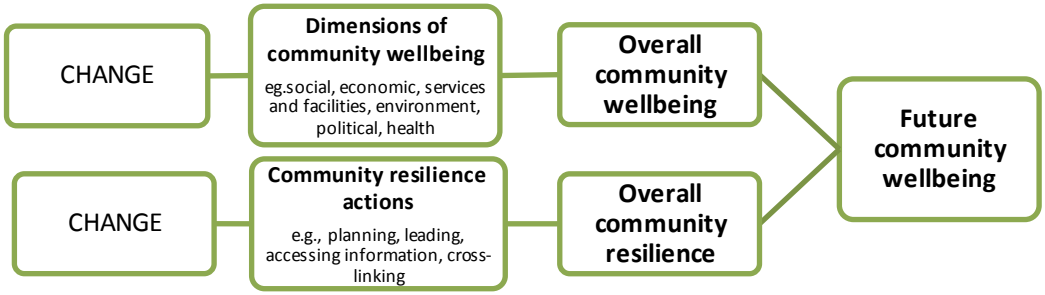
*Our fourth aim was to investigate adaptation within the community and to understand the factors that contribute to the different types of responses*

## 1.3 Future community wellbeing

In addition to measuring current perceptions of wellbeing, we also investigated expected community wellbeing in three years time, which we describe as 'future' wellbeing. As shown in Figure 3, our conceptual model suggests that a sense of future wellbeing relates not only to current levels of wellbeing but also to community resilient responses, and that if a community believes that it is dealing effectively with change, despite its current levels of community wellbeing, then its level of wellbeing for the future will be higher (McCrea et al., 2014).

*Our fifth aim was to understand what factors are linked to a sense of future community wellbeing*

**Figure 3 Explaining future community wellbeing**




## 1.4 Community acceptance: Attitudes and feelings towards coal seam gas development

Community support or acceptance of an industry's activities within a community is important to the ongoing operation of the activity. This acceptance is also referred to as a 'social Licence to operate' (SLO), whereby the industry meets the expectations of the community with regards to its actions and gains ongoing acceptance and approval (Gunningham, Kagan, & Thornton, 2004; Moffat & Zhang, 2014). Previous research conducted in a CSG region indicated that expectations revolve around aspects of community wellbeing such as affordable housing, good roads, job opportunities, sustainable businesses, water quality and quantity, maintenance of community spirit, community trust, and engaging with the community from a position of mutual respect (Williams & Walton, 2014). The importance of some of these factors to community acceptance of the CSG industry has been tested (Moffat & Zhang, 2014), but how community acceptance relates to a sense of community wellbeing and community resilience has not been demonstrated empirically. This research addresses this gap.

*Our sixth aim was to understand how a sense of community wellbeing and perceptions of community resilience relate to attitudes and feelings towards CSG development.*

## 1.5 Research questions

From the aims underpinning this research, this study addresses eight main research questions grouped into four areas.

***Community wellbeing***

RQ1. What is the level of current wellbeing within the Western Downs region, and how does this vary across the region; for example, according to residential location, age, gender, and income?

RQ2. Which aspects (dimensions) of wellbeing are most important to an overall sense of community wellbeing?

***Community resilience***

RQ3. What are the perceptions of the community's actions that have been taken to deal with change associated with CSG development in the region, and which actions are the most important?

RQ4. Which factors contribute to a belief that the community can work together to deal effectively with change?

RQ5. How does the community perceive it is adapting to the impacts of change, and how does this vary across the region?

RQ6. What factors are linked to different types of responses?

***Future community wellbeing***

RQ7. What is the expected level of future community wellbeing, and what factors explain a sense of wellbeing in the future?

***Community acceptance of CSG development***

RQ8. What are the attitudes and feelings towards coal seam gas development in the region, how do they vary, and what factors explain these views?

# 2 Method

The research used a survey approach to investigate perceptions of community wellbeing, community resilience and attitudes towards coal seam gas within the Western Downs local government area of south-west Queensland (see Figure 4). The survey was conducted during February of 2014 and the data collected using telephone interviews. A third party research company was employed to conduct 400 completed computer assisted telephone interviews (CATI) using a database of regional telephone numbers to randomly select participants. The survey took approximately 25 minutes to complete and all recruitment, selection and survey procedures adhered to Guidelines of the National Statement on Ethical Conduct in Human Research. The research was also in accordance with the ethical review processes of the CSIRO.

**Figure 4 Western Downs region**


Source: http://www.wdrc.qld.gov.au/services/regional_maps.shtml#region

## 2.1 Sample

Participants were recruited through a third party social research company, which used a database of regional landline and mobile telephone numbers to randomly select participants based on predetermined selection criteria and quotas. These criteria required participants to be 18 years old and reside in the Western Downs region. Three quotas were used to ensure a representative sample was obtained that reflected ABS population statistics for the region (ABS, 2011) on age, gender and employment (see Table 1).

In addition, equal quotas were set for the four sub-regions (100 in each) and for those living in towns versus surrounding areas (50:50) to ensure sufficient sample sizes for comparisons between them. This selection was achieved through screening questions embedded within the survey.

**Table 1 Profile of sample: percentage comparisons with ABS statistics**

| Sample demographics | Sample percentages | ABS 2011 population census percentages |
|---|---|---|
| Aged 18 - 34 years | 24 | 27 |
| Aged 35 – 54 years | 42 | 38 |
| Aged 55 plus | 34 | 35 |
| Male | 51 | 52 |
| Employed | 65 | 65 |

There were four subregions: Dalby, Chinchilla, Miles, Tara, and each were defined by specific postcodes as outlined in Table 2. Note that the Dalby sub-region included residents from Jandowae and surrounds, and that the Miles sub-region included residents from Wandoan and surrounds. There were 196 participants who were town-based residents, and 204 participants who lived out of town. Most of the sampled residents living out of town owned a farm (63.2%), though approximately a third did not (36.8%). Most town-based residents did not own a farm (89.3%) but a small number of residents living in town did own a farm (10.7%).

**Table 2 Definition of sub-regions by postcodes**

| Sub-regions | Postcodes | Number of participants |
|---|---|---|
| Dalby | 4404, 4405, 4408 | 100 |
| Chinchilla | 4410, 4411, 4412, 4413 | 100 |
| Miles | 4415, 4416, 4419, 4424, 4425 | 100 |
| Tara | 4406, 4421, 4422 | 100 |

The response rate for the survey was 25.6%, which is reasonable for random telephone surveys. To check whether survey participants were more likely to accept or reject CSG activities in the region, interviewers were asked to rate each participant on their interest in the survey from 1 'very uninterested' to 5 'very interested', and this was tested for an association with their attitude toward CSG activities in the region. However, no significant association was found ($r_s$ = .05; $p$=.32). Together with the demographics shown in Table 1, the sample was considered representative of residents in the region.

## 2.2 Procedure

All participants undertook a telephone interview that lasted approximately 25 minutes. The survey proceeded in five parts. The initial part of the survey included screening questions for the survey and quota selection, informed consent procedures, some demographic questions and a question asking participants which one of six local communities within the Western Downs region they felt most part of. This identified community became the subsequent reference for all questions relating to 'community' throughout the survey. The second part of the survey investigated perceptions of community wellbeing including fifteen different aspects (dimensions) of wellbeing, an overall sense of wellbeing and expected future wellbeing, each with their own set of questions. The third part of the survey measured perceptions of community responses to changes associated with CSG development (community resilience). The fourth part measured participants' attitudes and feelings towards coal seam gas development, and the final section gathered demographic data. Each participant answered 119 questions (items) including two screening questions. At the end of the survey participants were offered to enter a draw for a prize of a $50 gift voucher as gratitude for completing the survey. Twenty five participants were randomly selected to receive vouchers.

## 2.3 Measures

Perceptions of community wellbeing, community resilience, and personal attitudes and feelings towards CSG development were measured using multiple items for each section. The items were developed from an extensive literature review, including qualitative research in the CSG field (Walton et al., 2013; Williams & Walton, 2014), and community wellbeing and resilience research (Christakopoulou, Dawson, & Gari, 2001; Forjaz et al., 2011; Morton & Edwards, 2013; Onyx & Leonard, 2010; Sirgy, Widgery, Lee & Yu, 2010; Walton et al., 2013), with some items adapted for the CSG and rural context.

In most instances, respondents were asked to respond to a question stem using a scale from 1 to 5 where 1 was the least and 5 was the most. Participants were either asked to indicate how much they agreed with a statement, or how satisfied they were with the issue in question. The agreement scales ranged from 1 = strongly disagree to 5 = strongly agree, and the satisfaction scales ranged from 1 = very dissatisfied to 5 = very satisfied. In addition, there were two open ended questions that required short responses, and the demographic questions required participants to choose the most accurate category.

Measures for each section and scale development are outlined as follows. The specific items are detailed in Appendix A.

### Community Wellbeing Measures (79 items)

Community wellbeing was measured in three ways: 1) fifteen different *dimensions of wellbeing* using multiple items for each dimension, 2) an *overall community wellbeing* measure using five items, and 3) a *future wellbeing* measure comprising two items. All multi-item measures were tested for 'internal consistency' or reliability using Spearman's *r* for two-item measures and Cronbachs' alpha for measures with three or more items. Separate scales were developed for each dimension of community wellbeing, for overall community wellbeing, and for future wellbeing by averaging the score of the items within the respective scale. The reliability of all measures exceeded .70, (where reliability over .90 is considered very good, over .80 is considered good, and .70 can be considered adequate for scale development). Where an item noticeably reduced the reliability of a measure, the inconsistent item was removed from the scale. There were two items that did not scale within their theoretical dimensions: one item related to the impact of rent or mortgage repayments on your household finances; and one item related to satisfaction with job-security (if applicable). Results for these items are reported in Section 3.5.2 as miscellaneous items and in Appendix A. Table 3 details the reliability scores and scale development for each community wellbeing measure.

**Table 3 Measurement of community wellbeing dimensions**

| Measures | No of items | *Reliability* (Cronbachs' alpha) | Scale development |
|---|---|---|---|
| Dimensions | | | |
| 1. Personal safety | 4 | .77 | Items averaged |
| 2. Income sufficiency | 4 | 4 items α = .79<br>3 items α =.91 | One item[1] did not scale and was analysed separately |
| 3. Health | 7 | 7 items α = .79<br>6 items α = .81 | One item[2] did not scale and was analysed separately |
| 4. Services and facilities | 9 | .87 | Items averaged |
| 5. Built environment | 3 | .82 | Items averaged |
| 6. Roads | 5 | .83 | Items averaged |
| 7. Environmental quality | 3 | .79 | Items averaged |
| 8. Environmental management | 4 | .85 | Items averaged |
| 9. Decision making and citizen voice | 4 | .82 | Items averaged |
| 10. Employment and business opportunities | 3 | .84 | Items averaged |
| 11. Community spirit | 4 | .89 | Items averaged |
| 12. Community cohesion | 3 | .88 | Items averaged |
| 13. Community trust | 6 | .84 | Items averaged |
| 14. Community participation | 4 | .89 | Items averaged |
| 15. Social interaction | 4 | .79 | Items averaged |
| Overall community wellbeing | 5 | .86 | Items averaged |
| Expected future wellbeing | 2 | .75$^{r}$ | Items averaged |
| Place attachment | 4 | .84 | Items averaged |

*Note:* [1] the item 'your rent or mortgage repayments impact greatly on your household finances'; [2] the item 'satisfaction with your job security (if applicable)'; *r* = Spearman's correlation coefficient.

### *Description of items*

See Appendix A for exact wording of each item

***Personal safety*** asked how much residents agreed it was safe for various activities at night (to be alone at home, walk outside, or leave the car on the side of the road) as well as how safe they felt living in the area overall (items Q11_A to Q11_D in Appendix A).

***Income sufficiency*** asked how much residents agreed that their household income was enough for household expenses and the lifestyle they enjoy, as well as their overall satisfaction with their income covering their living expenses. Another item asked about how much rent or mortgage repayments impacted on their household finances; however, this item was not included in the income sufficiency scale because it reduced this measures reliability (i.e. it did not highly correlate with the other three items; see items Q12_A to Q12_D).

***Health*** asked about satisfaction with diet and eating habits, exercise habits, physical and mental health, job security, as well as overall satisfaction with their health and wellbeing. However, an item for satisfaction with job security (if applicable) was not included because it reduced the reliability of the health scale (see items Q13_A to Q13_G).

***Services and facilities*** was measured as satisfaction with local schools, child care facilities, sports and leisure facilities, food and other shopping, medical and health services, and community support services, as well as overall satisfaction with services and facilities in their local community (items Q14_A to Q14_I). In addition, residents were asked to suggest 'the single most needed service or facility' for their community, which was an open ended question not included in this measure.

***Built environment*** asked about satisfaction with cleanliness in their town, parks and gardens, and satisfaction with the general appearance of their town (see items Q15_A to Q15_C).

***Roads*** asked about satisfaction with the condition of and safety on the roads, and the amount of traffic on the roads, both in and around their town, as well as satisfaction with the roads overall (see items Q16_A to Q_16E).

***Environmental quality*** asked about pollution and their satisfaction with the level of dust, noise, and the overall quality of the general environment in their community (items Q17_A to Q_17C).

***Environmental management*** asked residents to think about the natural environment and how satisfied they were with quality of underground water for the future; nature reserves for the future; sustainability of local farming land for the future; and the overall management of the natural environment for the future (items Q18_A to Q18_D).

***Decision making and citizen voice*** asked residents to think about how decisions are made affecting their local community and surrounds. It asked how much they agreed that the council keeps them informed; there are opportunities to be heard; and the CSG companies involved local residents in their decisions; along with an overall rating on their satisfaction with how decisions are made affecting their community (see items Q19_A to Q19_D).

***Employment and business opportunities*** asked how much residents agreed that there were good job opportunities and that local businesses had done well out of CSG development, as well as their satisfaction with employment and business opportunities in their local area (items Q20_A to Q20_C).

***Community spirit*** asked residents how much they agreed that people can rely upon one another for help; have friendly relationships; can work together if there is a serious problem; as well as an item on their overall satisfaction with community spirit in their local area (items Q21_A to Q21_D)

***Community cohesion*** was about inclusiveness in the community and asked resident how much they agreed that their local community was welcoming of newcomers; welcoming of people of different cultures; and their community includes everyone no matter who they are (items Q22_A to Q22_C).

***Community trust*** asked residents about levels of trust in their local area relating to: community leaders; people generally around their local area; the Western Downs Regional Council; CSG companies; and State Government; as well as overall satisfaction with levels of trust in their local area (items Q23_A to Q23_F).

***Community participation*** asked residents how much they agreed that they: regularly helped out a local group as a volunteer (e.g., once a week); attended several community events in the past year; were an active member of a local organisation or club; and overall, regularly participated in a variety of community activities (items Q24_A to Q24_D).

***Social interaction*** asked residents about their everyday interactions with people, other than those they lived with. It asked how much they agreed that they regularly visited someone's home; went out together socially; spoke or texted on the phone; as well as their overall satisfaction with their level of social interaction locally (see items Q24_A to Q24_D).

***Overall community wellbeing*** asked residents how much they agreed that their community was suitable for young children, teenagers, and for seniors, as well as how much they agreed their local area offered a good quality of life overall, and that they were happy living in their local area (see items Q25_A to Q25_E)

***Expected future wellbeing*** asked residents to imagine what their local area might be like in three years time and how much that agreed that their area would offer a good quality of life and that they would be happy to be living in their local area (see items Q25_A and Q25_B).

***Place attachment*** was measured by asking residents how much they felt they belonged to their local area; whether they would be pleased to come back if they went away; would like to be living in the area in 3 years time; and their overall attachment to the their local area (items Q10_A to Q10_D).

## Community Resilience Measures (13 items)

Community resilience was measured in three ways: 1) *community actions*, which used eight items to measure perceptions of various community activities in response to changes from CSG development; 2) *collective efficacy*, which used two items to measure a belief in the community's ability to work together; and 3) an overall evaluation of the level of *community adaptation* in dealing with change from CSG development, measured by a single item. Table 4 summarises reliability scores and scale development.

**Table 4 Measurement of community resilience**

| Measures | No of items | ***Reliability*** *(Cronbachs' alpha)* | Scale development |
|---|---|---|---|
| Community actions (responding to change) | 8 | .92 | Items averaged |
| Community efficacy | 2 | .83$^{r}$ | Items averaged |
| **Overall community resilience** (constructed scale) | | .93 | Average of community actions and collective efficacy items |
| Community adaptation | 1 | NA | Single item |

*Note: r* = Spearman's correlation coefficient

***Community actions*** asked respondents to think about how their local community was responding to CSG development in terms of planning for the future, adequate leadership, accessing relevant information, developing key connections within the community, supporting volunteers, persevering, demonstrating good intergroup working relationships, and an overall evaluation of their satisfaction with the way the community was responding to change (Q 28_A to A28_H). Mean substitution was used for missing values on the community action items since some residents had difficulty answering these items; however, missing values on these were less than 5%.

***Community efficacy*** asked respondents to consider how well different groups (residents, government, business and resource companies) could work together to address problems or take advantage of opportunities in relation to CSG development (Q 29_ A and Q29_B).

***Overall community resilience*** was the average of community action and collective efficacy items (Q28_A to Q29_B).

***Level of community adaptation*** asked respondents their perception of how the community was dealing with CSG development – resisting it / not coping / only just coping / adapting to the changes / changing into something different but positive (Q30).

## Community Acceptance Measures: Attitudes and Feelings towards CSG development (7 items)

Attitude towards coal seam gas was measured using a single item measure and feelings towards coal seam gas was captured using 6 items – three items measured positive emotions and three items measured negative emotions. The feelings measures demonstrated high internal consistency and were combined with the attitude measure into a scale called community attitude and feelings towards CSG (see Table 5).

**Table 5 Measurement of community acceptance**

| Measures | No of items | *Reliability* (Cronbachs' alpha) | Scale development |
|---|---|---|---|
| Attitude towards CSG development | 1 | NA | |
| Feelings towards CSG development | 6 | .90 | Items averaged |
| **Community attitudes and feelings towards CSG** (constructed scale) | | .92 | Scale constructed from average of attitude and feelings items |

***Attitude towards CSG*** asked respondents to choose which best described their attitude towards coal seam gas development in their region – I reject it / I tolerate it / I accept it / I approve it / I embrace it (Q32).

***Feelings towards CSG development*** asked three items that included positively-valanced emotions and three items that included negatively-valanced emotions. Each item related to coal seam gas development and included: I feel pleased to have the coal seam gas resource boom in our region; when I look at what is happening around coal seam gas I feel optimistic; when I talk about the opportunities of coal seam gas I get excited; when I think about how much coal seam gas affects everyday life it makes me angry; when I think about how things are changing because of coal seam gas I get worried; when I talk about coal seam gas I feel sad (Q31_A to Q31_F).

### Demographic questions (19 items)

A number of demographic questions were asked at the beginning of the survey, mainly for screening out-of-scope residents and assisting with quota sampling, while the remaining demographic questions were asked at the end of the survey. These demographic variables included age, gender, location type (in or out-of-town), sub-region, employment, income, connectedness to CSG, home ownership, education, place of birth, language. The items relating to demographic variables are detailed in Appendix B.

## 2.4 Overview of analyses

Differences between means for sub-regions on the community wellbeing, resilience, future wellbeing, and community attitudes and feelings scores were tested using Analysis of Variance (ANOVA) and comparisons for in and out-of-town residents were tested using between-groups t-tests. As with all significance tests undertaken in this report, tests result were denoted as significant if the p-value was less than .05 (i.e., a less than 5% chance of saying the difference was significant when it was not).

Differences between selected demographic variables were first tested across all the community wellbeing, resilience, future wellbeing, and attitudes and feelings dimensions at the same time using Multivariate Analysis of Variance (MANOVA). This ensured that the demographic variables were significantly different on at least one of the community wellbeing, resilience or acceptance dimensions, while controlling for other selected demographic variables. Second, any significant demographic variables were followed up with ANOVAs and t-tests to identify which groups were significantly different on which dimensions.

Multiple regression analyses were used to determine the important factors contributing to community wellbeing, community resilience, community acceptance of CSG and future wellbeing. These were predicted from their underlying dimensions, items and other theoretically relevant variables. Standardised coefficients (Beta weights) were used to compare predictor variables. In addition, residuals and outliers were checked to ensure that the analyses met multiple regression assumptions.

For predicting community adaptation, a logistic regression was used since community adapting is not a continuous variable. This involved collapsing the community adapting variable into two categories: 1 = yes (i.e., adapting to the changes or changing into something different but better) and 0 = no (resisting it, not coping, or only just coping). A discriminant analysis was also used to describe which dimensions of

community wellbeing and resilience best distinguished between different types of community adaptation (i.e., resisting; not coping; only just coping; adapting to the changes; or changing into something different but better). This enabled the wellbeing and resilience dimensions to be summarised into two main factors which distinguished between different types of community adaptation without assuming one type was higher than another.

All analyses were undertaken using STATA software.

# 3 Results

## 3.1 Community wellbeing

### 3.1.1 OVERALL COMMUNITY WELLBEING

Results indicated that participants perceived moderately high levels of overall community wellbeing (M = 3.82, SD = 0.79) across the Western Downs region and that the perceived levels were highest in Dalby and lowest in Tara. Across the region, participants felt that their community was more suitable for young children and seniors (*M* = 3.88, *SD* = 1.02 and *M* = 3.89, *SD* = 0.93 respectively) and less suitable for teenagers (*M* = 3.23, *SD* = 1.11), and Tara reported, on average that their community was unsuitable for teenagers (*M* = 2.61, *SD* = 1.08). Participants who lived in towns indicated a higher sense of overall community wellbeing than participants who lived out of towns (*M* = 3.93, *SD* = 0.69 and *M* = 3.70, *SD* = 0.86 respectively). Differences in overall wellbeing based on sub-regions and location type are presented in Table 6.

**Table 6 Overall community wellbeing for WD region, sub-regions, and type of location**

| | WD region | Sub-regions | | | | Location type | |
|---|---|---|---|---|---|---|---|
| | | Dalby | Chinchilla | Miles | Tara | Out of town | In Town |
| **Overall community wellbeing** | 3.82 | 4.00 | 3.99 | 3.79 | **3.48** [L] | **3.70^** | 3.93 |
| Community is suitable for young children | 3.88 | 4.09 | 4.15 | 3.94 | **3.32** [L] | **3.69^** | 4.07 |
| Community is suitable for teenagers | 3.23 | 3.37 | 3.66 | 3.28 | **2.61** [L] | **3.10^** | 3.37 |
| Community is suitable for seniors | 3.89 | 4.10 | 3.89 | 3.76 | 3.83 | **3.80^** | 3.99 |

*Note:* Scores: 1 = lowest and 5 = highest; shading indicates unfavourable responses;
[L] Tara is significantly lower than other sub-regions; ^Out-of-Town residents are significantly lower than in-town residents

***Comparisons with other Queensland regions:*** Taking three of the items from the overall community wellbeing measure, wellbeing in the Western Downs compared favourably to levels found in similar measures in another Queensland based survey. *The Community Wellbeing Indicators: Measures for Local Government* (or LGAQ survey) investigated wellbeing in communities in Queensland including 'rural', 'south east Queensland (SEQ') and 'all of Qld' categories (Morton & Edwards, 2013). Their report for 2013 found that 56.5% of Queensland residents (all of Qld) thought their community was suitable for young children (i.e., a score of 4 or 5 out of 5) compared to 70.2% in our survey for the Western Downs (see Table 7). The responses were also more favourable for teenagers and seniors in our survey. When compared to SEQ, Western Down had more favourable responses for young children and seniors, though the difference was not statistically significant for teenagers. Finally, compared to rural areas in Queensland, Western Downs had more favourable responses for teenagers and seniors, though not significantly higher for small children. Table 7 details the comparisons for rural, SEQ and all of Queensland areas of the LGAQ survey with this present survey of the Western Downs. The exact wording of the LGAQ items and the comparable items used in this present study are found in Appendix C.

**Table 7 Comparing the WD Region with Queensland: Percentage of favourable responses for three wellbeing measures**

| | LGAQ survey | | | CSIRO survey |
|---|---|---|---|---|
| | Rural | SEQ | All Qld | WD region |
| Community is suitable for young children | 63.40 %<br>(N = 93) | **54.40 %*****<br>(N = 239) | **56.50 %*****<br>(N = 468) | 70.20 %<br>(N = 396) |
| Community is suitable for teenagers | **27.20 %****<br>(N = 92) | 40.50 %<br>(N = 240) | **31.60 %*****<br>(N = 468) | 43.50 %<br>(N = 395) |
| Community is suitable for seniors | **54.50 %****<br>(N = 99) | **60.80 %****<br>(N = 243) | **57.10 %*****<br>(N = 490) | 70.00 %<br>(N = 397) |

*Note:* Scores: Bold face denotes significantly lower results compared to CSIRO survey; ** p < .01; *** p <.001

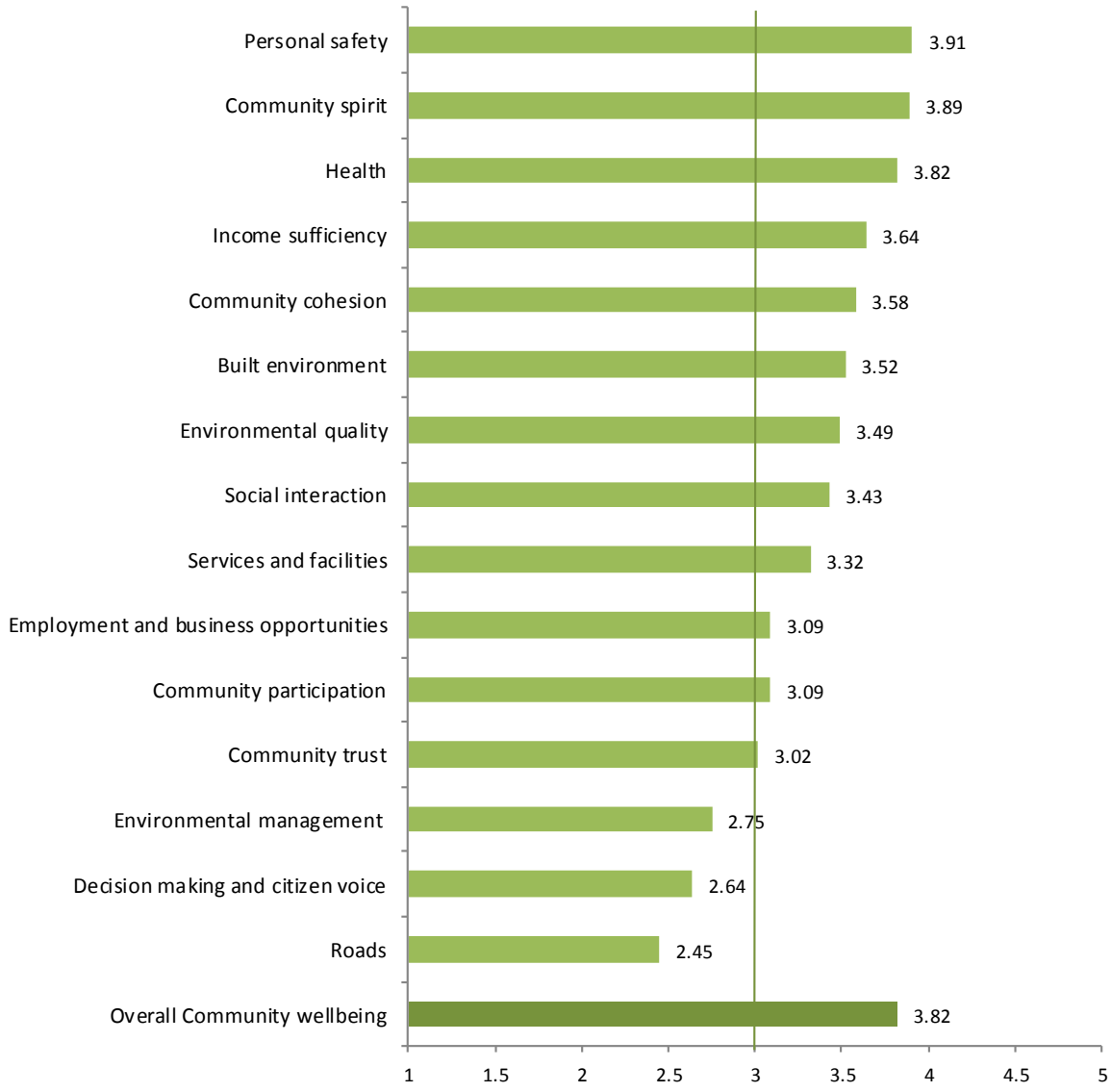
### 3.1.2 DIMENSIONS OF COMMUNITY WELLBEING

Participants reported favourable levels of wellbeing for twelve of the fifteen dimensions that were used to comprise community wellbeing. The three dimensions that were most positively perceived were personal safety, community spirit and health (see Figure 5). Participants were very satisfied with their feelings of personal safety in the area that they live (*M* = 3.91, *SD* = 0.88); however, participants from Tara, unlike the other areas within the region, did not believe it was safe to leave their car by the side of the road at night (see Q11_C, Appendix A). Across the region, there was a high sense of community spirit (*M* = 3.89, *SD* = 0.80), with participants indicating that people within their community can rely on each other for help, can work together if there is a serious problem and that relationships are friendly within their community. Participants also indicated their satisfaction with their health including their diet and exercise habits, and their physical and mental health (*M* = 3.82, *SD* = 0.73), which did not vary significantly between communities within the region (see Table 8).

Three dimensions of wellbeing were negatively perceived: environmental management, decision making and citizen voice, and roads (see Figure 5). Participants were dissatisfied with the overall management of the natural environment for the future (*M* = 2.75, *SD* = 0.95), with the management of underground water quality of most concern to participants. Across the region there was dissatisfaction with how decisions that affect their community were made (*M* = 2.64, *SD* = 0.93), particularly with respect to coal seam gas companies involving local residents in their decision making (see Q19_C, Appendix A). The condition, safety, and amount of traffic on the roads (*M* = 2.45, *SD* = 0.92) was the dimension of wellbeing that participants indicated the most dissatisfaction. The dissatisfaction with roads was across the region, with participants for Tara feeling most negative about the condition of the roads and participants from Miles most negative about the amount of traffic in their community (see Appendix A).

One dimension of wellbeing was borderline, neither satisfactory nor unsatisfactory: community trust (*M* = 3.02, *SD* = 0.81). Although participants indicated higher levels of trust at the local level (local community leaders and people in general within the community), trust levels for entities beyond the local community were unfavourable, including state government and CSG companies (*M* = 2.6 and 2.6 respectively). Trust for local council was just over the mid-point (*M* = 3.05) (See Q23, Appendix A).

**Figure 5 Perceptions of community wellbeing dimensions: mean scores**




*Note:* Scores: 1 = lowest and 5 = highest

Table 8 shows differences in community wellbeing dimensions by sub-region. Tara had significantly lower overall community wellbeing than the other sub-regions and significantly lower ratings on seven of the fifteen dimensions. Miles was also significantly lower on three dimensions. Differences in the dimensions of community wellbeing were also evident based on location type: in- town versus out-of-town residents. Table 8 shows that across twelve of the fifteen dimensions, there was a trend for people who lived in towns to report higher levels of satisfaction with wellbeing than for those people who lived out of town. There were three dimensions where these differences were statistically significantly different: the level of social interactions; perceptions of services and facilities; and perceptions of employment and business opportunities.

**Table 8 Dimensions of community wellbeing for Western Downs region, sub-regions, and location type**

| Dimensions of community wellbeing | WD region | Sub-regions | | | | Location type | |
|---|---|---|---|---|---|---|---|
| | | Dalby | Chinchilla | Miles | Tara | Out of town | In town |
| Personal safety | 3.91 | 3.80 | 3.97 | **4.12** $^{H}$ | **3.74** $^{L}$ | 4.0 | 3.8 |
| Community spirit | 3.89 | 3.90 | **4.08** $^{H}$ | 3.92 | **3.66** $^{L}$ | 3.8 | 3.9 |
| Health | 3.82 | 3.76 | 3.92 | 3.85 | 3.77 | 3.9 | 3.7 |
| Income sufficiency | 3.64 | 3.58 | **3.91** $^{H}$ | 3.69 | **3.40** $^{L}$ | 3.6 | 3.7 |
| Community cohesion | 3.58 | 3.49 | **3.81** $^{H}$ | 3.61 | **3.40** $^{L}$ | 3.5 | 3.6 |
| Built environment | 3.52 | **3.72** $^{H}$ | 3.53 | **3.37** $^{L}$ | 3.45 | 3.6 | 3.5 |
| Environmental quality | 3.49 | 3.57 | 3.56 | **3.24** $^{L}$ | **3.62** $^{H}$ | 3.5 | 3.5 |
| Social interaction | 3.43 | **3.68** $^{H}$ | 3.49 | 3.39 | **3.15** $^{L}$ | **3.3^** | **3.6** |
| Services and facilities | 3.32 | **3.53** $^{H}$ | **3.59** $^{H}$ | **3.31** $^{H}$ | **2.83** $^{L}$ | **3.2^** | **3.4** |
| Community participation | 3.09 | 3.09 | 3.10 | **3.37** $^{H}$ | **2.82** $^{L}$ | 3.1 | 3.1 |
| Employment & business opportunities | 3.09 | **2.95** $^{L}$ | **3.63** $^{H}$ | **3.01** $^{L}$ | **2.76** $^{L}$ | **2.9^** | **3.3** |
| Community trust | 3.02 | 3.00 | 3.12 | 3.06 | 2.92 | 3.0 | 3.1 |
| Environmental management | 2.75 | 2.88 | 2.79 | 2.59 | 2.72 | 2.7 | 2.8 |
| Decision making and citizen voice | 2.64 | 2.76 | 2.65 | 2.50 | 2.65 | 2.6 | 2.7 |
| Roads | 2.45 | **2.63** $^{H}$ | 2.33 | **2.21** $^{L}$ | **2.61** $^{H}$ | 2.4 | 2.5 |
| Overall community wellbeing | 3.82 | **4.00** $^{H}$ | **3.99** $^{H}$ | **3.79** $^{H}$ | **3.48** $^{L}$ | **3.7^** | **3.93** |

*Note:* Scores: 1 = lowest and 5 = highest; shading indicates areas of dissatisfaction; bold font indicates significant differences in mean scores; $^{L}$ denotes a significantly lower score than $^{H}$; $^{H}$ denotes a significantly higher score than $^{L}$; ^denotes a significantly lower score than in-town residents

### 3.1.3 MOST IMPORTANT DIMENSIONS OF COMMUNITY WELLBEING

To understand which dimensions of community wellbeing contribute most to an overall sense of community wellbeing a multiple regression analysis was undertaken. This analysis is able to determine the extent to which the dimensions explain an overall sense of community wellbeing and which dimensions are the most important. Results of the regression demonstrated that in combination the fifteen different dimensions explained 54% of overall community wellbeing [$R^2$ = .56. adjusted $R^2$ = .54, $F$ (15, 370) = 31.63, $p$ < .001]. The most important dimensions contributing to an overall sense of community wellbeing were: services and facilities, community spirit, community cohesion, social interaction, personal safety, and environmental quality (see Table 9).

This means that the more satisfied a person is with the services and facilities provided in their local community, the higher their sense of community wellbeing. Similarly, when people perceived community spirit and community cohesion to be high within the community, their sense of community wellbeing was higher. The more people interact with others within their community and the higher their feelings of personal safety the greater their perception of the wellbeing of the community. Finally, the more satisfied a person is with their environmental quality (such as levels of dust and noise) the higher their sense of community wellbeing.

Interestingly, the dimensions that people felt most negative about, including roads, decision making and environmental management, did not significantly contribute to people's feelings of overall community wellbeing. Thus, even though participants felt dissatisfied with the condition and safety of the roads, the management of the environment into the future, and the ways in which decisions were made within the community, these views were not associated with decreased levels of overall community wellbeing.

**Table 9 Explaining overall community wellbeing from wellbeing dimensions: Multiple regression analysis**

| Dimensions of Community Wellbeing | Mean score | Beta[1] |
|---|---|---|
| **Services and facilities** | 3.32 | **.25*** ** |
| **Community spirit** | 3.89 | **.23*** ** |
| **Community cohesion** | 3.58 | **.19*** ** |
| **Social interaction** | 3.43 | **.14** ** |
| **Personal safety** | 3.91 | **.10*** |
| **Environmental quality** | 3.49 | **.10*** |
| Built environment | 3.52 | .08 |
| Community participation | 3.09 | .07 |
| Community trust | 3.02 | -.07 |
| Income sufficiency | 3.64 | .04 |
| Roads | 2.45 | .02 |
| Health | 3.82 | .01 |
| Decision making and citizen voice | 2.64 | .01 |
| Environmental management | 2.75 | .01 |
| Employment and business opportunities | 3.09 | .01 |

*Note:* Bold face indicates the most important dimensions for community wellbeing
*** $p < .001$; ** $p < .01$; * $p < .05$; shading indicates areas of dissatisfaction;
[1] Beta is the standardised coefficient, it is scale free and used to compare predictors

## 3.2 Community resilience: responding to change

### 3.2.1 OVERALL COMMUNITY RESILIENCE

Participants indicated modest levels of satisfaction with community responses to the changes associated with CSG development within the area (*M* = 3.16, *SD* = 0.81), and there were no significant differences across the regions or between in-town and out-of-town residents (see Table 10).

**Table 10 Overall community resilience for the Western Downs region, sub-regions, and location type**

| | WD region | Sub-regions | | | | Location type | |
|---|---|---|---|---|---|---|---|
| | | Dalby | Chinchilla | Miles | Tara | Out of town | In Town |
| **Overall community resilience** | 3.16 | 3.18 | 3.28 | 3.07 | 3.12 | 3.08 | 3.24 |

### 3.2.2 COMMUNITY RESILIENCE ACTIONS

Responding to change requires certain types of actions from within the community. Results demonstrated that whilst overall there was a reasonable level of satisfaction with the way the community was managing change there were certain components of the overall response that participants viewed as unsatisfactory (see Table 11). Planning for the future ($M$ = 2.79, $SD$ = 1.14), leadership within the community ($M$ = 2.82, $SD$ = 1.14) and access to relevant information ($M$ = 2.93, $SD$ = 1.09) were three areas that people did not agree as adequate to deal with the changes. However, participants agreed that there were good working relationships among different community groups, that volunteers could be supported, that the community could persevere over the long term, and that there were key people who could work across the community to help get things done. Finally, participants perceived that local residents, government, business and resource companies could work together to address problems and take advantage of opportunities albeit indicating only modest agreement. Community groups working together to deal with opportunity was perceived as higher than working together to deal with problems.

**Table 11 Perceptions of community resilience actions**

| Community actions | Actions | Mean | SD |
|---|---|---|---|
| **Good working relationships** exist among different community groups | Inter-group relationships | 3.69 | 0.86 |
| The community is able to **support its volunteers** over the long term | Volunteers | 3.31 | 1.01 |
| The community can **persevere** to find solutions for its problems | Perseverance | 3.30 | 0.93 |
| Local residents, government, business and resource companies: All these groups can work together to take advantage of the **opportunities** associated with CSG development | Dealing with opportunity | 3.23 | 1.07 |
| There are **key people in our community** who know the right people to help get things done | Connections | 3.20 | 1.07 |
| Local residents, government, business and resource companies: All these groups can work together to address **problems** associated with CSG development | Dealing with problems | 3.15 | 1.14 |
| The community can **access relevant information** to deal with change effectively | Information | 2.93 | 1.09 |
| There is adequate **leadership** within the community to deal with the changes | Leadership | 2.82 | 1.14 |
| There is good **planning** for the future for this town and surrounds | Planning | 2.79 | 1.14 |
| Overall I am satisfied with the way the community is responding to the changes | Overall | 3.21 | 0.96 |
| **Overall community resilience** | | **3.16** | **0.81** |

*Note:* shading indicates areas of dissatisfaction

### 3.2.3 MOST IMPORTANT ACTIONS FOR OVERALL COMMUNITY RESILIENCE

To understand which actions are most important in contributing to feelings of satisfaction with the way the community is responding to changes associated with CSG development a multiple regression analysis was undertaken. Results of the regression showed that in combination these actions were able to explain 62% of the variance in satisfaction scores [$R^2$ = .63, adjusted $R^2$ = .62, $F$ (9, 380) = 71.67, $p$ < .001]. The most important actions contributing to feelings of satisfaction with overall community responses were the existence of good working relationships among different groups, good planning, ability to support volunteers over the long term, leadership, and access to relevant information (see Table 12). This means when participants perceive there to be good intergroup working relationships, good planning and leadership, continuing volunteer support, and access to relevant information, people feel a higher level of satisfaction with the way the community is responding to the changes.

**Table 12 Most important actions contributing to satisfaction with community responses: Multiple regression analysis**

| Community resilience actions | Mean score | Beta[1] |
|---|---|---|
| **Good working relationships within and between groups** | 3.69 | **.30*** ** |
| **Planning** | 2.79 | **.21*** ** |
| **Long term support for volunteers** | 3.31 | **.17*** ** |
| **Leadership** | 2.82 | **.16*** |
| **Access to information** | 2.93 | **.12*** |
| Working together to solve problems | 3.15 | .11 |
| Perseverance | 3.30 | .08 |
| Key people to connect across the community | 3.20 | -.08 |
| Working together to take advantage of opportunities | 3.23 | -.05 |

*Note:* Bold face indicates the most important dimensions; shading indicates areas of dissatisfaction
*** $p < .001$; ** $p < .01$; * $p < .05$; [1] Beta is the standardised coefficient, it is scale free and used to compare predictors

### 3.2.4 COMMUNITY EFFICACY: WORKING TOGETHER TO DEAL WITH CHANGE

To understand which factors explain people's perceptions that local residents, government, businesses, and resource companies can work together to address problems and take advantage of opportunities associated with CSG development (community efficacy) a multiple regression was undertaken. Results of the regression showed that in combination the factors tested were able to explain 47% of the variance in collective efficacy scores [$R^2 = .48$, adjusted $R^2 = .47$, $F(9, 387) = 40.23$, $p < .001$]. The important factors that explained perceptions of collective efficacy were planning, community trust, access to information, intergroup working relationships, and support for volunteers (see Table 13). This means that that when participants perceived there to be good planning, high levels of trust within the community, access to relevant information, good working relationships between community groups, and long-term support for volunteers then participants believed that residents, government, business and resource companies can work together to manage problems and opportunities associated with CSG development.

**Table 13 Explaining perceptions of community efficacy: Multiple regression analysis**

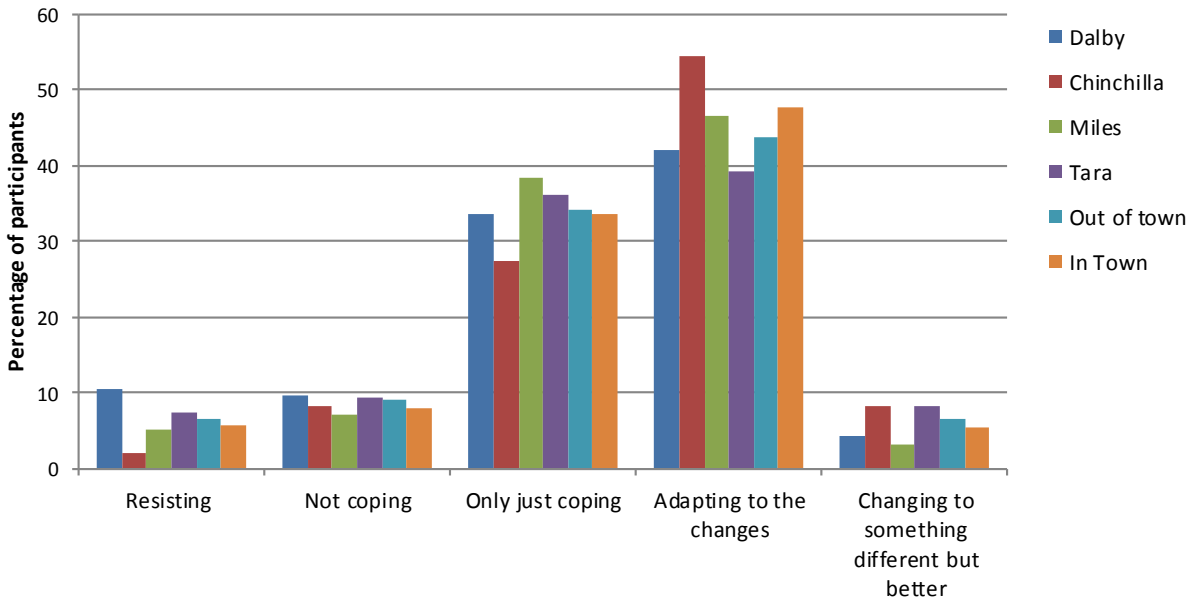
| Community actions, trust, and citizen voice | Mean scores | Beta[1] |
|---|---|---|
| **Planning** | **2.79** | **.29*** ** |
| **Community trust** | **3.02** | **.20** ** |
| **Access to information** | **2.93** | **.18** ** |
| **Good working relationships within and between groups** | **3.69** | **.12*** |
| **Long term support for volunteers** | **3.31** | **.10*** |
| Leadership | 2.82 | -.09 |
| Key people to connect across the community | 3.20 | .03 |
| Perseverance | 3.30 | .003 |

*Note:* Bold face indicates the most important dimensions; shading indicates areas of dissatisfaction
*** $p < .001$; ** $p < .01$; * $p < .05$; [1] Beta is the standardised coefficient, it is scale free and used to compare predictors

### 3.2.5 LEVEL OF COMMUNITY ADAPTATION

Participants' perceptions of how the community was responding to changes from CSG development were mixed, with most participants either viewing their community as adapting to the changes (45.6%) or only just coping (33.9%). Smaller but similar portions of the community felt that their community was either not coping or resisting change (8.5% and 6.1% respectively); however, a small group felt that their community was changing very much, in a positive direction, and transforming into something different but better (5.9%). See Figure 6.

**Figure 6 Perceptions community responses to CSG development in the area: Percentages**



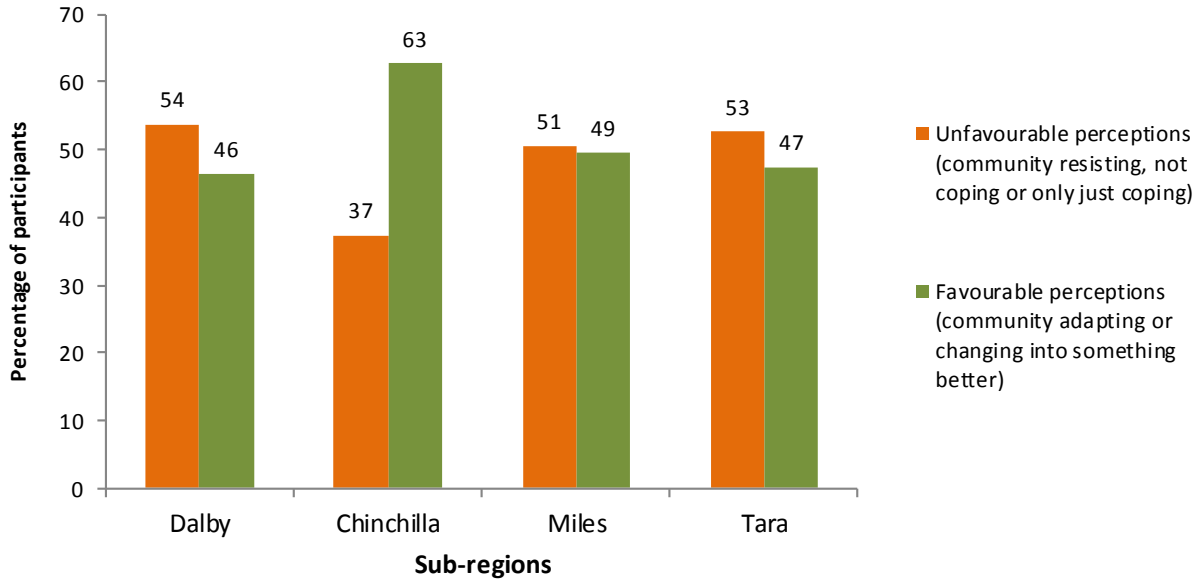

The most notable differences across the sub-regions was that perceptions of their community as one that is resisting was highest in Dalby (10.53%) and lowest in Chinchilla (2.02%); and that more people in Chinchilla saw their community as adapting to the changes (54.44%) than the other sub-regions. No significant differences emerged when place of residence (in-town and out-of-town) were compared. Table 14 displays these results.

**Table 14 Perceptions of community responses to CSG development in the area: Percentage of participants**

| | WD region | Sub-regions | | | | Location type | |
|---|---|---|---|---|---|---|---|
| | | Dalby | Chinchilla | Miles | Tara | Out of town | In Town |
| **Resisting** | 6.1 | 10.53 | 2.02 | 5.05 | 7.22 | 6.53 | 5.76 |
| **Not coping** | 8.5 | 9.47 | 8.08 | 7.07 | 9.28 | 9.05 | 7.85 |
| **Only just coping** | 33.9 | 33.68 | 27.27 | 38.38 | 36.08 | 34.17 | 33.51 |
| **Adapting to the changes** | 45.6 | 42.11 | 54.55 | 46.46 | 39.18 | 43.72 | 47.64 |
| **Changing to something different but better** | 5.9 | 4.21 | 8.08 | 3.03 | 8.25 | 6.53 | 5.24 |

To further summarise how communities were viewing their type of adaption to coal seam gas development, responses were combined into 'favourable' and 'unfavourable' perceptions. Approximately half (51.5%) of the participants felt that their community was adjusting favourably either adapting to the changes or changing into something different but better. However, the other half of the participants (48.5%) viewed things unfavourably and felt that the community was either resisting CSG, not coping, or only just coping with the changes. The most-positive perceptions as to the way their community was responding were in Chinchilla, where 62.6% of participants had favourable perceptions (see **Error! Reference source not found.**). There were no statistically significant differences between out-of-town residents and town-based residents.

**Figure 7 Perceptions of community adaptation to CSG development: percentages of favourable and unfavourable perceptions**




To investigate if the more favourable perceptions of adaptation were due to a connection of working in the CSG sector, which includes sub-contractors and some farmers, a logistic regression was conducted, which measured differences in perceptions whilst controlling for CSG sector workers. A logistic regression was used because the measure for community adaptation was not a continuous variable. The regression used the two categories of 'favourable' and 'unfavourable' responses for each sub-region as depicted in Figure 7. Results showed that when controlling for whether the respondent was a CSG sector worker or not, Chinchilla was significantly more likely to view their community as adapting favourably, but Chinchilla was not significantly higher than Miles (.61) and Tara (.59). This means that there were differences in perceptions of community adaptation in Chinchilla and Dalby irrespective of working in the CSG sector. A second effect was found when comparing those working in the CSG sector to other residents (either in or out-of-town), irrespective of sub-regions. CSG sector workers were significantly more likely to see their communities as adapting than other residents. Results of the logistic regression are detailed in Appendix D.

### 3.2.6 MOST IMPORTANT FACTORS CONTRIBUTING TO COMMUNITY ADAPTATION

To understand which dimensions of community wellbeing and resilience are important to the way the community is adapting (resisting, not coping, just coping, adapting or transforming) a discriminant analysis was conducted. A discriminant analysis identifies 'functions' or broad factors which combine dimensions of

wellbeing and resilience that best distinguish between types of adapting, without assuming that one type of adapting is higher than another.

The discriminant analysis showed that 43.2% of total variation in community wellbeing and resilience is associated with community adaptation, and it revealed two broad factors that best distinguish between different types of adapting. The first and most important factor, which we call *community functioning,* correlated most highly with community resilience actions (.77), community efficacy (.65), community trust (.64), employment and business opportunities (.63), and decision making and citizen voice (.53). The second broad factor we called social engagement which correlated most highly with social interactions (.48) and community participation (.33).

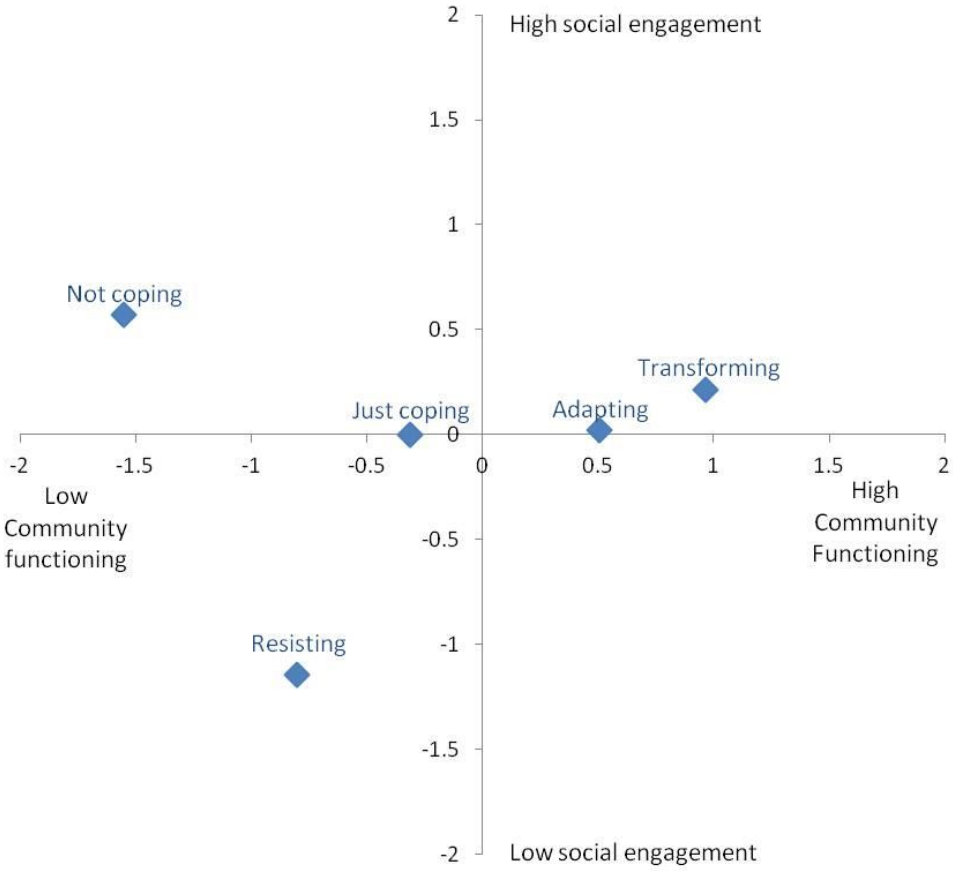



**Figure 8 Levels of adaptiveness plotted against perceptions of community functioning and social engagement**

Figure 8 shows how these two functions distinguish between the different types of adapting. Perceived community functioning was highest for residents that considered the community was adapting or transforming into something better while those who thought the community was only just coping evaluated community functioning slightly below zero or the average. Perceptions of community functioning were lowest for those who saw the community as not coping with CSG developments. Interestingly, respondents who viewed their community as resisting CSG development did not perceive community functioning as poorly as those who felt the community was not coping.

The social engagement function was best able to distinguish between those who viewed the community as not coping and those who viewed the community as resisting CSG development (i.e. the two groups with lower perceived community functioning). Relatively low levels of social engagement were associated with those respondents who viewed the community as resisting CSG development while above average levels of social engagement were associated with perceptions that the community was not coping.

## 3.3 Future community wellbeing

The expected level of future wellbeing was moderately high across the region ($M$ = 3.62, $SD$ = 1.05). Participants from Dalby indicated the highest levels of future wellbeing and participants from Miles the lowest. In general, participants expected their future wellbeing, in three years time, to be less than their current level of wellbeing ($M$ = 3.82, $SD$ = 0.79). Future wellbeing scores were statistically lower than current wellbeing scores and the effect size was medium (Cohen's $d$ = .43, where a $d$ of .20 is considered small, a $d$ of .50 is considered medium, and a $d$ of .80 is large). This finding of lower future wellbeing scores was the same for all regions except for Tara. Participants who lived out of town expected lower levels of future wellbeing than people who lived in town, and these levels were also less than their current perceived levels of wellbeing. Results are displayed in Table 15. An alternate way of viewing the decline in future wellbeing compared to current levels of wellbeing is to analyse percentages of residents that change their perceptions. Fifty percent of residents expect their wellbeing to decline, 41% expect it to stay the same, and 9% expect it to improve.

**Table 15 Future community wellbeing for the Western Downs region, sub-regions, and location of residence**

| | WD region | Sub-regions | | | | Location type | |
|---|---|---|---|---|---|---|---|
| | | Dalby | Chinchilla | Miles | Tara | Out of town | In Town |
| **Future community wellbeing (expected)** | **3.62*** | 3.82 $^{H}$ | 3.76 | **3.38** $^{L}$ | 3.54 | **3.46^** | 3.80 |
| **Overall community wellbeing (current)** | 3.82 | 4.00 $^{H}$ | 3.99 $^{H}$ | 3.79 $^{H}$ | **3.48** $^{L}$ | **3.70^** | 3.93 |

*Note:* Scores: 1 = lowest and 5 = highest; Bold font indicates significantly lower scores; $^{L}$ is significantly lower than $^{H}$;
* Future wellbeing is significantly lower than current wellbeing; ^ Out-of-town residents are significantly lower than in-town residents

### 3.3.1 MOST IMPORTANT FACTORS CONTRIBUTING TO A SENSE OF FUTURE WELLBEING

To understand how perceptions of future wellbeing relate to current levels of wellbeing, perceptions of community resilience, and place attachment a multiple regression analysis was undertaken. Results of the regression showed that in combination these factors were able to explain 62% of the variance in future wellbeing scores [$R^2$ = .62, adjusted $R^2$ = .62, $F$ (3, 394) = 215.20, $p$ < .001]. The most important factor contributing to a sense of wellbeing in the future was current levels of wellbeing, followed by perceptions of community resilience, and place attachment. However, all factors were almost equally important in explaining future wellbeing (see Table 16). This means that the more satisfied people are with their current level of wellbeing within the community and the more favourable the community perceives the way the community is responding to the changes associated with coal seam gas development the more positive they are about their future wellbeing. Similarly, the stronger their attachment and sense of belonging to the community the higher their expected level of wellbeing is for the community in three years time.

**Table 16 Explaining future wellbeing from perceptions of current wellbeing, community resilience, and place attachment: Multiple regression analysis**

| Variables | Mean scores | Beta[1] |
|---|---|---|
| **Overall community wellbeing (current)** | 3.82 | **.35*** ** |
| **Community resilience** | 3.16 | **.31*** ** |
| **Place attachment** | 4.03 | **.30*** ** |

*Note:* Bold face indicates significant dimensions; *** $p$ < .001; ** $p$ < .01; * $p$ < .05
[1] Beta is the standardised coefficient, it is scale free and used to compare predictors

## 3.4 Community acceptance of CSG development: Attitudes and feelings towards CSG development

### 3.4.1 ATTITUDES

Participants' attitudes towards CSG development in the region were mixed with most participants either tolerating (32.75%) or accepting (36.27%) CSG development. A smaller portion of participants gave their approval (14.36%) and almost equal proportions of the community either reject CSG or embrace it (8.82% and 7.81% respectively). See Figure 9.

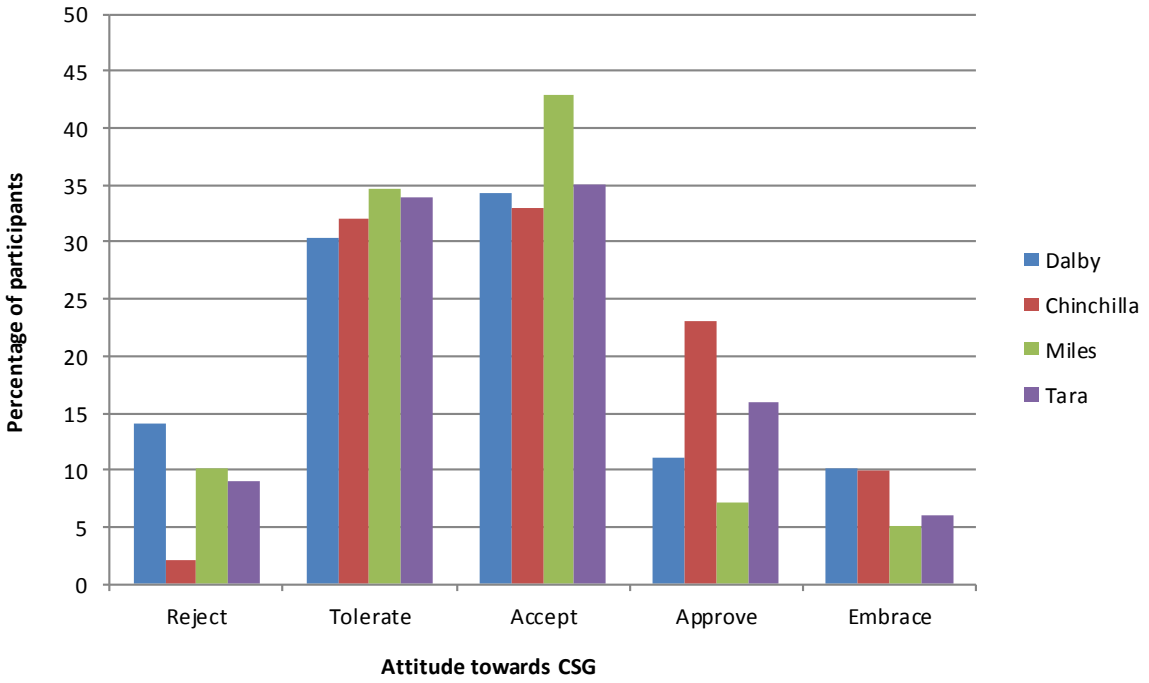



**Figure 9 Attitudes towards CSG in the region by sub-regions**

The most notable differences across the sub-regions were that Chinchilla had the highest level of approval (23%) and the lowest level of rejection (2%) than any of the other areas. At least twice as many out-of-town residents rejected CSG than in-town-residents (12.32% and 5.15% respectively), and accordingly half as many out-of-town residents embraced CSG than in-town residents (4.93% and 10.82% respectively). these results are displayed in Table 17.

**Table 17 Attitudes towards CSG: Percentage of participants who reject, tolerate, accept, approve, and embrace CSG**

| | WD region | Sub-regions | | | | Location type | |
|---|---|---|---|---|---|---|---|
| | | Dalby | Chinchilla | Miles | Tara | Out of town | In Town |
| **I reject it** | 8.82 | 14.14 | 2 | 10.20 | 9 | 12.32 | 5.15 |
| **I tolerate it** | 32.75 | 30.30 | 32 | 34.69 | 34 | 33.99 | 31.44 |
| **I accept it** | 36.27 | 34.34 | 33 | 42.86 | 35 | 36.45 | 36.08 |
| **I approve of it** | 14.36 | 11.11 | 23 | 7.14 | 16 | 12.32 | 16.49 |
| **I embrace it** | 7.81 | 10.10 | 10 | 5.10 | 6 | 4.93 | 10.82 |

### 3.4.2 FEELINGS

On average, participants' feelings across the region were mixes of positive and negative feelings so that the average score was 3, on a score of 1 to 5, with a score of 1 being the most negative and 5 being the most positive. The most positive feelings towards CSG development were in Chinchilla and the most negative were in Miles. On average, Dalby and Miles both indicated negative feelings towards CSG and Chinchilla and Tara positive feelings. Out-of-town residents on average reported negative feelings towards CSG development ($M$ = 2.83, $SD$ = 1.11) and town-based residents positive feelings ($M$ = 3.18, $SD$ = 1.04). Table 18 displays these results.

**Table 18 Feelings towards coal seam gas development in the area**

| | WD region | Sub-regions | | | | Location type | |
|---|---|---|---|---|---|---|---|
| | | Dalby | Chinchilla | Miles | Tara | Out of town | In Town |
| **Feelings** | 3.00 | 2.90 | $3.24^{H}$ | **$2.81^{L}$** | 3.05 | **2.83^** | 3.18 |

*Note:* Scores: 1 = lowest and 5 = highest; Bold font denotes significantly lower scores; $^{L}$ is significantly lower than $^{H}$;
^ Out-of-town residents are significantly lower than in-town residents

### 3.4.3 MOST IMPORTANT FACTORS CONTRIBUTING TO ATTITUDES AND FEELINGS TOWARDS CSG DEVELOPMENT

To understand which factors contribute to people's attitudes and feelings towards CSG a multiple regression was undertaken. Results of the regression showed that in combination the factors tested were able to explain 43% of the variance in the attitude and feeling scores [$R^2$ = .46, adjusted $R^2$ = .43, $F$ (17, 368) = 18.36, $p$ < .001]. Results demonstrated that perceptions of community resilience and specific aspects of community wellbeing (management of the environment for the future, employment and business opportunities, services and facilities and community trust) were most important to people's views about CSG (see Table 19), particularly community resilience. This means that when people are satisfied with the way the community is responding to change, and the management of the natural environment for the future, including the quality of underground water and the sustainability of local farming land into the future, then they feel more positive towards CSG development in the area. If they perceive that there are good job opportunities and that businesses have benefited from CSG then they are more positive about CSG development. Finally, perceptions that there are high levels of community trust also associate with

higher levels of CSG acceptance. Interestingly, people who are dissatisfied with the level of services and facilities provided in their local community are more *positive* towards CSG in their region.

**Table 19 Explaining acceptance of CSG development in the area: Multiple regression analysis**

| Contributing Factors | Mean scores | Beta[1] |
|---|---|---|
| **Community resilience** | 3.16 | **.40*** ** |
| **Environmental management** | 2.75 | **.27*** ** |
| **Employment and business opportunities** | 3.09 | **.19*** ** |
| **Services and facilities** | 3.32 | **-.19** ** |
| **Community trust** | 3.02 | **.14*** |
| Place attachment | 4.03 | -.08 |
| Health | 3.82 | -.07 |
| Roads | 2.45 | -.06 |
| Social interaction | 3.43 | .06 |
| Built environment | 3.52 | -.05 |
| Income sufficiency | 3.64 | .04 |
| Environmental quality | 3.49 | -.02 |
| Personal safety | 3.91 | -.02 |
| Decision making and citizen voice | 2.64 | .02 |
| Community cohesion | 3.58 | -.02 |
| Community participation | 3.09 | -.02 |
| Community spirit | 3.89 | -.004 |

*Note:* Bold face indicates the most important dimensions; shading indicates areas of dissatisfaction
*** $p < .001$; ** $p < .01$; * $p < .05$
[1] Beta is the standardised coefficient, it is scale free and used to compare predictors

To understand the possible impact of community attitudes and feelings towards CSG development on people's wellbeing outlook for the future, the regression was repeated adding attitudes and feelings as a second step. This addition improved the explained variance to 64% of future wellbeing scores, [$R^2 = .64$, adjusted $R^2 = .64$, $F$ (4, 393) = 176.22, $p < .001$], which was significantly different at $p < .001$. Results indicate that attitudes and feelings towards CSG are also a significant factor contributing to people's expected wellbeing in three years time (see Table 20). This means that the more positive people's feelings and views are towards coal seam gas development in the area the higher they expect their future wellbeing. Expressed alternatively, the more negative people's attitudes and feelings are towards CSG the lower their optimism for future wellbeing in their community.

**Table 20 Explaining future wellbeing from perceptions of current wellbeing, resilience, place attachment, and views towards CSG development: Multiple regression analysis**

| Variables | Mean scores | Beta[1] |
|---|---|---|
| **Overall community wellbeing (current)** | 3.82 | **.35*** ** |
| **Place attachment** | 4.03 | **.32*** ** |
| **Community resilience** | 3.16 | **.21*** ** |
| **Community attitudes and feelings towards CSG development** | 2.97 | **.17*** ** |

*Note:* Bold face indicates significant dimensions; shading indicates areas of dissatisfaction;
*** $p < .001$; ** $p < .01$; * $p < .05$
[1] Beta is the standardised coefficient, it is scale free and used to compare predictors

## 3.5 Demographic differences

Analyses of the social and geographic differences were conducted for measures of:

- dimensions of community wellbeing
- overall community wellbeing
- overall community resilience
- expected future community wellbeing
- place attachment
- community attitudes and feelings towards CSG

Eight different demographic groups were used to evaluate differences, and the demographic characteristics for each group included:

1. Sub-region – Dalby, Chinchilla, Miles, and Tara
2. Location of residence – out-of town and in-town
3. Age – younger (< 35 yrs), middle (35 – 54 yrs) , and Older (> 55 yrs)
4. Gender
5. Income - < $40,000, $40,000 – 80,000, 80,000- 120,000, and > $120,000
6. Newness to the community: 5 years or less, 6-10 years, > 10years
7. Owning a farm – Yes or No
8. Resident CSG sector workers versus other residents

### 3.5.1 DIFFERENCES BY DEMOGRAPHIC GROUPS

Table 21 summarises the significant effects of these eight demographic variables on all aspects of community wellbeing, resilience, future wellbeing, attitudes and feelings towards CSG development, and place attachment. The most common reason for differences in these measures was due to where someone lived, - the sub-regions of Dalby, Chinchilla, Miles, or Tara. The most frequent differences occurred between Tara and the other communities. In addition, living in town or out of town was also associated with differences in community wellbeing, future wellbeing, and attitudes and feelings towards CSG. The social factors such as age, gender, income, and newness to the community were associated with some differences in the underlying dimensions of community wellbeing but were not associated with any differences in expected future wellbeing.

Broadly, overall community wellbeing varied based on sub-region, living in and out of town, and age. Perceptions of overall community resilience varied based on age and farm ownership. Expected future wellbeing varied according to sub-region, living in and out of town, and farm ownership. Community attitudes and feelings to CSG varied the most across the different demographic segments including due to sub-regions, in town or out of town, income, newness to the community, farm ownership, and working in the CSG sector. In an overview of the wellbeing dimensions, there were few demographic differences in health, perceptions of community cohesion, community trust, environmental management, and decision making with most people of all demographic segments expressing similar views.

Specifically, discussion around differences associated with each demographic group follows Table 21. Although sub-regional differences and place of residence (in-town and out-of-town) differences have been discussed throughout the results, the significant effects are summarised in this section for completeness. Detailed tables for each demographic are found in Appendix E.

## Table 21 Summary of demographic differences

| Community wellbeing dimensions | WD Region | Geographic and Social differences | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Sub-regions | In-out of town | Age | Gender | Income | Newness | Owning a farm | Work in CSG |
| Personal safety | 3.91 | √ | | | √ | | | √ | |
| Community spirit | 3.89 | √ | | | √ | | | | |
| Health | 3.82 | | | √ | | | | | |
| Income sufficiency | 3.64 | √ | | √ | | √ | √ | | √ |
| Community cohesion | 3.58 | √ | | | | | | | |
| Built environment | 3.52 | √ | | √ | | √ | | | |
| Environmental quality | 3.49 | √ | | √ | √ | | | | |
| Social interaction | 3.43 | √ | √ | √ | √ | | | √ | |
| Services and facilities | 3.32 | √ | √ | √ | √ | | | | |
| Community participation | 3.09 | √ | | | | | √ | | |
| Employment and business opportunities | 3.09 | √ | √ | | | √ | √ | | √ |
| Community trust | 3.02 | | | | | | | | |
| Environmental management | 2.75 | | | | √ | | | √ | |
| Decision making and citizen voice | 2.64 | | | | | | | | |
| Roads | 2.45 | √ | | √ | | √ | | | √ |
| Overall Community wellbeing | 3.82 | √ | √ | √ | | | | | |
| Overall Community resilience | 3.16 | | | √ | | | | √ | |
| Expected future Community wellbeing | 3.62 | √ | √ | | | | | √ | |
| Place attachment | 4.03 | √ | | | | | √ | | |
| Community attitudes and feelings towards CSG | 2.97 | √ | √ | | | √ | √ | √ | √ |

*Note:* √ denotes a demographic difference. Detailed tables in Appendix E

### 1. Sub-regional differences

**Tara** reported significantly lower levels of satisfaction with eight of the fifteen dimensions of community wellbeing including personal safety, community spirit, income sufficiency, community cohesion, social interaction, services and facilities, community participation, and employment and business opportunities, with the latter three reporting unsatisfactory levels. They were also dissatisfied with planning, leadership and access to information. Residents of Tara community also reported lowest levels of overall community wellbeing and lowest levels of place attachment. On average, people who lived in Tara had mid-line attitudes and feelings towards CSG development in their region.

**Dalby** reported dissatisfaction with four of the fifteen dimensions of wellbeing including levels of employment and business opportunities, environmental management, decision making and roads. Employment and business opportunities were significantly lower than Chinchilla. Residents were also dissatisfied with planning, leadership, and access to information. They had relatively high levels of community wellbeing, and the highest levels of expected future wellbeing and place attachment, which were significantly higher than Miles and Tara respectively. On average, people who lived in Dalby had negative attitudes and feelings towards CSG development in their region.

**Chinchilla** reported dissatisfaction with three of the fifteen dimensions of wellbeing including levels of environmental management, decision making, and roads. They were also dissatisfied with planning and leadership but unlike the other regions were satisfied with levels of access to information. They reported the highest levels of employment and business opportunities compared to the other sub-regions, and higher levels of community spirit, income sufficiency, when compared to Tara. Their wellbeing was relatively high and higher than Tara. On average, people who lived in Chinchilla had positive attitudes and feelings towards CSG development in their region.

**Miles** reported dissatisfaction with three of the fifteen dimensions of wellbeing including levels of environmental management, decision making and roads, with their view towards roads the lowest in the region. They had the highest levels of personal safety and community participation. They had lower levels of satisfaction with their built environment, and their employment and business opportunities when compared to Dalby and Chinchilla respectively. Residents were also dissatisfied with planning, leadership, and access to information. Their overall wellbeing was moderately high and higher than Tara, but their expected future wellbeing was the lowest of the sub-regions and significantly lower than Dalby. On average, people who lived in Miles had negative attitudes and feelings towards CSG development in their region, which were the lowest and significantly lower than Chinchilla.

### 2. Location of residence differences

**Compared with people who lived out of town, people who live in town** reported higher levels of satisfaction with social interactions, services and facilities, and employment and business opportunities than people who live out of town. They also reported higher levels of overall wellbeing and expected future wellbeing. People who live in town had more positive attitudes and feelings towards CSG development. On average these views were favourable whereas the views of out-of-towners were unfavourable.

### 3. Age related differences

**Younger people** reported higher levels of income sufficiency and higher social interaction. Younger people feel lower satisfaction with services and facilities

**Older people** felt higher satisfaction with the built environment, higher satisfaction with the level of services and facilities, higher satisfaction with the environmental quality, higher satisfaction with the roads, higher levels of overall community wellbeing, and higher perceptions of community resilience. Older people experience lower levels of social interactions

**Middle-aged people** felt the lowest levels of health, lowest levels of satisfaction towards the built environment, lowest levels of satisfaction towards the environmental quality, lowest levels of satisfaction towards the roads, lowest levels of overall community wellbeing, lowest levels of satisfaction with

community resilience (the way the community is responding to change), lower levels of social interactions, and lowest levels of income sufficiency.

#### 4. Gender related differences

**Females,** relative to **males**, felt lower levels of personal safety, less satisfied with the environmental quality, less satisfied with the services and facilities provided within the community, and less satisfied with the management of the environment for the future. Females felt there were higher levels of community spirit, and experience higher social interactions.

#### 5. Income related differences (see Appendix E for detailed Table)

**The lowest income people** (less than $40,000) felt least satisfied with their income sufficiency, least positive about employment and business opportunities, and most negative about coal seam gas development in the region. The lowest income people felt most satisfied with the built environment and the roads.

**The highest income people** (greater than $120,000) felt most satisfied with their income sufficiency, most satisfied with their employment and business opportunities, and most positive towards coal seam gas development. The highest income people felt least satisfied with the built environment, and the roads.

#### 6. Newness to the community differences

**People who are newest to the region** (< 5 yrs) felt least satisfied with their level of community participation but most satisfied with their levels of income sufficiency and employment and business opportunities. People who are newest to the region felt the most positive about coal seam gas development and on average their views are favourable.

**People who have been in the region** the longest (> 10 yrs) felt most satisfied with their level of participation within the community, but least satisfied with their level of income sufficiency and employment and business opportunities. People who have been in the community the longest felt the strongest place attachment, which is significantly higher than people who have been living in the community for less than 5 years. People who have been living in the community for longer than 6 years reported unfavourable attitudes and feelings towards coal seam gas development.

#### 7. Farm ownership differences

**Compared with those who did not own a farm, people who owned a farm** reported higher levels of personal safety, but lower levels of satisfaction with social interactions, and environmental management. They also had lower perceptions of community resilience and expected future wellbeing. People who owned a farm had more negative attitudes and feelings towards CSG development, and on average these views are unfavourable.

#### 8. CSG sector workers and other residents

**Compared with residents who did not work in the CSG sector, residents who worked in the CSG sector** (n = 33) reported higher satisfaction with income sufficiency, and employment and business opportunities, but lower satisfaction with roads. They also reported more positive attitudes and feelings towards CSG development, and these views were favourable.

### 3.5.2 MISCELLANEOUS ITEMS: RENT AND JOB SECURITY

Two items that did not scale with any of the wellbeing measures were analysed separately: rent or mortgage impact on household finances; and satisfaction with job security.

***Rent or mortgage impact on household finances:*** a single item measure of housing stress, (which did not scale with the income sufficiency dimension) was analysed to test for any association with overall community wellbeing, attitudes and feelings towards CSG development, and income levels. The mean score

for housing stress across the region was 3.28 out of 5, with higher scores indicating more housing stress. There were no statistically significant differences among the sub-regions. Housing stress was not significantly associated with perceptions of overall community wellbeing, attitudes and feelings towards CSG development, nor low income levels. Interestingly, 78.30% of low income residents owned their own home.

***Satisfaction with job security:*** a single item measure of satisfaction with job security (which did not scale with other dimensions) was analysed to test for any association with community wellbeing and attitudes and feelings towards CSG. The mean score for satisfaction with job security was 4.01 out of 5 for the region with no statistically significant differences among the sub-regions. Satisfaction with job security was not significantly associated with perceptions of community wellbeing nor attitudes or feelings towards CSG development. However, job security was significantly associated with working in the CSG sector. Those that work in the CSG sector had lower levels of satisfaction with job security than those who didn't work in the CSG sector ($M$ = 4.11 and $M$ = 3.70 respectively).

# 4 Summary of Key Findings

This research addressed eight research questions grouped into four areas and key findings are presented around each group of research questions

## 4.1 Community wellbeing: Key Findings

**RQ1. What is the level of current wellbeing within the Western Downs region, and how does this vary across the region; for example, according to where someone lives, their age, gender, and income?**

***Overall wellbeing***

- The level of overall wellbeing was moderately robust across the region (mean score 3.82 /5)
- There was minimal variation across the subregions, although Tara reported statistically significantly lower levels than the other sub-regions
- There were differences based on location of residence (in-town and out-of-town), with out-of-town residents reporting lower levels of community wellbeing
- There were differences based on age with older residents reporting the highest levels of community wellbeing
- There were no real differences based on gender, income levels, newness to the area, farm ownership, nor working in the CSG sector

*Comparisons to other regions:* The Western Downs region, as 'a good place for teenagers' and as 'a good place for seniors' was viewed more favourably than rural and SEQ areas of the LGAQ study. The Western Downs region was less favourable for the item 'a good place for children'. When compared with 'All of Qld' in the LGAQ survey, the Western Downs region was viewed more favourably for all three categories.

***Dimensions of wellbeing***

- The three dimensions of community wellbeing which were rated most positively for the Western Downs were: personal safety, community spirit, and health
- The three dimensions of community wellbeing which were rated most negatively were: roads, management of the environment, and decision making and citizen voice, all of which were viewed as unsatisfactory across all sub-regions
- Whilst levels of community trust overall in the region were mid-range (3.02 /5), trust for state government and CSG companies were unsatisfactory (2.6 /5 and 2.6/5 respectively)

- There were statistically significant differences based on sub-regions:
  - Tara reported significantly lower levels of satisfaction with eight of the fifteen dimensions of community wellbeing including personal safety, community spirit, income sufficiency, community cohesion, social interaction, services and facilities, community participation, and employment and business opportunities, with the latter three reported at unsatisfactory levels
  - Employment and business opportunities were statistically highest in Chinchilla than the other regions with both Dalby and Tara indicating unsatisfactory levels
  - Roads were perceived to be unsatisfactory across the region with Miles indicating the lowest level of satisfaction

- There were also differences based on:
  - *Location of residence:* Out-of-town residents reported lower levels of social interaction, services and facilities, and employment and business opportunities than in-town residents
  - *Age:* Middle aged residents (35 – 54 yrs) reported lowest levels of health, income sufficiency, and least satisfaction with built environment, environmental quality, and roads. Older aged residents were most satisfied with services and facilities and younger aged residents reported highest levels of social interaction
  - *Gender:* Lower levels of perceived personal safety for women than men, and less satisfaction with services and facilities, environmental quality, and environmental management. However, women reported higher levels of community spirit and social interaction than men.
  - *Income:* Lowest income residents reported the least satisfaction with employment and business opportunities and with income sufficiency
  - *Newness to the community:* People who were newer to the community reported lowest levels of community participation but highest levels of income sufficiency, and employment and business opportunities.
  - *Farm ownership (or not):* Those who owned a farm reported lower levels of social interaction and less satisfaction with environmental management
  - *Working in the CSG sector (or not):* Those who worked in the CSG sector reported highest levels of income sufficiency, highest levels of employment and business opportunities, but lowest levels of satisfaction with roads

### RQ2. Which aspects (dimensions) of wellbeing are most important to an overall sense of community wellbeing?

The most important factors contributing towards an overall sense of community wellbeing were:

- the **services and facilities** provided within the community,
- a strong sense of **community spirit**,
- **community cohesion**,
- **personal safety**,
- **social interactions** and
- higher levels of **environmental quality**, such as levels of dust and noise.

These results support the notion that a community that provides a high quality of life and is perceived as a good place to live is one that provides good social, environmental, and physical elements to people's lives. However, the social factors were the more prominent.

Closer scrutiny of the items comprising these important factors indicated:

*Services and facilities:*

- Tara residents were dissatisfied with five of the eight services and facilities including: child care, sports and leisure, cultural, shopping other than food, and medical and health services.
- Whilst satisfaction with shopping for food and everyday items was satisfactory across the region satisfaction with shopping for other goods such as clothes and household items were unsatisfactory in Chinchilla, Miles and Tara.
- Health and medical services were also considered unsatisfactory in Miles and Tara.

*Personal safety:* residents of Tara did not feel it was safe to leave a car on the side of the road at night, unlike other sub-regions

*Social interactions:* Tara residents compared to other sub-regions reported low levels of going out socially together within the community

*Environmental quality:* satisfaction with levels of dust were noticeably lower in Miles than other regions

## 4.2 Community resilience: Key findings

### RQ3. What are the perceptions of the community's actions taken to deal with change associated with CSG development in the region, and which are the most important actions?

**a) What are the perceptions of community actions?**

Participants did not rate their community resilience processes as positively as their wellbeing; however, they agreed that:

- there were good working relationships among different community groups,
- volunteers could be supported over the long term,
- the community could persevere over the long term,

On the other hand they were *dissatisfied* with:

- planning for the future,
- leadership within the community, and
- access to relevant information

**b) What are the most important actions?**

The most important actions underpinning perceptions of community resilience were*:*

- existence of **good working relationships** among different groups
- **good planning**
- the ability to **support volunteers** over the long term
- **leadership**
- **access to relevant information**

Notably, three of these important areas were also viewed as unsatisfactory by residents.

### RQ4. Which factors contribute to a belief that the community can work together to deal effectively with change?

The strongest predictors of community efficacy were:

- good planning
- higher levels of **community trust**
- **access to relevant information**
- existence of **good working relationships** among different groups
- the ability to **support volunteers** over the long term,

As with community resilience, three of these important areas were viewed as unsatisfactory by residents.

### RQ5. How does the community perceive it is adapting to the impacts of change, and how does this vary across the region?

Five adaptation responses were offered to respondents; resisting, not coping, just coping, adapting or transforming.

- Approximately half (51.5%) of the participants felt that their community was adapting to the changes or changing into something different but better. However, the other half of participants (48.5%) perceived that the community was either resisting CSG, not coping, or only just coping with the changes.

- The most-positive perceptions as to the way their community was responding were in Chinchilla, where 62.6% of participants had favourable perceptions.
- Compared to Chinchilla, residents in the Dalby area were about half as likely (.51) to perceive their community as adapting to CSG developments in the region, controlling for CSG sector workers and other residents in and out-of-town. However, Miles and Tara residents were not significantly less likely to perceive their communities as adapting.
- Compared to CSG sector workers, other residents either in or out-of-town were significantly less likely to see their communities as adapting or transforming into something better (.40 and .37 respectively).

#### RQ6. What factors are linked to different types of responses?

Two main factors were strong predictors of perceptions of community adaptation:

- *Community functioning*, which was correlated with community resilience actions, community efficacy, employment and business opportunities, community trust, and decision making and citizen voice.
- *Social engagement*, which was correlated with community participation and social interactions.

Those who thought the community was not coping viewed community functioning as weak, and those that thought the community was transforming into something better viewed community functioning as strong.

Those that thought the community was resisting change were the least socially engaged, and they also viewed community functioning as weak.

## 4.3 Future community wellbeing: Key findings

#### RQ7. What is the level of future wellbeing expected within the community, and what factors explain a sense of wellbeing in the future?

**a) What is the level of future wellbeing?**

When asked about their expectations of future wellbeing

- 50 % of residents expect their wellbeing to decline, 41% expect their wellbeing to stay the same, and 9% expect their wellbeing to improve
- Participants gave a rating of 3.6/5 which is statistically significantly lower than the current overall wellbeing rating of 3.8/5 (medium effect size)
- Residents of Dalby were more optimistic than the other regions but still their wellbeing rating for the future was significantly lower than their current rating. Miles was the least optimistic of the sub-regions
- Those in town were more positive about the future than those out of town
- People who owned farms were less optimistic about their future wellbeing than those who did not own a farm
- There were no differences based on age, gender, income, or newness to the community
- Place attachment was relatively high across the region (4.03 /5)

**b) What factors explain future wellbeing?**

The strongest predictors of future wellbeing were:

- More positive perceptions of **current wellbeing**
- More positive perceptions of **community resilience**
- Stronger **place attachment**

## 4.4 Community acceptance of CSG development: Key findings

**RQ8. What are the attitudes and feelings towards coal seam gas development in the region, and how do they vary; what factors explain these views?**

**a) What are the attitudes and feelings towards coal seam gas development in the region ?**

Community acceptance had two components; attitudes and feelings.

- Most participants either tolerated (32.75%) or accepted (36.27%) CSG development and 22% positively approved or embraced it. A smaller minority rejected CSG development in the region (9%).
- On average, respondents had moderate feelings about CSG, a mix of positive and negative feelings (near the midpoint of the scale) with Miles reporting the most negative feelings

**b) How do attitudes and feelings vary?**

- CSG sector workers were significantly more accepting of CSG development than other residents either in or out of town.
- Those in town were more positive about CSG development than those out of town
- Chinchilla residents had significantly higher community acceptance of CSG than Miles and Dalby, even after taking into account whether they were CSG workers or lived in or out of town.
- People on highest income levels were most accepting of CSG development and those on lowest income levels the least accepting
- Those newest to the community were more accepting of CSG development
- People who owned a farm were less accepting than those who didn't own a farm
- There were no differences in acceptance based on age and gender

**c) What factors explain attitudes and feelings towards coal seam gas?**

The strongest predictors of community acceptance were more positive perceptions of:

- **Community resilience**
- **Management of the environment**
- **Employment and business opportunities**
- **Community trust**
- **Services and facilities** - *dissatisfaction* with current services and facilities associated with higher levels of acceptance of CSG development**.**

Attitudes and feelings towards coal seam gas development were also significant and positive predictors of future wellbeing. The more positive people felt about coal seam gas the more positive their future wellbeing; or the more negative their attitudes and feelings the more negative their outlook.

## 4.5 Limitations of the research

As with all survey research there are some limitations in how the findings should be interpreted. Although the research identified key elements underpinning wellbeing, resilience, and future wellbeing and the findings indicated these were very robust predictors they did not explain all the variance in wellbeing and resilience. This suggests that other factors, not tested nor measured in this research would be influencing wellbeing in the community. Most notably, would be the potential influence of a dry season in the region. This survey was conducted in February 2014, which was at the end of a hot and dry summer period, with neighbouring regions experiencing drought conditions. These conditions could have impacted attitudes and views especially for those residents that were farmers, and views about the future. Finally, a survey is a snapshot in time and doesn't provide direct evidence of change over time; it is through the use of statistical techniques that we have been able to infer links between possible influences.

# 5 Conclusion

The purpose of this research was to investigate community wellbeing and responding to change in the Western Downs Region. The key topics were community wellbeing, community resilience, the expected level of future wellbeing; and the attitudes and feelings towards coal seam gas development in the region. Attitudes and perceptions were collected from a representative sample of the Western Downs region using a survey design and telephone interviews of 400 residents randomly selected using quota sampling. The sample comprised residents that lived in town and out of town and that identified with one of four major communities within the region: Dalby, Chinchilla, Miles, and Tara.

The coal seam gas industry has brought a host of changes to the Western Downs region presenting as social and economic benefits and challenges (Measham & Fleming, 2014; Walton et al., 2014). In this present research, residents of the region indicated a lukewarm attitude towards the CSG industry; most participants either tolerating or accepting CSG development. Despite this view, overall perceptions of current community wellbeing were positive, recording an average of 3.8 out of five, which was a higher result compared to other regions in a previous community wellbeing study (Morton & Edwards, 2013). However, residents were not so optimistic about the future with all communities expecting a decline in wellbeing over the next three years. To prevent realisation of this decline communities can be supported to work together with local government, CSG companies, and other stakeholders to address underlying deficits that contribute to this type of outlook. This research revealed some key areas that are potential opportunities for improving wellbeing, resilience and expectations for the future.

1. **The research identifies those areas of community wellbeing and resilience that residents believe are functioning at unfavourable or unsatisfactory levels**

***Community wellbeing:*** Three areas of wellbeing currently viewed as unsatisfactory were **roads**, **community participation in decision making**, and **management of the environment** over the long term. Continued attention to improving the roads to ensure that residents feel satisfied with levels of safety, amount of traffic, and road condition would address the aspect of wellbeing that provides most dissatisfaction to residents. Similarly, there is room to increase citizen's participation in decision making that affects their community into the future. Ensuring that citizens feel they have a 'voice' and are engaged in decision making on matters important to them helps to ensure a fair process and bolsters decision outcomes. Such engagement also builds citizen trust with the larger and less personal institutions including regional council, state government and large multinational CSG companies, in which community trust were at unfavourable levels in this study. Improving ongoing environmental management will address the third aspect of wellbeing currently considered unfavourably, and which was of particular concern to farmers. The ongoing management of groundwater was the most negatively viewed aspect of environmental management and continued monitoring and research into these matters could help to alleviate concerns or ameliorate the effects of CSG processes.

***Community resilience:*** The rating of overall community resilience was lower than for overall wellbeing and the analysis revealed areas where the community could benefit from some support. The participants believed that they had a strong base for resilience with good working relationships among different community groups, volunteers being supported over the long term, and the ability to persevere. They were dissatisfied however with **planning** for the future, **access to relevant information**, and **leadership** within the community; three areas also seen as important to being resilient. Improving access to information and coordination of information so that communities have information in a timely manner is particularly important as the complexity and uncertainty in the region increases. This entails assessing methods of dissemination to ensure that different segments within the community have access to and understand issues relevant to them. Involving the community in planning for the future of their local areas or the region more generally would simultaneously improve decision-making and citizen voice, and build trust within the community.

### 2. The research identifies the most 'important factors' underpinning community wellbeing and resilience

***Community wellbeing:*** The most important factors for wellbeing were: the **services and facilities**, a strong sense of **community spirit**, **community cohesion**, **personal safety**, **social interactions**, and higher levels of **environmental quality**, such as levels of dust and noise. This list is different from the lists of dimensions with low levels of satisfaction because it identifies the factors that make the largest difference in community life. It is worth noting that most of these issues were ones for which Tara had lower ratings than the rest of the region, thus suggesting that some investment in Tara, in particular, would increase the overall wellbeing for the region.

Addressing the important factors that underpin wellbeing provide opportunity to not only improve areas that were viewed as less satisfactory but also to augment and strengthen areas that are perceived to be functioning well, but are key to wellbeing. For example, improving services and facilities by addressing areas of weakness strengthens the most important factor contributing to wellbeing. Closer analysis of the items within services and facilities identifies that although shopping facilities for food and everyday items were considered satisfactory, people were dissatisfied with shopping facilities for goods beyond food across the region. Child care services, sports and cultural services were satisfactory in most parts of the region but not so in Tara. Health services were also reported as unsatisfactory in Miles and Tara. These are areas that if addressed would increase wellbeing regionally. Issues around social interaction and community spirit and cohesion in Tara suggest that community development interventions would be useful for that township. Problems of noise and dust were an issue in Miles. As with roads and traffic, noise and dust are intensified by operations of the CSG industry, which hence has a stake in ameliorating the problems.

***Community resilience:*** The important areas for resilience were good working relationships between groups, planning, long term support for volunteers, leadership, and access to information. Notably, three areas of resilience were currently viewed unfavourably: levels of planning, leadership, and access to information. Our research shows that these aspects were important drivers of community resilience, which in turn was a main contributor to a sense of wellbeing in the future, and more generally, to feelings of coping within the community. When people perceive resilient actions as weak, they are less optimistic about their futures and more likely to feel that their community is 'not coping'. In the case of this research, 50% of residents expected their wellbeing to decline and that their community would not offer as good a quality of life in three years time. Although expected future wellbeing remained favourable for the majority of people (65% of residents), it was a significant drop compared to favourable views of current levels of wellbeing (80% of residents). To improve optimism about the future requires local residents, government, community leaders, business, and CSG companies to work together to improve community resilience actions.

### 3. The research provides a depth of data and analysis for more targeted interventions and improved outcomes based on social and geographic segments of the community.

By examining the impact of geographic and social factors on the different aspects of community wellbeing, resilience, and attitudes and feelings towards coals seam gas enables specific areas of need to be identified and addressed. Differences based on geography and location of residence as well as social factors helps to identify those pockets within the community that may be isolated in terms of access to services and facilities or participation within the community. As previously discussed, Tara had lower ratings for many of the wellbeing dimensions including community spirit and cohesion and social interaction within the community. Newcomers to the region reported they were not satisfied with their level of community participation. People who lived out of town experienced lower levels of social interaction. Dalby and Tara residents were dissatisfied with employment and job opportunities. People older than 55 years were not satisfied with their level of community participation and the employment and business opportunities in their communities. These types of findings provide opportunity for targeted interventions to improve aspects of community wellbeing specific to different segments of the community. Section 3.5 and Appendix E detail the effects of different demographic characteristics on wellbeing, resilience, and attitudes and feelings towards CSG development.

### 4. The research provides the region with baseline data that could be used for goal setting and measuring progress of interventions aimed at improving community wellbeing and resilience

The survey findings provide scores on wellbeing and resilience that could be used to benchmark, set goals, and monitor changes over time. Favourable comparisons were made with other areas within Queensland for three wellbeing measures; however, interpretation of these findings needs to be cautious because it is unclear if the current scores represent a change for the Western Downs, and if so would the previous measures have been higher or lower. Thus there is a need to monitor wellbeing and repeat the survey at a future time, particularly to compare actual wellbeing in three years with predicted wellbeing in this present survey, and seeking to understand these outcomes.

The findings also provide opportunity for goal setting and this has been the case in some communities where targets for each dimension have been established. For example, the rural Town of Olds, a community in Central Alberta Canada that serves as an agribusiness hub and base for shale oil and gas services, has set a target score of four out of five for a range of their wellbeing measures (Anielski et al., 2013). This type of goal setting provides strategic direction for community planning and management.

### 5. The research establishes the importance of community resilience actions in creating a positive outlook for the future.

When residents feel that their community is responding effectively to changes with good planning, leadership, and community trust they feel more positive about their future. Moreover, when the community feels that all parties can work together the more positive they feel about the future of their community. Resilience actions, along with current levels of wellbeing are important for creating a positive expectation of future wellbeing. Achieving the best possible outlook for a region is one way to facilitate future growth in a region.

Furthermore, our results indicate that when a community feels like they are being resilient and working together effectively to deal with changes it not only predicts a sense of wellbeing for the future but associates with increased levels of acceptance of CSG development. Those that believe their community is adapting and working towards something better are those that see community actions as strong. Ensuring that the community has the best opportunity to be resilient promotes more positive attitudes and feelings towards CSB development. There are numerous opportunities to improve resilience, perceptions of trust, and reassure residents about their future including: demonstrating effective planning by working together to solve some of the bigger issues, such as roads and dissemination of information; demonstrating leadership by collaborating to initiate responses to problems and opportunities; ensuring the implementation and follow through of interventions to those pockets of lower wellbeing within the community; and to ensure adequate monitoring of concerns (e.g., enforcement of rules around environmental management).

Coal seam gas brings wealth to Queensland more generally so it is fair and reasonable that the wellbeing of the local communities is not jeopardised in the process. Although current wellbeing was robust, at present Western Downs communities feel they are on a downward trajectory. Even so, the analysis also suggests that investments made in several dimensions of current wellbeing and resilience could lead to a more optimistic outlook for the future. By focussing on important dimensions, building on strengths and attending to areas of weakness the region can strengthen its current wellbeing and build its resilience. Both aspects are important for future wellbeing and both are linked to acceptance of coal seam gas development. Thus, it is in the interest of all stakeholders to work towards building wellbeing and resilience within the community.

# Appendix A Summary statistics for survey items

| | | WDRC Region | | | Sub-regions | | | |
|---|---|---|---|---|---|---|---|---|
| | Item | No. | M | SD | Dalby | Chinchilla | Miles | Tara |
| **Community Wellbeing items** | | | | | | | | |
| Q10_A | Place attachment - I feel that I belong to this area | 400 | 4.16 | 1.06 | 4.29 | 4.02 | 4.30 | 4.04 |
| Q10_B | Place attachment - I am pleased to come back to the area, if I go away | 400 | 4.14 | 1.06 | 4.24 | 4.23 | 4.19 | 3.89 |
| Q10_C | Place attachment - I would like to be living in the area in 3 years time | 398 | 3.8 | 1.44 | 4.14 | 3.66 | 3.90 | 3.51 |
| Q10_D | Place attachment - Overall, I feel very attached to this local area | 399 | 4.01 | 1.19 | 4.09 | 4.01 | 4.18 | 3.77 |
| Q11_A | Personal safety - It is safe to be alone at home during the night | 399 | 4.33 | 0.93 | 4.31 | 4.41 | 4.40 | 4.21 |
| Q11_B | Personal safety - It is safe to walk alone outside at night | 397 | 3.86 | 1.3 | 3.43 | 3.81 | 4.15 | 4.06 |
| Q11_C | Personal safety - It is safe to leave the car on the side of the road at night | 392 | 3.1 | 1.41 | 3.12 | 3.18 | 3.54 | 2.54 |
| Q11_D | Personal safety - Overall, I feel safe living in the area | 400 | 4.31 | 0.83 | 4.28 | 4.43 | 4.40 | 4.14 |
| Q12_A | Income sufficiency - your income is enough for household expenses | 394 | 3.61 | 1.21 | 3.54 | 3.85 | 3.66 | 3.39 |
| Q12_B | Income sufficiency - your income is enough for the lifestyle you enjoy | 395 | 3.59 | 1.2 | 3.59 | 3.81 | 3.65 | 3.33 |
| Q12_C | Income sufficiency - your rent or mortgage repayments impact greatly on your household finances | 306 | 3.28 | 1.49 | 3.31 | 3.15 | 3.54 | 3.15 |
| Q12_D | Income sufficiency - Overall, I am satisfied that my income covers living expenses | 397 | 3.72 | 1.18 | 3.60 | 4.04 | 3.77 | 3.47 |
| Q13_A | Health - how satisfied are you with your diet and eating habits | 400 | 3.95 | 0.95 | 3.85 | 3.95 | 4.06 | 3.92 |
| Q13_B | Health - how satisfied are you with your exercise habits | 400 | 3.45 | 1.16 | 3.42 | 3.46 | 3.44 | 3.48 |
| Q13_C | Health - how satisfied are you with your physical health | 400 | 3.76 | 1.02 | 3.79 | 3.91 | 3.77 | 3.56 |
| Q13_D | Health - how satisfied are you with your mental health | 399 | 4.2 | 0.89 | 4.18 | 4.33 | 4.14 | 4.13 |
| Q13_E | Health - how satisfied are you with your job security, if applicable | 275 | 4.01 | 1.18 | 3.83 | 3.90 | 4.28 | 4.02 |
| Q13_F | Health - how satisfied are you with your work-life balance | 288 | 3.54 | 1.19 | 3.31 | 3.75 | 3.60 | 3.50 |
| Q13_G | Health - Overall, how satisfied are you with your health | 400 | 3.96 | 0.86 | 3.94 | 4.00 | 4.00 | 3.91 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Q14_A | Services and facilities- how satisfied are you with local schools | 311 | 3.74 | 1.14 | 3.79 | 4.08 | 3.95 | 3.14 |
| Q14_B | Services and facilities - how satisfied are you with child care facilities | 241 | 3.29 | 1.22 | 3.39 | 3.45 | 3.50 | 2.75 |
| Q14_C | Services and facilities - how satisfied are you with sports and leisure facilities | 364 | 3.47 | 1.11 | 3.56 | 3.72 | 3.64 | 2.97 |
| Q14_D | Services and facilities - how satisfied are you with cultural facilities | 371 | 3.27 | 1.12 | 3.18 | 3.63 | 3.69 | 2.56 |
| Q14_E | Services and facilities - how satisfied are you with shopping for food and everyday items | 398 | 3.53 | 1.23 | 3.88 | 3.99 | 3.22 | 3.00 |
| Q14_F | Services and facilities - how satisfied are you with other shopping (e.g., clothes and household goods) | 399 | 2.63 | 1.21 | 3.09 | 2.95 | 2.18 | 2.30 |
| Q14_G | Services and facilities - how satisfied are you with medical and health services | 399 | 3.06 | 1.21 | 3.46 | 3.15 | 2.84 | 2.79 |
| Q14_H | Services and facilities - how satisfied are you with community support services (e.g. meals on wheels, youth workers) | 327 | 3.58 | 1.09 | 3.71 | 3.73 | 3.80 | 3.09 |
| Q14_I | Services and facilities - Overall, how satisfied are you with the services and facilities of [local area name] | 396 | 3.42 | 0.95 | 3.61 | 3.64 | 3.35 | 3.06 |
| Q15_A | Built environment – how satisfied are you with cleanliness in the town | 398 | 3.61 | 1.01 | 3.76 | 3.60 | 3.44 | 3.64 |
| Q15_B | Built environment - how satisfied are you with greenery and parks in the town | 395 | 3.43 | 1.09 | 3.68 | 3.38 | 3.44 | 3.21 |
| Q15_C | Built environment - Overall, how satisfied are you with the general appearance of the town | 399 | 3.53 | 0.96 | 3.71 | 3.61 | 3.26 | 3.54 |
| Q16_A | Roads - how satisfied are you with the condition of the roads | 394 | 2.24 | 1.12 | 2.52 | 2.21 | 2.30 | 1.94 |
| Q16_B | Roads - how satisfied are you with the safety on the roads | 398 | 2.33 | 1.14 | 2.59 | 2.24 | 2.26 | 2.23 |
| Q16_C | Roads - how satisfied are you with the amount of traffic on roads | 397 | 2.41 | 1.23 | 2.64 | 2.14 | 1.93 | 2.92 |
| Q16_D | Roads - how satisfied are you with amount of traffic in [local area name] | 397 | 2.84 | 1.28 | 2.80 | 2.69 | 2.26 | 3.63 |
| Q16_E | Roads - how satisfied are you with the roads overall | 396 | 2.39 | 1.1 | 2.59 | 2.37 | 2.28 | 2.32 |
| Q17_A | Environmental quality- how satisfied are you with the level of dust | 394 | 3.13 | 1.19 | 3.20 | 3.36 | 2.97 | 3.00 |
| Q17_B | Environmental quality- how satisfied are you with the level of noise | 396 | 3.72 | 1.07 | 3.82 | 3.62 | 3.33 | 4.11 |
| Q17_C | Environmental quality- how satisfied are you with the overall quality of the general environment in [local area name] | 399 | 3.61 | 0.94 | 3.66 | 3.65 | 3.41 | 3.72 |
| Q18_A | Environmental management – how satisfied are you with the management of the quality of underground water for the future | 367 | 2.42 | 1.17 | 2.58 | 2.59 | 2.26 | 2.22 |
| Q18_B | Environmental management – how satisfied are you with the management of the nature reserves for the future | 363 | 2.95 | 1.13 | 2.98 | 2.97 | 2.96 | 2.89 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Q18_C | Environmental management – how satisfied are you with the management of the sustainability of local farming land for the future | 382 | 2.75 | 1.2 | 2.97 | 2.82 | 2.41 | 2.79 |
| Q18_D | Environmental management – how satisfied are you with the overall management of the natural environment for the future | 383 | 2.84 | 1.05 | 2.98 | 2.80 | 2.68 | 2.88 |
| Q19_A | Decision making and citizen voice - The Western Downs council informs residents of important developments | 397 | 2.67 | 1.13 | 2.84 | 2.68 | 2.53 | 2.65 |
| Q19_B | Decision making and citizen voice - There are opportunities for your voice to be heard on issues that are important to you | 395 | 2.8 | 1.16 | 2.82 | 2.90 | 2.77 | 2.73 |
| Q19_C | Decision making and citizen voice - Coal seam gas companies involve local residents in their decisions | 381 | 2.45 | 1.23 | 2.60 | 2.41 | 2.32 | 2.49 |
| Q19_D | Decision making and citizen voice - Overall, I am satisfied with how decisions are made that affect (local area name] | 397 | 2.58 | 1.06 | 2.71 | 2.56 | 2.39 | 2.66 |
| Q20_A | Employment and business opportunities - there are good job opportunities in [local area name] | 391 | 3.12 | 1.26 | 2.85 | 3.81 | 3.19 | 2.63 |
| Q20_B | Employment and business opportunities - local business have done well out of CSG development | 390 | 3.08 | 1.25 | 3.01 | 3.45 | 2.92 | 2.96 |
| Q20_C | Employment and business opportunities - Overall, I am satisfied with employment and business opportunities in [local area name] | 393 | 3.07 | 1.15 | 2.99 | 3.69 | 2.92 | 2.69 |
| Q21_A | Community spirit - People can rely upon one another for help | 398 | 3.79 | 0.97 | 3.80 | 4.00 | 3.81 | 3.54 |
| Q21_B | Community spirit - People have friendly relationships | 398 | 3.84 | 0.92 | 3.86 | 4.04 | 3.90 | 3.58 |
| Q21_C | Community spirit - People can work together if there is a serious problem | 400 | 4.08 | 0.84 | 4.00 | 4.23 | 4.17 | 3.93 |
| Q21_D | Community spirit - Overall, I am satisfied with community spirit in the area | 399 | 3.84 | 0.96 | 3.92 | 4.06 | 3.79 | 3.59 |
| Q22_A | Community cohesion - Your community is welcoming of newcomers | 395 | 3.55 | 1.02 | 3.48 | 3.74 | 3.57 | 3.40 |
| Q22_B | Community cohesion - Your local community is welcoming of people of different cultures | 392 | 3.54 | 1.01 | 3.44 | 3.84 | 3.55 | 3.33 |
| Q22_C | Community cohesion - Overall, your community includes everyone no matter who they are | 397 | 3.64 | 0.98 | 3.55 | 3.84 | 3.73 | 3.45 |
| Q23_A | Community trust - There are local community leaders I can trust | 388 | 3.32 | 1.06 | 3.26 | 3.36 | 3.46 | 3.19 |
| Q23_B | Community trust - People that you see around [local area name] can generally be trusted | 400 | 3.34 | 0.93 | 3.37 | 3.65 | 3.47 | 2.88 |
| Q23_C | Community trust - Western Downs Regional Council can be trusted | 397 | 3.05 | 1.15 | 2.97 | 3.05 | 3.02 | 3.17 |
| Q23_D | Community trust - Coal Seam Gas companies in your local area can be trusted | 384 | 2.6 | 1.2 | 2.53 | 2.66 | 2.49 | 2.70 |
| Q23_E | Community trust - Overall, I am satisfied with levels of trust in my local area | 399 | 3.23 | 0.99 | 3.19 | 3.31 | 3.26 | 3.15 |
| Q23_F | Community trust - State Government can be trusted | 396 | 2.6 | 1.18 | 2.62 | 2.67 | 2.66 | 2.43 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Q24_A | Community participation - You regularly help out a local group as a volunteer (e.g., once a week)? | 388 | 2.95 | 1.5 | 3.00 | 2.95 | 3.15 | 2.70 |
| Q24_B | Community participation - You have attended several community events in the past year? | 392 | 3.39 | 1.35 | 3.35 | 3.40 | 3.72 | 3.08 |
| Q24_C | Community participation - You are a very active member of a local organisation or club? | 395 | 3.03 | 1.57 | 3.04 | 3.00 | 3.32 | 2.75 |
| Q24_D | Community participation - Overall, you participate regularly in a variety of community activities | 393 | 3.04 | 1.36 | 2.97 | 3.06 | 3.32 | 2.81 |
| Q25_A | Social interaction - Visit someone's home | 400 | 3.26 | 1.32 | 3.62 | 3.17 | 3.23 | 3.00 |
| Q25_B | Social interaction - Go out together socially | 400 | 3.02 | 1.33 | 3.29 | 3.22 | 3.00 | 2.58 |
| Q25_C | Social interaction - Speak or text on the phone | 400 | 3.6 | 1.34 | 3.78 | 3.68 | 3.64 | 3.28 |
| Q25_D | Social interaction - Overall, I am satisfied with the amount of my social interaction in the local area | 399 | 3.83 | 1.02 | 4.02 | 3.87 | 3.70 | 3.74 |
| Q26_A | Overall Community wellbeing - This community is suitable for young children | 396 | 3.88 | 1.02 | 4.09 | 4.15 | 3.94 | 3.32 |
| Q26_B | Overall Community wellbeing - This community is suitable for teenagers | 395 | 3.23 | 1.11 | 3.37 | 3.66 | 3.28 | 2.61 |
| Q26_C | Overall Community wellbeing - This community is suitable for seniors | 397 | 3.89 | 0.93 | 4.10 | 3.89 | 3.76 | 3.83 |
| Q26_D | Overall Community wellbeing - Overall, this local area offers a good quality of life | 400 | 3.96 | 0.9 | 4.24 | 4.11 | 3.84 | 3.66 |
| Q26_E | Overall Community wellbeing - Overall, I am happy living in this local area | 400 | 4.1 | 0.96 | 4.19 | 4.13 | 4.12 | 3.95 |
| Q27_A | Future community wellbeing – In three years time - Overall, this local area will offer a good quality of life | 398 | 3.52 | 1.08 | 3.69 | 3.71 | 3.22 | 3.45 |
| Q27_B | Future community wellbeing – In three years time - Overall, I will be happy living in this local area | 396 | 3.72 | 1.16 | 3.94 | 3.81 | 3.53 | 3.62 |

**Community resilience items**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Q28_A | Community actions - There is good planning for the future for this town and surrounds | 389 | 2.79 | 1.14 | 2.82 | 2.88 | 2.63 | 2.82 |
| Q28_B | Community actions - There is adequate leadership within the community to deal with the changes | 388 | 2.82 | 1.14 | 2.79 | 2.93 | 2.72 | 2.84 |
| Q28_C | Community actions - The community can access relevant information to deal with change effectively | 386 | 2.93 | 1.09 | 2.92 | 3.10 | 2.82 | 2.86 |
| Q28_D | Community actions - There are key people in our community who know the right people to help us get things done | 393 | 3.2 | 1.07 | 3.14 | 3.21 | 3.18 | 3.27 |
| Q28_E | Community actions - The community is able to support its volunteer over the long term | 389 | 3.31 | 1.01 | 3.48 | 3.45 | 3.20 | 3.10 |
| Q28_F | Community actions - The community can persevere to find solutions for its problems | 395 | 3.3 | 0.93 | 3.30 | 3.40 | 3.31 | 3.18 |
| Q28_G | Community actions - Good working relationships exist among different community groups | 385 | 3.69 | 0.86 | 3.64 | 3.89 | 3.56 | 3.69 |
| Q28_H | Community actions - Overall I am satisfied with the way the community is responding to the changes | 394 | 3.21 | 0.96 | 3.24 | 3.35 | 3.06 | 3.20 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Q29_A | Collective efficacy - All these groups can work together to address problems associated with CSG development | 395 | 3.15 | 1.14 | 3.23 | 3.22 | 3.10 | 3.05 |
| Q29_B | Collective efficacy - All these groups can work together to take advantage of the opportunities associated with CSG development | 395 | 3.23 | 1.07 | 3.17 | 3.42 | 3.13 | 3.17 |
| Q30_ | Community adaptiveness - How is [local area] dealing with CSG developments - resisting / not coping / only just coping / adapting to the changes / changing into something different but better | 390 | 3.37 | 0.94 | 3.20 | 3.59 | 3.35 | 3.32 |

## Attitudes and feelings towards CSG development

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Q31_A | Feelings - I feel pleased to have the coal seam gas resource boom in our region | 399 | 2.96 | 1.34 | 2.88 | 3.27 | 2.76 | 2.95 |
| Q31_B | Feelings - When I look at what is happening around coal seam gas I feel optimistic | 398 | 2.81 | 1.28 | 2.74 | 3.07 | 2.67 | 2.76 |
| Q31_C | Feelings - When I think about the opportunities of coal seam gas I can get very excited | 400 | 2.53 | 1.26 | 2.45 | 2.72 | 2.50 | 2.44 |
| Q31_D | Feelings - When I think about how much coal seam gas affects everyday life, it makes me angry * | 400 | 2.71 | 1.33 | 2.90 | 2.42 | 2.93 | 2.57 |
| Q31_E | Feelings - When I think about how things are changing because of coal seam gas I get worried * | 400 | 3.02 | 1.34 | 3.08 | 2.83 | 3.30 | 2.85 |
| Q31_F | Feelings - When I think about coal seam gas I feel sad * | 399 | 2.58 | 1.4 | 2.66 | 2.37 | 2.85 | 2.44 |
| Q32_ | Attitude to CSG – Which best describes your attitude to coal seam gas in this region – I reject it / I tolerate it / I accept it / I approve of it / I embrace it | 397 | 2.8 | 1.05 | 2.73 | 3.07 | 2.62 | 2.76 |

*Note:* shading indicates areas of dissatisfaction or unfavourable responses;
*negatively worded question therefore a score above 3 is an unfavourable response

# Appendix B Demographic survey items

***Participant interest*** was coded by the interviewers on a scale from 1 = very uninterested to 5 = very interested based on the interviewer's initial contact encouraging the selected the resident to participate in the survey. It asked 'how interested did the respondent seem in the TOPIC when contacting them' (Q1).

***Language skills*** was also coded by the interviewer using the question 'How well does the person speak English?': very well; well; not well; not at all (Q2).

***Age*** was a yes/no screening question asking 'Are you 18 years of age or over? (Q3).

***Year of birth*** asked 'What year were you born in?' (Q4).

***Gender*** was identified by the operator as either male or female (Q5).

***Residence*** was a screening question asking 'Is your main place of residence in the Western Downs Regional Council area?' Interviewer's were also able to refer to a map if needed to ensure participants were residents in the region (Q6).

***Local town*** assisted with quota sampling and asked 'Which local town and surrounding area do you feel most part of?' with the following options: Jandowae and surrounds; Dalby and surrounds; Chinchilla and surrounds; Miles and surrounds; Wandoan and surrounds; and Tara and surrounds. Jandowae was later included with the Dalby area while Wandoan was including with the Miles area. Again, interviewers were able to refer to a map if needed (Q7).

***Live in town*** also assisted with quota sampling and asked residents whether they lived in a town or out of town (Q8).

***Employed*** similarly assisted with quota sampling asking 'Is your employment status working or not working?', where working was defined as deriving an income from work (Q9).

***Year start in region*** was the year the respondent first started living in the Western Downs region (Q33).

***Household type*** was either couple with no children; couple with children; one parent family; single person household; group household (shared accommodation); or other household type (Q34).

***Household income*** was an optional question asking about *taxable* household income with 4 categories: less than $40,000; between $40,000 and $80,000; between $80,000 and $120,000; and more than $120,000 (Q35).

***Employment situation*** was either working full-time (35 hours or more per week); working part-time (less than 35 hours per week); looking for paid work; studying full-time; caring or home duties full-time; receiving a government benefit or pension; self-funding retiree; or other (Q36).

***Employment type*** for those working was either a permanent employee; on contract; a casual employee; or self-employed (Q37).

***Working in farming*** was a yes/no question for those working: 'Do you work in the farming sector (i.e., on a farm or for a farmer)?' (Q38).

***Working in CSG*** was a yes/no question for those working: 'Do you work in the CSG sector (i.e. for a coal seam gas company or subcontractor)?' (Q39).

***Friends or family in CSG*** asked 'How many of your friends or family work in the CSG sector (i.e. for a coal seam gas company or subcontractor)?' with the options: none; one or two; some; or many (Q40).

***Own a farm*** was a yes/no question asking 'Do you own a farm of 40 hectares or more (i.e., 100 acres or more)?' (Q41).

***CSG on property*** asked those owning a farm about the status of Coal seam Gas (CSG) development on their property in relation to whether CSG leases existed or not (Q42).

***Own or rent*** asked about the home residents lived in and had three options: own, rent or some other arrangement (Q43).

***Education*** asked about highest level of education completed and had four options: less than year 12 (or senior high school); completed year 12 (or senior high school) ; certificate, diploma, or trade qualification; or bachelor degree or higher qualification (Q44).

***Australian born*** was a yes/no question (Q45).

***Indigenous Australian*** was also a yes/no question (Q46).

A composite variable ***CSG workers and other residents*** was also constructed by combining the *Working in CSG* question with the *Living in town* question to represent three broad segments of the community (CSG workers; other residents in town and other residents out-of-town). These broad community segments were identified as part of earlier qualitative research (Walton et al., 2013).

# Appendix C Comparative items in CSIRO and LGAQ surveys

**Table 22 Wording for comparative community wellbeing items in LGAQ and SCIRO surveys**

| Survey | Question stem | Question | Response scale |
|---|---|---|---|
| **CSIRO** | Thinking about overall community wellbeing in [name of town] and surrounds, how much do you agree that: | This community is suitable for young children<br>This community is suitable for teenagers<br>This community is suitable for seniors | 1 = strongly disagree to<br>5 = strongly agree |
| **LGAQ** | How would you rate the suitability of your community for: | Young children<br>Teenagers<br>Seniors | 1 = very unsatisfactory to<br>5 = very satisfactory |

*Note:* CSIRO refers to this report; LGAQ survey refers to Morton and Edwards (2013)

# Appendix D Logistic regression

Logistic regression output: predicting adaptation by sub-region and controlling for CSG sector workers

```
Ordered logistic regression                     Number of obs   =        390
                                                LR chi2(5)      =      12.87
                                                Prob > chi2     =     0.0246
Log likelihood =  -263.7073                     Pseudo R2       =     0.0238

------------------------------------------------------------------------------
             adapting | Odds Ratio   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------------+-------------------------------------------------------
              Region |
               Dalby |   .5143451   .1519084    -2.25   0.024     .2883088    .9175957
       Miles-Wandoan |   .6104783    .181434    -1.66   0.097     .3409521    1.093068
                Tara |   .5949252   .1845375    -1.67   0.094     .3239153    1.092681
                     |
          CSG_worker |
Other residents in t~n |   .3951113   .1672889    -2.19   0.028     .1723151    .9059736
Other residents out ~n |   .3700489   .1590689    -2.31   0.021     .1593538    .8593217
----------------------+-------------------------------------------------------
               /cut1 |  -1.368029   .4304184                     -2.211633    -.524424
```

# Appendix E Tables of demographic differences

## SUB-REGIONS

**Table 23 Mean scores for community wellbeing, resilience, future wellbeing, place attachment, and attitudes and feelings by sub-region**

| | | Sub-regions | | | |
|---|---|---|---|---|---|
| **Community wellbeing dimensions** | **WD Region** | Dalby | Chinchilla | Miles | Tara |
| **Personal safety** | 3.91 | 3.80 | 3.97 | **4.12** $^{H}$ | **3.74** $^{L}$ |
| **Community spirit** | 3.89 | 3.90 | **4.08** $^{H}$ | 3.92 | **3.66** $^{L}$ |
| Health | 3.82 | 3.76 | 3.92 | 3.85 | 3.77 |
| **Income sufficiency** | 3.64 | 3.58 | **3.91** $^{H}$ | 3.69 | **3.40** $^{L}$ |
| **Community cohesion** | 3.58 | 3.49 | **3.81** $^{H}$ | 3.61 | **3.40** $^{L}$ |
| **Built environment** | 3.52 | **3.72** $^{H}$ | 3.53 | **3.37** $^{L}$ | 3.45 |
| **Environmental quality** | 3.49 | 3.57 | 3.56 | **3.24** $^{L}$ | **3.62** $^{H}$ |
| **Social interaction** | 3.43 | **3.68** $^{H}$ | 3.49 | 3.39 | **3.15** $^{L}$ |
| **Services and facilities** | 3.32 | **3.53** $^{H}$ | **3.59** $^{H}$ | **3.31** $^{H}$ | **2.83** $^{L}$ |
| **Community participation** | 3.09 | 3.09 | 3.10 | **3.37** $^{H}$ | **2.82** $^{L}$ |
| **Employment and business opportunities** | 3.09 | **2.95** $^{L}$ | **3.63** $^{H}$ | **3.01** $^{L}$ | **2.76** $^{L}$ |
| Community trust | 3.02 | 3.00 | 3.12 | 3.06 | 2.92 |
| Environmental management | 2.75 | 2.88 | 2.79 | 2.59 | 2.72 |
| Decision making and citizen voice | 2.64 | 2.76 | 2.65 | 2.50 | 2.65 |
| **Roads** | 2.45 | **2.63** $^{H}$ | 2.33 | **2.21** $^{L}$ | **2.61** $^{H}$ |
| **Overall Community wellbeing** | 3.82 | **4.00** $^{H}$ | **3.99** $^{H}$ | **3.79** $^{H}$ | **3.48** $^{L}$ |
| Overall Community resilience | 3.16 | 3.18 | 3.28 | 3.07 | 3.12 |
| **Expected future Community wellbeing** | 3.62 | **3.82** $^{H}$ | 3.76 | **3.38** $^{L}$ | 3.54 |
| **Place attachment** | 4.03 | **4.19** $^{H}$ | 3.98 | 4.14 | **3.80** $^{L}$ |
| **Community attitudes and feelings towards CSG** | 2.97 | 2.88 | **3.22** $^{H}$ | **2.78** $^{L}$ | 3.00 |

*Note:* Bold font indicates significant differences in mean scores; $^{H}$ denotes significantly higher than $^{L}$; $^{L}$ denotes significantly lower than $^{H}$

## PLACE OF RESIDENCE: IN-TOWN AND OUT-OF-TOWN

**Table 24 Mean scores for community wellbeing, resilience, future wellbeing, place attachment, and attitudes and feelings by place of residence**

| | | Location of residence | |
|---|---|---|---|
| **Community wellbeing dimensions** | **WD Region** | Out of town | In town |
| Personal safety | 3.91 | 3.97 | 3.84 |
| Community spirit | 3.89 | 3.83 | 3.95 |
| Health | 3.82 | 3.89 | 3.75 |
| Income sufficiency | 3.64 | 3.58 | 3.71 |
| Community cohesion | 3.58 | 3.51 | 3.64 |
| Built environment | 3.52 | 3.55 | 3.49 |
| Environmental quality | 3.49 | 3.47 | 3.52 |
| **Social interaction** | 3.43 | **3.29** $^{L}$ | **3.57** $^{H}$ |
| **Services and facilities** | 3.32 | **3.20** $^{L}$ | **3.44** $^{H}$ |
| Community participation | 3.09 | 3.10 | 3.09 |
| **Employment and business opportunities** | 3.09 | **2.90** $^{L}$ | **3.28** $^{H}$ |
| Community trust | 3.02 | 2.98 | 3.07 |
| Environmental management | 2.75 | 2.67 | 2.82 |
| Decision making and citizen voice | 2.64 | 2.62 | 2.67 |
| Roads | 2.45 | 2.40 | 2.49 |
| **Overall Community wellbeing** | 3.82 | **3.70** $^{L}$ | **3.93** $^{H}$ |
| Overall Community resilience | 3.16 | 3.09 | 3.24 |
| **Expected future wellbeing** | 3.62 | **3.46** $^{L}$ | **3.80** $^{H}$ |
| Place attachment | 4.03 | 3.94 | 4.12 |
| **Community attitudes and feelings towards CSG** | 2.97 | **2.80** $^{L}$ | **3.15** $^{H}$ |

*Note:* Bold font indicates significant differences in mean scores; $^{H}$ denotes significantly higher than $^{L}$; $^{L}$ denotes significantly lower than $^{H}$

## AGE

**Table 25 Mean scores for community wellbeing, resilience, future wellbeing, place attachment, and attitudes and feelings by age**

| Community wellbeing dimensions | WD region | Age brackets | | |
|---|---|---|---|---|
| | | Younger < 35 years | Middle 35 - 54 years | Older > 55 years |
| Personal safety | 3.91 | 3.82 | 3.94 | 3.93 |
| Community spirit | 3.89 | 3.89 | 3.83 | 3.95 |
| **Health** | 3.82 | **3.90** $^{H}$ | **3.66** $^{L}$ | **3.97** $^{H}$ |
| **Income sufficiency** | 3.64 | **3.81** $^{H}$ | **3.47** $^{L}$ | 3.74 |
| Community cohesion | 3.58 | 3.51 | 3.52 | 3.70 |
| **Built environment** | 3.52 | 3.58 | **3.31** $^{L}$ | **3.73** $^{H}$ |
| **Environmental quality** | 3.49 | 3.51 | **3.33** $^{L}$ | **3.69** $^{H}$ |
| **Social interaction** | 3.43 | **3.71** $^{H}$ | **3.41** $^{L}$ | **3.25** $^{L}$ |
| **Services and facilities** | 3.32 | **3.19** $^{L}$ | 3.21 | **3.54** $^{H}$ |
| Community participation | 3.09 | 3.11 | 3.19 | 2.97 |
| Employment and business opportunities | 3.09 | 3.22 | 3.10 | 2.98 |
| Community trust | 3.02 | 3.08 | 2.92 | 3.12 |
| Environmental management | 2.75 | 2.86 | 2.66 | 2.77 |
| Decision making and citizen voice | 2.64 | 2.64 | 2.54 | 2.77 |
| **Roads** | 2.45 | 2.46 | **2.24** $^{L}$ | **2.68** $^{H}$ |
| **Overall Community wellbeing** | 3.82 | 3.81 | **3.71** $^{L}$ | **3.94** $^{H}$ |
| **Overall Community resilience** | 3.16 | 3.25 | **3.03** $^{L}$ | **3.26** $^{H}$ |
| Expected future Community wellbeing | 3.62 | 3.65 | 3.57 | 3.68 |
| Place attachment | 4.03 | 3.92 | 3.96 | 4.19 |
| Community attitudes and feelings towards CSG | 2.97 | 3.17 | 2.91 | 2.91 |

*Note:* Bold font indicates significant differences in mean scores; $^{H}$ denotes significantly higher than $^{L}$; $^{L}$ denotes significantly lower than $^{H}$

## GENDER

**Table 26 Mean scores for community wellbeing, resilience, future wellbeing, place attachment, and attitudes and feelings by gender**

| Community wellbeing dimensions | WD Region | Gender | |
|---|---|---|---|
| | | Male | Female |
| **Personal safety** | 3.91 | **4.08** $^{H}$ | **3.72** $^{L}$ |
| **Community spirit** | 3.89 | **3.81** $^{L}$ | **3.97** $^{H}$ |
| Health | 3.82 | 3.76 | 3.89 |
| Income sufficiency | 3.64 | 3.74 | 3.55 |
| Community cohesion | 3.58 | 3.55 | 3.61 |
| Built environment | 3.52 | 3.57 | 3.46 |
| **Environmental quality** | 3.49 | **3.58** $^{H}$ | **3.40** $^{L}$ |
| **Social interaction** | 3.43 | **3.33** $^{L}$ | **3.53** $^{H}$ |
| **Services and facilities** | 3.32 | **3.40** $^{H}$ | **3.23** $^{L}$ |
| Community participation | 3.09 | 3.05 | 3.14 |
| Employment and business opportunities | 3.09 | 3.15 | 3.02 |
| Community trust | 3.02 | 3.02 | 3.03 |
| **Environmental management** | 2.75 | **2.84** $^{H}$ | **2.64** $^{L}$ |
| Decision making and citizen voice | 2.64 | 2.61 | 2.67 |
| Roads | 2.45 | 2.43 | 2.47 |
| Overall Community wellbeing | 3.82 | 3.83 | 3.80 |
| Overall Community resilience | 3.16 | 3.11 | 3.22 |
| Expected future wellbeing | 3.62 | 3.62 | 3.63 |
| Place attachment | 4.03 | 4.08 | 3.98 |
| Community attitudes and feelings towards CSG | 2.97 | 2.94 | 3.01 |

*Note:* Bold font indicates significant differences in mean scores; $^{H}$ denotes significantly higher than $^{L}$; $^{L}$ denotes significantly lower than $^{H}$

## INCOME

**Table 27 Mean scores for community wellbeing, resilience, future wellbeing, place attachment, and attitudes and feelings by age by income brackets**

| Community wellbeing dimensions | WD Region | Income brackets | | | |
|---|---|---|---|---|---|
| | | < $40,00 | $40,000 - $80,000 | $80,000 - $120,000 | > $120,000 |
| Personal safety | 3.91 | 3.94 | 3.80 | 3.96 | 3.99 |
| Community spirit | 3.89 | 3.98 | 3.83 | 3.87 | 3.80 |
| Health | 3.82 | 3.92 | 3.71 | 3.73 | 3.81 |
| **Income sufficiency** | 3.64 | **3.35** $^{L}$ | 3.61 | 3.76 | **4.05** $^{H}$ |
| Community cohesion | 3.58 | 3.68 | 3.50 | 3.53 | 3.44 |
| **Built environment** | 3.52 | **3.75** $^{H}$ | 3.45 | **3.36** $^{L}$ | **3.32** $^{L}$ |
| Environmental quality | 3.49 | 3.62 | 3.47 | 3.33 | 3.47 |
| Social interaction | 3.43 | 3.28 | 3.38 | 3.46 | 3.70 |
| Services and facilities | 3.32 | 3.40 | 3.24 | 3.36 | 3.19 |
| Community participation | 3.09 | 3.00 | 3.25 | 3.14 | 3.22 |
| **Employment and business opportunities** | 3.09 | **2.81** $^{L}$ | 3.15 | 3.19 | **3.39** $^{H}$ |
| Community trust | 3.02 | 3.03 | 3.09 | 2.95 | 2.97 |
| Environmental management | 2.75 | 2.60 | 2.79 | 2.58 | 2.88 |
| Decision making and citizen voice | 2.64 | 2.65 | 2.76 | 2.49 | 2.53 |
| **Roads** | 2.45 | **2.60** $^{H}$ | 2.45 | **2.14** $^{L}$ | 2.28 |
| Overall Community wellbeing | 3.82 | 3.87 | 3.73 | 3.70 | 3.94 |
| Overall Community resilience | 3.16 | 3.23 | 3.23 | 2.99 | 3.06 |
| Expected future Community wellbeing | 3.62 | 3.67 | 3.54 | 3.56 | 3.65 |
| Place attachment | 4.03 | 4.22 | 3.99 | 3.92 | 4.01 |
| **Community attitudes and feelings towards CSG** | 2.97 | **2.77**$^{L}$ | 2.97 | 3.02 | **3.34**$^{H}$ |

*Note:* Bold font indicates significant differences in mean scores; $^{H}$ denotes significantly higher than $^{L}$; $^{L}$ denotes significantly lower than $^{H}$

## NEWNESS TO THE COMMUNITY

**Table 28 Mean scores for community wellbeing, resilience, future wellbeing, place attachment, and attitudes and feelings by newness to the community**

| | | Years living in the community | | |
|---|---|---|---|---|
| **Community wellbeing dimensions** | **WD region** | 5 yrs or less | 6 - 10 yrs | > 10 yrs |
| Personal safety | 3.91 | 3.95 | 3.81 | 3.91 |
| Community spirit | 3.89 | 3.89 | 3.85 | 3.89 |
| Health | 3.82 | 3.97 | 3.83 | 3.80 |
| **Income sufficiency** | 3.64 | **4.00**$^{H}$ | 3.63 | **3.59**$^{L}$ |
| Community cohesion | 3.58 | 3.59 | 3.44 | 3.59 |
| Built environment | 3.52 | 3.74 | 3.59 | 3.47 |
| Environmental quality | 3.49 | 3.67 | 3.30 | 3.49 |
| Social interaction | 3.43 | 3.27 | 3.28 | 3.47 |
| Services and facilities | 3.32 | 3.25 | 3.22 | 3.34 |
| **Community participation** | 3.09 | **2.61**$^{L}$ | 2.99 | **3.19**$^{H}$ |
| **Employment and business opportunities** | 3.09 | **3.42**$^{H}$ | 3.05 | **3.03**$^{L}$ |
| Community trust | 3.02 | 3.05 | 2.94 | 3.03 |
| Environmental management | 2.75 | 2.96 | 2.61 | 2.73 |
| Decision making and citizen voice | 2.64 | 2.67 | 2.42 | 2.67 |
| Roads | 2.45 | 2.47 | 2.35 | 2.46 |
| Overall Community wellbeing | 3.82 | 3.75 | 3.70 | 3.84 |
| Overall Community resilience | 3.16 | 3.12 | 3.04 | 3.19 |
| Expected future community wellbeing | 3.62 | 3.68 | 3.58 | 3.62 |
| **Place attachment** | 4.03 | **3.61**$^{L}$ | **3.75**$^{L}$ | **4.14**$^{H}$ |
| **Community attitudes and feelings towards CSG** | 2.97 | **3.32**$^{H}$ | 2.88 | **2.92**$^{L}$ |

*Note:* Bold font indicates significant differences in mean scores; $^{H}$ denotes significantly higher than $^{L}$; $^{L}$ denotes significantly lower than $^{H}$

## OWNING A FARM OR NOT

**Table 29 Mean scores for community wellbeing, resilience, future wellbeing, place attachment, and attitudes and feelings by farm ownership**

| Community wellbeing dimensions | WD Region | Farm ownership | |
|---|---|---|---|
| | | No | Yes |
| **Personal safety** | 3.91 | **3.81** [L] | **4.06** [H] |
| Community spirit | 3.89 | 3.90 | 3.87 |
| Health | 3.82 | 3.83 | 3.82 |
| Income sufficiency | 3.64 | 3.63 | 3.67 |
| Community cohesion | 3.58 | 3.61 | 3.51 |
| Built environment | 3.52 | 3.58 | 3.42 |
| Environmental quality | 3.49 | 3.49 | 3.50 |
| **Social interaction** | 3.43 | **3.52** [H] | **3.27** [L] |
| Services and facilities | 3.32 | 3.36 | 3.24 |
| Community participation | 3.09 | 3.06 | 3.15 |
| Employment and business opportunities | 3.09 | 3.14 | 3.00 |
| Community trust | 3.02 | 3.05 | 2.98 |
| **Environmental management** | 2.75 | **2.82** [H] | **2.62** [L] |
| Decision making and citizen voice | 2.64 | 2.69 | 2.55 |
| Roads | 2.45 | 2.50 | 2.30 |
| Overall Community wellbeing | 3.82 | 3.84 | 3.78 |
| **Overall Community resilience** | 3.16 | **3.24** [H] | **3.04** [L] |
| **Expected future wellbeing** | 3.62 | **3.72** [H] | **3.47** [L] |
| Place attachment | 4.03 | 4.02 | 4.05 |
| **Community attitudes and feelings towards CSG** | 2.97 | **3.17** [H] | **2.64** [L] |

*Note:* Bold font indicates significant differences in mean scores; [H] denotes significantly higher than [L]; [L] denotes significantly lower than [H]

## CSG SECTOR RELATED WORKERS AND OTHER RESIDENTS

**Table 30 Mean scores for community wellbeing, resilience, future wellbeing, place attachment, and attitudes and feelings by CSG sector work and other residents**

| Community wellbeing dimensions | WD region | CSG sector workers and other residents | |
|---|---|---|---|
| | | Resident CSG workers | Other residents |
| Personal safety | 3.91 | 4.11 | 3.89 |
| Community spirit | 3.89 | 3.98 | 3.88 |
| Health | 3.82 | 3.83 | 3.82 |
| **Income sufficiency** | 3.64 | **4.07** $^{H}$ | **3.61** $^{L}$ |
| Community cohesion | 3.58 | 3.42 | 3.59 |
| Built environment | 3.52 | 3.28 | 3.54 |
| Environmental quality | 3.49 | 3.57 | 3.49 |
| Social interaction | 3.43 | 3.57 | 3.41 |
| Services and facilities | 3.32 | 3.27 | 3.32 |
| Community participation | 3.09 | 3.18 | 3.09 |
| **Employment and business opportunities** | 3.09 | **3.73** $^{H}$ | **3.03** $^{L}$ |
| Community trust | 3.02 | 2.99 | 3.03 |
| Environmental management | 2.75 | 3.03 | 2.72 |
| Decision making and citizen voice | 2.64 | 2.53 | 2.65 |
| **Roads** | 2.45 | **2.11** $^{L}$ | **2.48** $^{H}$ |
| Overall Community wellbeing | 3.82 | 3.82 | 3.82 |
| Overall Community resilience | 3.16 | 3.03 | 3.18 |
| Expected future Community wellbeing | 3.62 | 3.68 | 3.62 |
| Place attachment | 4.03 | 4.11 | 4.02 |
| **Community attitudes and feelings towards CSG** | 2.97 | **3.60** $^{H}$ | **2.91** $^{L}$ |

*Note:* Bold font indicates significant differences in mean scores; $^{H}$ denotes significantly higher than $^{L}$; $^{L}$ denotes significantly lower than $^{H}$

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