



Perceptions of community responses to the unconventional gas industry: The importance of community agency



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ABSTRACT

When rural communities face major changes whether due to natural disasters, decline of old industries or the development of new ones, some appear to adapt well to the changes while others languish. From an extensive literature review, Brown and Westaway (2011) argue that community resilience, wellbeing, capacity, and capabilities inform agency, which in turn underlies different community responses to change. Further, it needs to be recognised that not everyone within a community is equally affected and groups of residents might perceive the community's response differently. To empirically examine the factors underlying five different perceptions of a community's response to change (resisting, not coping, only just coping, adapting, or transforming) a detailed telephone survey was conducted with 400 residents of the Western Downs region in Queensland, Australia, a rural area experiencing widespread changes in its social profile, economy, and landscape due to the rapid construction of unconventional gas infrastructure such as wells each kilometre, condensers, and pipelines. Most respondents thought the community was either adapting or only just coping with the changes. Two orthogonal factors underlay respondents' perceptions: community functioning and social engagement. Community functioning was by far the stronger factor and key aspects of community agency were reflected in four of community functioning's six dimensions: 1) community resilience actions such as planning and leadership, 2) collective efficacy, 3) community trust, and 4) inclusive decision making processes and citizen voice. High ratings of community functioning were associated with transforming followed by adapting, only just coping, resisting and not coping, in that order. Perceptions of the community's response were not predicted by demographic differences but the social engagement factor suggested that those with stronger social networks were more likely to think the community was not coping whereas those with weak social networks thought it was resisting, perhaps because they obtained their impressions from the Australian media which publicises public resistance to unconventional gas. The results support Brown and Westaway's analysis and also suggest that communities undergoing rapid change need support to be able to work with governments and industry and to facilitate key aspects of community agency.

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1. Introduction

For communities facing significant change, whether from natural disasters, rural decline or large economic developments, concerns for maximizing community outcomes becomes a prime objective of government and community stakeholders alike. How best to ensure communities respond to these changes in a positive

trajectory remains unclear (Morrison, 2014). Researchers and theorists identify the need to support communities through these changes and suggest a range of policies and initiatives often addressing underlying capacities and capabilities. However, some capabilities are more subtle and less tangible making it more difficult to understand and consequently support. Agency is one such capability, which although recognized as fundamental to effectively managing change is much harder to categorize and theorize in relation to communities responding to changes. This paper addresses this issue by reporting on research undertaken in the context of a rural community experiencing major economic development associated with the introduction of an extensive

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unconventional gas industry. The paper unravels community responses to the challenges of the gas industry and identifies key aspects of agency within broad underlying factors that contribute to effective community responses to change. Using survey findings conducted during the construction phase of Australia's largest unconventional gas (referred to as coal seam gas in Australia) project, and a framework of community wellbeing and resilience, we identify key dimensions of community functioning that differentiate between perceptions of not coping through to adapting or transforming into something better. The role of agency is discussed in this context, its underlying aspects identified, and its relationship to other dimensions of community wellbeing and resilience described.

1.1. The context of the research

This study is set in the context of unconventional gas development in the Western Downs region of southern Queensland Australia in 2014, which provides an opportunity to examine a range of community responses to change. Because of the scale of unconventional gas development with approximately 40,000 producing wells with associated pipelines, compression stations, and water treatment plants planned for Queensland by 2040, (Chen and Randall, 2013) unconventional gas activities have brought widespread and rapid change to rural communities in southern Queensland with associated impacts on community resources. The scale and speed of development of the industry with three major companies working in the same region has created challenges for local stakeholders. As Haggerty and McBride (2016) found in Wyoming USA, local government and community have struggled to keep abreast of the changes. For example in the Western Downs, Community Consultative Committees were not able to make concrete recommendations as they were still attempting to understand the industry and its implications well into the construction phase. It also meant that monitoring and regulation of the industry did not keep pace, for example, the Queensland Gasfields' Commission was not inaugurated until two years into the construction phase. The challenges have been compounded by the coincidental amalgamation of local governments which disrupted the existing patterns of community communication and coordination.

Australian media representations of local community responses to unconventional gas development focus on community resistance, often facilitated by political activism (e.g., <http://www.lockthegate.org.au/> and <http://frackmanthemovie.com/>). For those not directly affected by the industry the issue is presented as a conflict between economic drivers versus environmental and health concerns. However, local community responses to unconventional gas vary within affected communities and most accept or tolerate the industry (Walton et al., 2014). Areas of community concern include issues of water quality and farming land, new residents with different values and lifestyles, new local business opportunities and challenges, and new demands on roads, housing, sewerage and other infrastructure (Walton et al., 2013). Despite the absence of the support such as technical and financial assistance and supporting meta-governance, which Haggerty and McBride (2016) recommend, there were numerous diverse community responses which demonstrated its resilience. These actions were varied with each segment of the community aiming for differing, though not necessarily incommensurate, goals (Walton et al., 2013). Faced with a similar challenges, other communities have increased their effectiveness in dealing with social and economic development pressures by formalizing network structures and working to strengthen local capacity (Halseth and Ryser, 2015). However the Western Downs responses lacked integration as there was limited collaboration or coordinated planning (Walton et al., 2013;

Williams & Walton, 2014). This was probably aggravated by the recent changes at the local government level which limited the capacity for regional governance, a factor which has been identified as a key facilitator of effective community response by Morrison (2014), Haggerty and McBride (2016), and Onyx and Leonard (2010). This paper explores how local residents see their communities responding to unconventional gas development in the Western Downs region of Queensland, Australia. More specifically, it identifies factors underlying different perceptions of how their local community is responding, and how these factors relate to community wellbeing, resilience and agency.

1.2. Resilience and wellbeing approaches

In a thorough review of knowledge on resilience and wellbeing across the human development, wellbeing, and disasters literatures, Brown and Westaway (2011) argue for more integrated and human-centred approaches to understanding responses to environmental and other changes. This involves a shift away from understanding resilience and wellbeing as being measured solely by objective indicators such as employment and housing to a much more complex view that includes subjective and socio-relational aspects. They identified three types of responses to stressors (coping, adaptation, and transformation) which they argue interact with community agency, resources, resilience and wellbeing in complex ways. However, from the literature they were unable to explicate those relationships in detail. This paper seeks to explicate those relationships empirically in the context of local communities responding to unconventional gas development.

Further Brown and Westaway (2011) argue that community resistance also needs to be considered. However, they conceptualise resistance as part of transformative change, drawing on Bottrell (2009) notion that resistance-based-resilience "suggests the need for change in positioned perspectives, structured inequalities and the distribution of resources for strengthening resilience". In contrast, we argue that resistance needs to be included as a fourth type of response in the context of the unconventional gas industry in Australia with some highly active political groups opposing the developments (Walton et al., 2013). Walton et al.'s qualitative research also suggested a fifth response type "not coping" whereby some residents saw their community as being overwhelmed by a "tsunami of change". Thus these two types of community responses have been added to Brown and Westaway's three response typology, and this present research examines five responses to change: resisting, not coping, coping, adapting, and transforming (see Table 1).

Brown and Westaway (2011) also call for a better understanding of relationships between community wellbeing, resilience, and responses to change. McCrea, Walton, and Leonard (2014) set out a conceptual framework which articulates relationships between community wellbeing and resilience, which are often conflated in the literature. That conceptual framework was subsequently validated in the context of unconventional gas development in the Western Downs region (McCrea et al., 2015). The main thrust of this framework is that future community wellbeing depends on existing levels of community wellbeing plus processes of community resilience in times of change. They also detail a range of community wellbeing and resilience dimensions which can be used in examining relationships between perceived community wellbeing and resilience, as well as between them and perceived community responses to change.

The dimensions underlying community wellbeing are quite developed in the literature, though the dimensions underlying community resilience are less clear. However, Walton et al. (2013) suggest that the most important dimensions in the context of

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