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# Coal Seam Gas and Social Impact Assessment: An Anthropological Contribution to Current Debates and Practices.

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# Coal Seam Gas and Social Impact Assessment: An Anthropological Contribution to Current Debates and Practices.

## **Abstract**

Unconventional coal seam gas extraction is expanding rapidly in the renowned agricultural region of the Darling Downs in Queensland, Australia. These developments have given rise to substantial conflict, including the emergence of a national and vocal anti-coal seam gas movement. This paper examines the Darling Downs region and social impact research with regard to coal seam gas developments. It addresses disputes about coal seam gas on the basis of anthropological perspectives with regard to social dynamics and the concept of community, with examples derived from ongoing anthropological fieldwork, including interviews and observations in the area over the past eighteen months. Two specific documents are commented on, including the recent Queensland guideline for social impact assessments (SIA), and the SIA for Arrow Energy's Surat Gas Project. The paper suggests areas of possible improvement and argues that complex social dynamics and the notion of community should be more carefully considered in SIA.

## **Keywords**

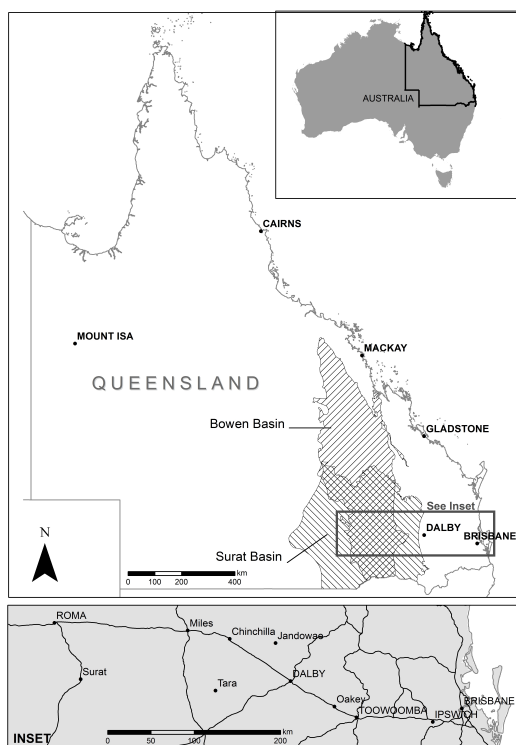
Unconventional gas, social impacts, community, conflict, fracking, resource extraction, governance

## **Cover Page Footnote**

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## Introduction

Unconventional gas has been extracted in Australia for more than fifteen years, but large-scale developments started to increase rapidly since about 2006. It became a matter of national and international controversy a number of years later, particularly after the release of the American activist documentary *Gasland* in 2010. Current extraction in Australia is largely from coal seams, with plans to extract gas from shale emerging more recently. Coal seam gas (CSG) extraction is most substantial in the relatively arable regions on the eastern seaboard, particularly the Surat and Bowen Basins in Queensland (see Figure 1). Large export facilities and industrial plants to convert the inland CSG into Liquefied Natural Gas (LNG) are under construction on the Queensland coast at Curtis Island near Gladstone. Smaller CSG developments are currently considered in areas such as the Northern Rivers in New South Wales and Gippsland in Victoria, among others. Shale gas exploration is underway in remoter regions such as the Canning Basin in northwest Western Australia, and the Georgina Basin in the Northern Territory.



**Figure 1:** The Surat and Bowen Basins in Queensland.  
Source: Whincop and de Rijke (2013).

In light of climate change and the need to reduce carbon dioxide emissions, CSG has been promoted as a 'transitional' source of energy, providing a cheaper and cleaner-burning source of energy than coal and oil. The CSG industry has also been welcomed as a new source of revenue by both the Queensland state government and rural landholders operating in financially challenging times. In 2011, the then-Premier of Queensland announced the arrival of a new 'gas age', characterised by multi-billion dollar investments, many thousands of new jobs and a general sense of future prosperity (Bligh, 2011). Two years later, in March 2013, the Australian Petroleum Production and Exploration Association (APPEA) stated in support of that vision that:

Queensland's coal seam gas industry now employs more than 27,000 people, has signed 3,500 landholder agreements, and has so far contributed more than \$100 million to community projects and causes (APPEA, 2013a).

The CSG industry expansion has undoubtedly brought increased economic activity and investment to resource regions such as the Darling Downs in the Surat Basin. Certain local businesses capable of servicing the gas industry, for example, have grown substantially as a result of these activities, and rural landholders engaged in agricultural pursuits may have obtained an important additional income stream. Additionally, Indigenous Land Use Agreements (ILUAs) may bring economic benefits to disadvantaged Aboriginal groups in extraction and processing areas. Moreover, to maximise the economic benefits for Aboriginal people, the New South Wales Aboriginal Land Council (NSWALC), in cooperation with a number of Local Aboriginal Land Councils in that state, is in the process of becoming actively involved in CSG exploration and extraction activities (NSWALC, 2012; Interview participants, January 17, 2013).

However, CSG has also given rise to substantial contestation, including the emergence of a national and vocal anti-CSG movement. This movement, largely under the umbrella of the Lock the Gate Alliance (LTGA) established in 2010, seeks to mobilise socio-politically diverse and localised groups across the country against CSG, and what it considers as inappropriate forms of mining generally (LTGA, 2013). It voices concerns about unconventional gas that are shared internationally, such as those with regard to controversial hydraulic fracturing technologies and the potential for environmental pollution, the continued use of fossil fuels in light of global climate change, future food production and human health. Local activist agendas oscillate between these concerns and those issues more specific to their region, environment and social dynamics. The intensity of national and international debates surrounding unconventional gas and attendant

technologies underlines the salience of social factors relevant to energy production and resource extraction.

This paper examines social impact research with regard to CSG developments in the eastern Darling Downs region of southern Queensland, an area broadly surrounding the town of Dalby (see Figure 1). It addresses disputes about CSG on the basis of anthropological theories with regard to social dynamics and the concept of community, with examples derived from both desktop research and ongoing fieldwork in the gas field region. The fieldwork examples described in the paper are drawn from in-depth semi-structured interviews with a range of persons largely selected through snowball sampling, including, but not limited to, cattle, crop, and cotton farmers with and without CSG infrastructure on their land, town residents, anti-CSG activists, local entrepreneurs and business representatives, government representatives, Aboriginal people, and residents of the rural residential estates in the region. Snowball sampling involved the selection of informants on the basis of referrals by interviewees, a method particularly useful in researching community networks: “who people know and how they know each other” (Bernard, 1995, pp. 97-98). While some examples are quotes from individuals - each with a particular background and social network - they aptly illustrate the broader range of regional social dynamics this paper aims to highlight. Based on the triangulation of data derived from multiple sources and research methods (e.g. Jick, 1979), including fieldwork data, academic literature, historical data, statistical analyses, as well as media releases and reports, the paper argues that the complexity of social dynamics and the concept of community should be more carefully considered in social impact assessments (SIAs).

The first part of the paper sets out, albeit briefly, some characteristics of the region under consideration. These characteristics inform the second and most substantial part of the paper on SIA theory and current practice. The new Queensland government’s SIA guideline, released in July 2013, and the Surat Gas Project SIA by Arrow Energy are used as case studies to comment on research practices and the ways in which social dynamics and the concept of community are engaged. The aim of the paper is thus to offer an anthropological contribution to research on the social aspects surrounding CSG debates in Australia and SIA policies more broadly.

## **The Darling Downs region of Queensland: Agribusiness, lifestyle and coal seam gas**

### **Land use**

The Darling Downs region was named in honour of Governor Darling by the botanist explorer Allan Cunningham in 1827 (Hall, 1925). Cunningham referred to the area with terms such as 'extensive tracts of open country', 'very superior country', and celebrated the 'the range of luxuriant pasturage' (Cunningham, quoted in Hall, 1925, pp. 6-7). These pastures would provide for the thousands of sheep and cattle brought to the Darling Downs by subsequent squatters, who followed some years later as a result of Cunningham's reports. The large stations they established in the 1840s and 1850s at the cost of the Indigenous population have long since been subdivided into smaller grazing and agricultural properties, but their homesteads remained an important part of non-Indigenous cultural heritage (e.g. Hall, 1925; Heritage Consulting Australia Pty Ltd, 2011).

As land use diversified on the Darling Downs, dairying, crops, timber, as well as coal resources were developed. A noteworthy historical development with regard to changing environmental engagements and priorities took place around the small town of Warra, an area of fertile cropping and cotton land where current landholders are strongly opposed to coal mining. This particular area was first developed for agricultural purposes by former railway workers and coal miners who had lost their jobs due to the local coal mine closure in 1919 (Heritage Consulting Australia Pty Ltd, 2011, p. 95). It is in this area that the Lock the Gate Alliance set up its first office.

Coal extraction and agriculture are historically intertwined and important to the economic and social history of the Darling Downs. At least in the earlier parts of the 20<sup>th</sup> century, these industries were not necessarily seen as incompatible. In his 1925 history of the southern Darling Downs, for example, Hall (1925, p. 4) described the potential of agriculture, but also noted that:

Some coal beds have been worked successfully for years, but there are many others lying as Nature made them, awaiting the power of Capital to vitalise the energy of man, so as to make the Darling Downs take its proper place as a coal mining area.

## Employment

The latest census data by the Australian Bureau of Statistics (ABS) indicate that in the eastern Darling Downs, 20 percent of employed persons over 15 years of age are employed in the industries of agriculture, forestry and fishing, and 4 percent in mining (ABS, 2011a). Despite the much smaller number of people employed in mining, in the Western Downs local government area where CSG is currently extracted, the mining industry nevertheless provided approximately 23 percent of gross regional product, followed at some distance by agriculture, forestry and fishing with 12.2 percent (Advance Western Downs, 2013, p. 2).

Once the dominant form of employment and production, agricultural initiatives on the fertile black soils of the eastern Darling Downs have faced significant challenges and changes since early colonial settlement of the region in the mid-1800s. So-called ‘closer settlement’ government schemes to radically increase rural population numbers based on an agrarian ideology in the late 1800s and early 1900s for example failed in light of “environmental, technical and economic problems” and the absence of appropriate farming skills among the envisaged “rural yeomanry” (Cameron, 2005, p. 129; Frawley, 2007, p. 378). During that period the wider region became infamous as ‘Prickly Pear Land’ due to the thick spread of the introduced Prickly Pear (*Opuntia monacantha*), which in vast areas was so impenetrable for humans and livestock it became “a serious biological barrier to the settlement of the Australian inland” (Frawley, 2007, p. 378). Prickly Pear was eventually controlled in the 1920s with the introduction of a South-American moth (*Cactoblastis cactorum*), the larvae of which are Prickly Pear-specific parasites (the Boonarga Cactoblastis Memorial Hall outside the town of Chinchilla is the only memorial hall in Australia built in honour of an insect) (Miller, 2012).

After World War Two, agriculture in the Darling Downs increasingly became a form of ‘agribusiness’, now characterised by ‘broad-acre’ farming and advanced technological production methods including GPS-guided tractors, laser-leveled land, sophisticated irrigation infrastructure, genetically modified crops, and properties of approximately 500 hectares (c.f. de Rijke, 2013a). Operating in global competitive markets, these farmers are now properly regarded as business managers: in 2011, 22.9 percent of owner manager enterprises in the agriculture, forestry and fishing sector of the eastern Darling Downs were listed as an incorporated enterprise, with some of these foreign owned (ABS, 2011a; Coffey Environments Pty Ltd, 2012a, p. 13-6).

With regard to the contemporary economic and demographic characteristics of the region, the Australian Bureau of Statistics (ABS), among other sources, provides pertinent data for analysis. Table 1 below, for example, indicates sudden population growth in the eastern Darling Downs region over the period 2006-2011, relatively low unemployment rates, and significant increases in rental prices and mortgage repayments in the region (although regional housing costs are relatively cheaper compared with Australia as a whole). As indicated by the ABS data on country of birth, the region is culturally and linguistically less diverse than Australia as a whole (see also Table 1).

**Table 1:** Eastern Darling Downs and Australian statistics (ABS, 2011a, 2011b)

<b>Eastern Darling Downs</b>	<i>Census year</i>			
	<i>2001</i>	<i>2006</i>	<i>2011</i>	<i>2011 (Australia)</i>
Total persons	38,284	38,160	40,241	21,507,717
Unemployment (%)	5.3	4.4	3.8	5.6
Median total personal income (\$/week)	344	407	511	577
Median total household income (\$/week)	673	837	1,002	1,234
Median mortgage repayment (\$/month)	650	893	1,300	1,800
Median rent (\$/week)	100	130	195	285
Country of birth = Australia (% of total population)	88.9	88.2	85.3	69.8

While the unemployment rate is relatively low, this does not necessarily mean there is sufficient work for the population. The Darling Downs, in terms of employment, is strongly dependent on agriculture, and fluctuations in the weather, commodity prices and other factors may affect yearly employment rates. The increased mechanisation of agriculture has also had significant negative impacts on local employment opportunities. Trendle (2001) suggested that outmigration - unemployed persons leaving in search of jobs elsewhere and thus no longer included in local employment statistics - might account for the maintenance of relatively high employment rates in such cases.

### **Non-resident workers**

Employment data therefore must be complemented with data on mobility. This topic has received particular attention in mining regions, with concerns raised about the influx of non-resident workers and potential social impacts (e.g. House



of Representatives Standing Committee on Regional Australia, 2013). The *Surat Basin Population Report* (Government Statistician, Queensland Treasury and Trade, 2012) provided pertinent data for the region, focussed on both the Western Downs Regional Council area (WDRC) and the larger Surat Basin in which CSG activities take place:

The Surat Basin's non-resident worker on-shift population nearly doubled over the year to June 2012 (p.1).

In the same year, non-resident workers on-shift made up 80 percent of full-time equivalent (FTE) population growth for the WDRC area (p.1).

In the year to June 2012, the WDRC area had the largest non-resident worker on-shift population, with 4,175 people or around two-thirds (65%) of the regional total, representing an increase of 108 percent over twelve months (p.3).

Many hotels/motels in the Surat Basin have limited capacity to provide accommodation for visitors other than non-resident industry workers: 400 out of 740 hotel/motel rooms were taken up by non-resident workers in WDRC (p.8).

These figures indicate what some residents qualitatively experience as a negative transition of the rural region and towns to industrial zones and what they refer to as 'mining towns'. In their study of mining developments, non-resident workers and attendant social impacts on rural communities in Queensland, Carrington and Pereira (2011, p. 2) argued that the social license to develop resource extraction projects "is very weak for projects planning to recruit a non-resident workforce in excess of 75 percent".

Large resource extraction developments are commonly accompanied by housing shortages and increased housing costs (c.f. Table 1), as well as increases in industrial traffic, which feature prominently in local concerns. In combination with the arrival of security personnel in the gas fields, publically non-accessible workers' camps, pipeline corridors, compressor stations, concerns about invisible but volatile substances, technologies such as underground hydraulic fracturing and other material transformations, the large increase in non-resident workers and industrial transformations of the landscape may contribute to a sense of alienation among certain residents (cf. de Rijke 2013a; 2013b).

Few empirical data are currently available with regard to local consequences of the arrival of large numbers of young to middle-aged men in the Darling Downs, which may potentially lead to increased levels of anti-social behaviour, crime,

(domestic) violence and personal injury, drug and alcohol abuse, prostitution, and feelings of insecurity among women (e.g. Carrington, McIntosh and Scott, 2010; Carrington, Hogg and McIntosh, 2011; Lockie, Franettovich, Petkova-Timmer, Rolfe and Ivanova, 2009).

### **Happiness Road and coal seam gas: issues of social differentiation**

While much concern has been expressed about the potential impacts of CSG developments on the sensitive black soils of the Darling Downs (e.g. Central Downs Irrigators Ltd, 2012), not all land in the region is exceptional for agricultural purposes. Certain areas of marginal land, commonly referred to by residents and surrounding farmers as 'light country' or 'goanna country', were sold for rural residential developments in the mid-1980s. The resulting residential estates attracted people from cities in Queensland and other states interested in cheap land and a quiet rural lifestyle. These properties are generally timbered bush blocks between 30 and a few hundred acres along unsealed roads with revealing names such as Happiness Road and Lucky Road.

Around 2009, however, dense CSG developments came to an area north of Happiness Road, and the residential estates have been the focus of much CSG dispute in the Darling Downs since this time.

Particularly in the early phase after subdivision, residents of the residential estates, who live largely without secure town water supplies or sewerage, were said to have caused considerable consternation among residents in the nearby township of Tara (Tara residents, personal comments, June 2013). A number of town residents alleged that most early estate residents were from lower socio-economic backgrounds and led alternative lifestyles, contributing to what they regarded as negative publicity and a general sense of decline in the town (Tara residents, personal comments, June 2013). These sentiments have endured at least to some extent to the present day. In 2009 a newspaper reported that the local mayor:

expressed concern that children were living in 'Third World' conditions on so-called 'lifestyle blocks' near the town of Tara, four hours west of Brisbane. "There is a small minority group there who have socially chosen to live a certain way and it concerns me greatly when children are involved," [he] said (Brisbane Times, 2009).

A number of residents on the residential estates have been vocal opponents of CSG developments, leading to tensions with those in the area who welcome the new job and investment opportunities this industry is seen to offer. For example,

in response to the verbal abuse in town of a CSG worker by an estate resident, an unsigned letter appeared on the public notice board in the main street of Tara (originally in capital letters):

This is the group of people who are devaluing our homes, our town and our blocks of land. Make no mistake, it is these people who are destroying the value of our town, not the gas and oil companies. This is the group of mainly unemployed drones who whilst having their snouts in the public trough are abusing and threatening honest workers who try to come into our town to spend their wages.

For their part, certain residents of the estates have reported numerous impacts since the CSG developments began, including land devaluation, health impacts, noise, and water contamination. They are acutely aware that their opposition is causing tensions, as one resident explained during an interview:

I copped a lot of shit here. [Someone's] neighbour attacked me and threatened to shoot me. Trucks were dumping the produced water and drilling waste. I thought it was dust suppression. When I swam in my dam, my skin came off. It is a real industrial zone. ... We had hopes and dreams [when we came to live here]. We were demonised as radicals. We're far from radicals. "Freddy" gets \$1500 per year [for a CSG well on his land] and I'm copping all the impacts. ... We don't want 'us against them' [i.e. the town residents], so we let through local plumbers at [road] blockades.

The CSG industry, in other words, has exacerbated certain prior community tensions, which inform current disputes. Forms of social stratification and power struggles have important historical dimensions. In the 1860s, for example, the Darling Downs was ruled by "an elite oligarchy of aristocratic pastoralists with excellent family connections, considerable wealth, and substantial estates" (Heritage Consulting Australia Pty Ltd, 2011, p. 78). They were referred to with reference to their valuable sheep as the "pure Merinos", and their elaborate homesteads and associated buildings contrasted substantially with the more utilitarian constructions belonging to less powerful landholders in the region (Heritage Consulting Australia Pty Ltd, 2011, p. 78, 80). As I will illustrate further below, related forms of stratification are still relevant to social dynamics in the region today.

## **Social dynamics and social impact assessment: theory and practice**

Power differences and attendant politics among social groups highlight the need for SIAs to carefully consider the concept of community in the dynamic terms of what the anthropologist Silverman (1966, p. 919) called “the cultural rules of hierarchical differentiation” (see also Cashmore and Richardson, 2013; Vicencio, 2001; Walker, 2010). Communities, as de Souza (2007, p. 141) noted, “are always and everywhere in a state of animated tension. Factions, quarrels, status distinctions are as much part of social life as solidarity, mutual regard and unified action”.

The notion of community, therefore, is an “unfolding, processual, affair, one which is continually responsive to changing political circumstance rather than being somehow programmed and predictable” (Peace, 1999, p. 159). Importantly then, representations of ‘the community’ by local residents should be understood as contextual sociopolitical and symbolic acts that suspend internal distinctions (Edwards, 1998, p. 154), mask forms of precariousness (Major and Winters, 2013, p.145), and construct similarity by drawing on “the capacity of symbols to encompass and condense a range of, not necessarily harmonious or congruent meanings” (Jenkins, 1996, p. 104).

For a detailed understanding of social dynamics and the possible impacts on it by CSG developments, SIA researchers ought to carefully consider community representations in light of the variously unfolding relationships among informants (c.f. de Rijke (2012) on the symbolic politics of community and belonging during a recent dam dispute in Queensland). This requires long-term qualitative fieldwork and it may include an analysis of the ways in which some, and not those who are silent or actively silenced, acquired and currently safeguard their ‘stake’ in the term stakeholder (but see also Metcalf (1998) on the ambivalence of informants).

In the context of the power dynamics involved in development proposals and impact assessments, researchers must also consider the implications of their *own* position, as consultants employed by proponents, government or communities, or as publicly funded academics, among other arrangements (cf. Ballard and Banks, 2003; Chase, 1990; Li, 2009; Negev, 2012). When the current author undertook anthropological fieldwork with regard to CSG disputes in the Northern Rivers region of New South Wales, for example, I was met with severe but anticipated suspicion among certain CSG opponents who distrust the University of Queensland as a result of its Centre for Coal Seam Gas, which receives funds

from the gas industry. Despite my fellowship at the School of Social Science, CSG opponents advocated a moratorium on research participation through national social media networks until my 'bona fides' had been further examined. With regard to contested developments such as CSG, these issues are a normal part of research discussions, and SIA researchers will be subject to similar sentiments while in the field. The implications of the researcher's reception in the field, including impacts on data gathering and the scope of research, however, are rarely addressed in SIA reports.

With the above perspectives and observations in mind, the next section elaborates on some of the main aspects of SIA research and, as case examples, comments on the recently released Queensland SIA guideline and the Surat Gas Project SIA by Arrow Energy Pty Ltd.

### **Social impact assessment**

The general principles of SIA are now well established (e.g. Esteves, Franks and Vanclay, 2012; Vanclay 2003). SIA, ideally, is about:

creating participatory processes and deliberative spaces to facilitate community discussions about desired futures, the acceptability of likely impacts and proposed benefits, and community input into the SIA process, so that there can be a negotiated agreement with a developer based on free, prior and informed consent. ... [T]here should be a specific focus on improving the lives of the worst-off members of society (Esteves et al., 2012, pp. 35, 40).

Esteves et al. (2012, pp. 35-37) also noted a number of pertinent concerns with regard to current SIA practices:

Compared to the extent of analysis and resources devoted to biophysical issues, SIA usually has a minor role. ... The limited capacity of regulators and the limited resources devoted to quality control have a significant impact on the standard of SIAs, with a tendency for proponents to produce assessments that only just pass the minimum expectations of regulators. ... Many reports lack adequate details about methods, sources and assumptions. The quality of analysis is another area of variability. Assessments are sometimes little more than a social and economic profile of the impacted communities compiled from secondary data sources. Analysis sometimes lacks identification of the spatial, temporal and stakeholder distribution of impacts and benefits. Integration with environmental, health and cultural heritage issues can be superficial. ... The adequacy of public participation continues to be an

issue. SIAs often do not meet public expectations of being a deliberative process to determine the acceptability of a project. Rather they are seen at best as a process for incremental project improvement, and at worst as being little more than a feeble attempt at project legitimization. Public participation ranges from being the provision of periods for public comment and the supply of information, to being the active involvement of stakeholders in shaping the SIA process and the opening-up of governance processes to include local communities in decision-making about projects.

In the context of governance and community input, proponents may rely strongly on the members of consultative committees to obtain information. In combination with the possibly limited capacity and quality controls of regulators, these committees may constitute, as Lawrence, Richards and Lyons (2013, p. 36) argued in the context of neoliberal agri-environmental governance in Australia, ‘an experiment in devolving responsibility, accountability and action [from the state] to the regional level’. Further, as I indicated above, there are questions as to how consultative committees and community workshop participants suspend internal distinctions in their representations of community. SIA researchers interested in the impacts of interventions on communities should always ask questions with regard to those who are *not* around the consultative table.

Noted by Esteves et al. (2012, pp. 37-38), the concept of ‘free and prior informed consent’, similar to ‘the social licence to operate’, raises difficult questions: Who has authority to give consent on behalf of ‘the community’? How much consent constitutes a licence to operate? What constitutes ‘informed’ in the context of epistemological diversity? Does consent include the right to veto, or the right to withdraw it subsequently? Who has legitimacy to provide information, and who decides what constitutes pertinent, credible and trustworthy information? What is ‘free’ in terms of potential power imbalances? While there is increasing engagement with these questions but little international consensus about the answers to them, it may be useful for regulators, proponents, communities, as well as SIA researchers to provide clarity and address them in some way.

SIA should be an iterative process over the entire project life cycle, including the early planning stages. However, given the complexity of social dynamics and the fact that most SIAs are commissioned by technically oriented professionals unfamiliar with the social sciences, there is a view among industry proponents that “the social analyses are often inherently messy, and with uncertain outcomes in terms of implications for the project” (Head of Social Performance, Anglo American, quoted in Esteves et al. 2012, p. 40).

An expression thus often heard is that ‘if you can’t measure it, you can’t manage it’. This expression is indicative of the tension between quantitative and qualitative data, and the desire by some to reduce complex social issues into categories of measurable and manageable indicators. While this desire may be understandable from a managerial point of view, over-simplification may lead to unforeseen social repercussions and possible costly consequences. It may also be an expression of what Roscoe (1995, p. 500) called ‘scientism’, which

deploys the term science as though it were a magical talisman guaranteeing the authenticity of whatever half-baked ideas are trotted out under its aegis. Unfortunately, such claims do exercise a sort of magic over the uninitiated - the lay populace and politicians who vote on funding priorities - thereby continually threatening to disenfranchise humanistic inquiry and other forms of inquiry as nonscientific. If I am not mistaken, however, the scientific boast is hollow: most forms of humanistic inquiry are as scientific as quantum physics; they differ only in their subject matter.

Certain anthropologists have long approached the study of social dynamics through distinctions between ‘emic’ (insider) and ‘etic’ (analytical) perspectives (e.g. Harris, 1976). In combination with quantitative analyses, such approaches may produce social insights both nuanced and comprehensive. However, the conciliation of concepts such as causality and social order with concepts such as human agency, ambiguity and creativity remains problematic in SIA. Reductionist portrayals of social life, possibly including simplistic cause-and-effect processes based on statistical correlations between a limited set of narrowly defined variables, have been criticised by anthropologists and others (e.g. Roscoe, 1995). Anthropologists themselves, however, may be criticised as a result of issues associated with the nature of ethnographic fieldwork, which is often conducted by a single person over long periods of time in the field, living among informants, and including various interview techniques and participant observations. These methods, if not adequately explained, may raise questions about ‘observational and representational integrity’ (Roscoe, 1995, p. 498).

A pertinent question in the context of this debate about methods and approach is what the regulator of development programmes and SIAs actually requires. In Queensland, the Coordinator-General (CG) employed a guideline for social impact management plans (SIMPs) (CG, 2012), but in July 2013 these guidelines were abandoned and replaced with a much more flexible guide to SIA. While not an exhaustive analysis, below I set out some of the main aspects of this recent policy change.

## **The Queensland SIA guideline**

In July 2013, a media statement by the Liberal National Party in Queensland indicated a political agenda to “cut red-tape for major resource projects to proceed in the state” (Seeney, 2013a). It announced modifications to the Queensland SIA policy, which reduce the prescriptive character of the previous guidelines. For example, rather than a broad examination of social impacts, the guide now limits the scope of impact assessments to only those to be considered “high risk impacts and uses outcomes-focused measures, (not prescriptive conditions) to better manage the impacts of projects” (CG, 2013, p.1). Coterminous with “red-tape”, SIA has been portrayed as an obstacle to the expansion of the resource industry.

The new guideline aims to “inform” SIA practice (e.g. CG, 2013, p.2) and introduces a number of poorly defined qualifiers to the requirements. Where the previous guideline prescribed that SIMPs should cover the full project life cycle (CG, 2012, p. 2), it now notes that “SIA covers the full lifecycle of the project *to the extent possible*” and that it should be “based on the best data available” (CQ, 2013, p.2, emphasis added). It is not clear who the arbiter of the extent of possibilities and “best data” is in these cases. Furthermore, the requirements to produce a comprehensive SIMP and conduct periodic reviews as part of an iterative process have been entirely removed from the guideline and the approval process.

The guide devolves significant responsibilities from the State to the proponents and impacted communities. With regard to SIA research practices, for example, the guide notes that “the proponent’s approach and methodology for identifying and rating social impacts should be acceptable within its organisation and by the communities of interest” (CQ, 2013, p. 10). It is left unclear how organisational or community acceptability should be understood in this context.

The SIA guide requires proponents to address only the important cumulative impacts of multiple projects in a region “where the proportion of the impact of the project can be readily and reasonably forecast and/or separated from the total cumulative impact or opportunity” (CQ, 2013, p.10). However, because cumulative impacts are the result of complex interaction and aggregation, possibly of multiple unrelated projects (e.g. Franks, Brereton and Moran, 2010), they are typically difficult to separate into individual project-specific components. If the guide is applied in such cases, important cumulative impacts on communities are unlikely to be considered in future SIAs.



The previous guide included an attempt to define a broad set of stakeholders including landholders, community groups and community representatives (CG, 2012). The current guide does not explicitly refer to impacted communities in the list of stakeholders, which now includes project proponents, state agencies, local governments and non-government organisations. Impacted communities are presumably regarded as non-government organisations. Moreover, in the description of the potential roles of non-government organisations in the development and implementation of the SIA, the focus is on impacts with regard to “non-government services to the community” (CG, 2012, p. 3). It is unclear how ‘services’ should be understood in this context.

In summary, the new SIA guideline constitutes a significant reduction in SIA requirements. It is part of a broader agenda to reduce state regulations regarded as ‘red tape’ obstructions to resource developments. Thus, for environmental impact statements (EIS) of which the SIA is part,

the terms of reference have been cut from 100 pages to 25 pages of requirements. This huge reduction has been achieved by highlighting the critical matters the proponent should allocate the greatest study effort to in an EIS and by removing overly prescriptive and duplicate requirements (Seeney, 2013a).

Because it is presumably regarded as ‘overly prescriptive’, the new SIA guideline does not address in detail many of the commonly accepted SIA principles such as iterative processes, impact interactions or the ways in which meaningful community participation may be achieved. It does not entertain or engage with the notions, however difficult, of the social license to operate or free, prior and informed consent, and it does not include a specific focus on those in society who are worst off (c.f. Esteves et al., 2012). The guideline does not require a critical assessment of SIA methods, sources and assumptions, which may encourage, as Esteves et al. (2012) noted, little more than desktop-based social and economic profiling, lacking a more nuanced understanding of interests and potential impact distribution. There are no explicit requirements, as also suggested by Esteves et al. (2012), to integrate environmental, health or cultural heritage issues. Suggestions for the detailed study of community networks, internal socio-political distinctions, interactions with biophysical surroundings, and matters of social significance are also absent.

In thus requiring a minimum engagement with the social dynamics in proposed project areas, the new SIA guideline may have the dual effect of failing to adequately support vulnerable groups throughout the life of projects, *and* failing

to recognise and promote the full variety of community opportunities that may arise from such projects.

In light of the above, I will now examine the Arrow Energy Surat Gas Project SIA and SIMP. This study was produced under the previous guideline which, compared with the current SIA guideline, was more prescriptive and detailed.

### **Arrow Energy's Surat Gas Project SIA and SIMP**

The SIA is part of the much larger EIS prepared by Arrow Energy for its Surat Gas Project, which covers an area of approximately 8,600km<sup>2</sup> and includes the proposed construction of about 7,500 CSG production wells and associated facilities. The company was provided with terms of reference for the EIS by the Queensland government (Queensland Department of Environment and Resource Management (DERM), 2010).

The social analyses in the Arrow Energy EIS contain a chapter entitled 'Social' (50 pages), the SIMP (as an attachment of 43 pages) and the SIA itself (as an appendix of 199 pages). The SIA was produced by the sub-contracting company URS Australia Pty Ltd (URS) for Arrow Energy's main EIS contractor Coffey Environments Pty Ltd.

The SIA and SIMP documents do not contain the full variety of social aspects related to Arrow Energy's project. Separate chapters and related appendices are provided under headings such as 'landscape and visual amenity', 'non-Indigenous heritage' and 'Indigenous cultural heritage'. Two sub-sections in other chapters provide information on 'the social environment' and socioeconomic cumulative impacts. A substantial 'consultation report' (579 pages) is provided as an appendix by sub-contractor JTA Australia, which was engaged to undertake the overall project community engagement and consultation processes.

While the SIA itself cross-references relevant other sections in the EIS, the various researchers appear not to have integrated their work to an extent that might be more conducive to knowledge and data sharing. For example, the SIA by URS contains a pie-chart pertaining to 'community knowledge' of the project when the consultation process started in 2009. The survey data were provided to URS through 'personal communication' by the major contractor Coffey Environments in 2011. The pie-chart divides the community (although the total number of respondents is unspecified) into three knowledge levels that leave much room for analytical improvement: those who "knew a lot", those who "knew a few things", and those who "knew nothing" (URS, 2011, p. 75).

The section in which this pie-chart was provided, entitled ‘Community and Stakeholder Engagement Analysis’, provides further information of concern. It implies there had been little success in the alleviation of local concerns through participatory decision-making processes. The SIA indicates that:

the issues of concern have remained largely unchanged since the consultation process commenced in late 2009, [but] the community has become increasingly informed and aware of the CSG industry and the Arrow Surat Gas Project, through Project consultation activities and through the media. ... Despite this increasing awareness, there remains a high level of confusion and misunderstanding amongst stakeholders (URS, 2011, p. 74).

In this context, the SIA and associated documents are notably silent on the ‘social licence to operate’ and whether the proponent is of the opinion that such a licence has ultimately been obtained.

With regard to the methods employed in the SIA and related social studies, some further comments may be made. Firstly, the SIA does not ground its employed methods in a critical assessment of the broader SIA literature or available international best practice guides. Rather, the methodology chapter simply sums up what was done during the study. Similarly, the suggested impact mitigation strategies are not formulated in the context of the evidence-based literature about the effectiveness of such strategies in other cases. It may be that such assessments provide either weight or alternatives to those actions currently proposed. They may also increase public confidence in the quality of the research programme and its conclusions.

An example where the methods appear at odds with the aim to convey local social significance is found in the chapter and related documents with regard to landscape and visual amenity. The author recognised that “[t]here are no established, measurable technical thresholds for significance of change for landscape and visual impacts” (Coffey Environments, 2012b, p. 18-5). It was further proposed that the study should engage, among other things, the nature of the landscape, including “[i]ts inherent landscape value (its condition, perceptual qualities, cultural importance and any specific values that may apply...)” (Coffey Environments, 2012b, p. 18-5).

The researcher(s) recognised the qualitative dimensions of their research objectives, but appear to have misunderstood qualitative research for subjective judgements on the part of the researcher, rather than the detailed investigation of

social significance, values, and perceptions of change through direct research with the people concerned. They stated that:

The LVIA [Landscape and Visual Impact assessment] process aims to be objective and describe factually any anticipated changes to landscape resources, views and visual amenity. Potential changes as a result of the project have been defined; however, the significance of these changes requires qualitative (subjective) judgements [sic] to be made. The conclusions to this assessment therefore combine objective measurement and professional interpretation. ... [Following desktop analysis] field visits focussed on those aspects of the landscape with potential to be of the greatest sensitivity to project activities and gaining an appreciation of those aspects of the project most likely to affect landscape and/or visual values (AECOM Australia Pty Ltd, 2011, pp. 15, 18).

Rather than a determination of visual values and matters of significance by the researchers, it is more appropriate to undertake detailed fieldwork among local residents and visitors to gain an appreciation of their visual values and opinions about the significance of possible changes to the landscapes with which they interact.

With regard to the methods, notions of community, social significance, and the socio-political distribution of interests among stakeholders, a number of comments may also be made. The SIA states that (URS, 2011, p. 73):

Stakeholder perceptions have been obtained through qualitative, quantitative and participatory research methods. Stakeholder engagement has included:

- A series of focus groups to identify areas of concern and aspirations relating to the Project;
- A detailed, statistically valid, quantitative telephone survey of the study area and communities of interest to quantify the weight, or level of importance, placed on identified issues or opportunities. The survey also sought to identify perceptions around CSG producers' ability to manage these impacts;
- Meetings and interviews with key stakeholders to understand the existing social baseline in the area and to identify areas of concern and aspirations relating to the Project; and
- Review and interpretation of other independent stakeholder analysis.

The chapter entitled 'Social' includes certain statements about qualitative notions of community recorded during research. It includes statements such as "[R]esidents of the study area value living in cohesive, stable communities, which offer a high standard of living" and "[T]he pace of life, combined with relatively small, stable, close-knit communities, fosters a sense of rural friendliness, which is highly valued by residents" (Coffey Environments, 2012c, pp. 22-11). While I do not doubt that residents may express such views, as indicated in the section above on social dynamics and the concept of community, the SIA could go beyond such statements and interrogate more fully how such views can be understood in the context of (historical) rural socioeconomic change, contemporary social divisions, alliances, and disputes about CSG.

During my own fieldwork with regard to CSG developments, environmental relationships and social networks in the region I found, for example, that farmers may downplay or ridicule the environmental knowledge of 'town people' with regard to envisaged impacts on soils and water. Long-term residents may equally downplay concerns held by more recently arrived residents. More recent farmers and town residents may resent or contest what they perceive as elitist behaviour and claims to social authority by multigenerational and powerful farming families. As an indication of unfolding relationships, certain Aboriginal people attempted to oppose CSG projects but joined contested negotiations later on. I already referred to attenuated social friction resulting from diverging attitudes towards CSG developments, references to alleged 'Third World' living conditions, and the potentially unequal distribution of impacts. And while some farmers in the region have recently joined environmental activists in opposition to CSG, this unusual alliance is subject to ongoing social politics and differences. During interviews, a number of farmers, for example, referred to continuing disagreement with environmentalists about tree-clearing laws and other aspects of environmental regulation. One farmer poignantly referred to a prior period of intense "trench warfare" between local farmers and environmental groups over issues such as the environmental consequences of industrial farming practices in the region and the introduction by farmers of genetically modified cotton. These are indicators of important social dynamics and the factions, quarrels, and status distinctions of everyday social life as referred to by de Souza (2007). SIA researchers must consider these in conjunction with those expressions of social life that focus on small, stable, close-knit communities and a sense of rural friendliness.

The SIA makes little effort to contextualise the statements of stakeholders and appears to take at face value the statements obtained through consultation. Further, the proponent's suggested role of consultative committees, such as the

Arrow Surat Community Reference Group and the Arrow Intensively Farmed Land Committee, may create concerns about governance, as the representative organisation of regional irrigators submitted in response to the EIS (Central Downs Irrigators Ltd, 2012, p. 7):

DERM [the Queensland Department of Environment and Resource Management] has in the past refused to condition Environmental Authorities issued to Arrow for exploration in ATP683 because they claim that these committees are dealing with the issues. Landholders and the community find this situation totally unacceptable as these committees have limited community acceptance and are wholly resourced and populated by Arrow appointees. The committees TOR [Terms of Reference] also clearly state that the existence of the committee is to facilitate Arrows development of CSG in the region and in no way compels Arrow to deal with issues to the communities satisfaction. We request that the regulator not defer its responsibilities to condition issues to Arrows committees for determination. While effective consultation with landholders is essential, it is not acceptable for this consultation to be a substitute for the Queensland Government conditioning this project to ensure avoidance, mitigation and management.

This submission resonates with the concerns raised also by Lawrence et al. (2013) about contemporary neoliberal governance models that devolve responsibility from the state to the region and consultative committees, a development also apparent in the recently announced modification of Queensland EIS and SIA policies. It also hints at power dynamics and representational contestation within communities. As I argued, SIAs can play an important role in understanding such dynamics, and this is applicable to both Indigenous and non-Indigenous communities.

The Surat Gas Project SIA is limited in its engagement with vulnerability, gender and Indigenous communities. The vulnerable groups identified in the SIA are: low income groups (URS, 2011, p. 50), pensioners, those with disabilities who require particular housing types, and Indigenous people (URS, 2011, p. 127). Little analytical detail is provided with regard to the interaction of various physical and social dimensions contributing to vulnerability and risk (cf. Cartwright, 2013; Checker, 2007), or other categories of persons which may be considered vulnerable under certain conditions, such as young single mothers, those with mental health problems, or those from different (non-Indigenous) cultural backgrounds, among others.

With regard to Indigenous people, the SIA does not consider the interaction of CSG developments with Aboriginal political dynamics and cultural practices. These complex interactions may impact on agreement-making processes, heritage protection activities, and the potential outcomes of agreements. The SIA document contains a rather monolithic representation of ‘Indigenous people’ divided into a number of language groups and/or native title claim groups. In certain areas, Indigenous Land Use Agreements may be made with Aboriginal parties who claim to hold native title rights and interests in the area. These claims, some of them contested internally and/or by other Aboriginal groups, are yet to be resolved by the Federal Court of Australia. The uncertainties this creates for companies and Aboriginal parties are considerable. While the Indigenous cultural heritage report deals substantially with the legal aspects of agreement making, available data on sites and cultural heritage protection protocols, a thorough engagement with Aboriginal people had not yet occurred. As a result the analysis of the potential social impacts of CSG among Indigenous people remains largely unattended to in the SIA.

### **Conclusion: policy, politics, and SIA practice**

CSG developments are expanding rapidly across the Surat and Bowen Basins in Queensland. These regions are changing as a result, both physically and socio-economically.

In Australia, there have been considerable changes in state and federal CSG policies over the past few years, creating uncertainty for communities as well as development proponents. The overall management of project assessments continues to be a matter of concern. Where individual states that stand to financially benefit significantly from large resource projects are responsible for project assessments, questions may arise about the independence and quality of such assessments. A recent media investigation in Queensland, for example, alleged that political pressure to approve was put on public servants responsible for CSG project assessments, despite their concerns about potential environmental impacts and a perceived lack of detail in the EIS (The Courier Mail, 2013). Companies were also alleged to have unduly influenced sections of assessment reports (The Courier Mail, 2013). A subsequent assessment by the Crime and Misconduct Commission Queensland (CMC), however, found no evidence to substantiate allegations of official misconduct, and concluded that any existing pressure “came from trying to meet deadlines in a department that had to consider a large number of significant projects” (CMC, 2013).

The previous Australian Federal Government shared some assessment concerns and moved to take more control over CSG projects by proposing to include a 'water trigger' in the federal Environment Protection and Biodiversity Conservation Act. This will allow for the federal assessment of those CSG projects potentially impacting nationally important water resources. The move was met with severe criticism from industry and the Queensland state government, concerned about what they perceive as increased "green tape" and desperate "scaremongering" (APPEA, 2013b; Seeney, 2013b). At the time of writing it remains to be seen how the Coalition Government, which won the federal election in September 2013, will operationalise its envisaged "one-stop-shop" model to streamline approval methods covering both Commonwealth and State legislation.

The Queensland government itself has adopted an adaptive management strategy for coal seam developments (cf. Swayne, 2012). This entails, essentially, a learning-by-doing approach to a complex, fast-changing and contested industry. In terms of social management, the new Queensland SIA guide entails a significant reduction of requirements to minimise 'red tape' and to expedite the approval and expansion of resource extraction projects. It introduces reduced regulatory policies of resource extraction based on minimal government involvement characteristic of neoliberal governance models. The public may be left wondering whether such policies will facilitate the approach adopted recently by at least some US shale gas companies in their community and media relations strategies, including the employment of former military counter-insurgency officers and controversial 'psyops' (psychological operations) tactics to deliver outcomes beneficial to industry (Pittsburgh Post-Gazette, 2011).

In conclusion, the new Queensland SIA guideline introduces a significant reduction in regulation and best-practice requirements. While there is an international momentum to engage with difficult but important concepts such as the social license to operate, the regulator has taken to poorly articulated suggestions instead of best-practice and clearly defined requirements.

While not subjected to an exhaustive analysis, the case example of the Surat Gas Project has identified a number of areas where questions emerge about the assumptions, methodological approaches and analytical strengths of the SIA study. It is of some concern for the future quality of SIA reports that this study was conducted under the previous Queensland requirements, which have now been significantly reduced. Those parts of the Surat Gas Project EIS that relate to matters of national environmental significance and hydrogeological impacts recently received strong criticism from the federal government's Independent



Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC). The Committee found that, among other issues, “a number of improvements could be made to the survey method”, that “further data is required to improve confidence in modeling”, and that a “field-based assessment” is required to assess vulnerabilities associated with changes to groundwater hydrology (IESC, 2013, p.2). In terms of the SIA, the assessment of vulnerabilities, social values and differentiation, which is currently limited, may similarly benefit from carefully considered fieldwork in the region.

As a discipline characterised by qualitative and participatory fieldwork methods to understand human diversity and culture, anthropology may enhance the quality of SIA studies. I have advocated a detailed approach to complex social dynamics based on quantitative and qualitative research methods and data triangulation because the possible social impacts by CSG developments, both positive and negative, are best assessed where researchers study the concept of community, including active representations and notable silences, in light of the variously unfolding relationships among residents in the impacted region.

The incentives in the recently announced policy modifications in Queensland, however, work to promote a very different approach; a minimalist study of social characteristics aimed at expediting project approvals. Therefore, the policy challenges for impacted communities are now fundamentally political: how to obtain an appropriate voice in the articulation of those social and approval policies with the potential to dramatically impact the full variety of living conditions in regions of proposed developments.

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