

Mining – godsend or manmade disaster in the eyes of rural communities?

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ABSTRACT: *A typical response upon hearing the word ‘disaster’ is to associate it with ‘natural disasters’ although the word also refers to disasters brought about by human negligence or poor judgement. During a mixed-methods case study of Moranbah, Queensland, the perceived impact of mining on the community’s daily lives, their future and the liveability of their town emerged as a very strong theme. This theme should be viewed against the twenty-first century planning paradigm where governance has replaced government, and participatory and communicative planning is held as best practice. The value of this research lies in the fact that Moranbah shares many of the characteristics of other Australian rural resource towns and valuable lessons can be learnt from this fifth fastest growing town in Australia. The conclusion of the authors is that poor judgement or ‘man-made disasters’ have the potential to impact on the living spaces of communities as severely as ‘natural disasters’. Further research is recommended to investigate the sociological and psychological underpinnings of community viewpoint, especially the adaptation of social indicators to individual contexts.*

Keywords: *resource boom, disaster, liveability, Moranbah, social indicators*

INTRODUCTION

One is prone to associate the word ‘*disaster*’ with natural disasters, especially in Australia that is subject to severe flooding, cyclones, bush fires and droughts. The word ‘*disaster*’ actually also refers to disasters brought about by negligence or poor judgement on the part of humans (Flint & Luloff, 2005). Individuals and communities have differing abilities to withstand and recover from disasters, and the concept of ‘*vulnerability*’ comes into play as well. The United Nations (UN) defines vulnerability as the ‘conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of a community to the impact of hazards’ (United Nations, 2004, p. n.p.). ‘*Disaster*’, man-made or natural, is deemed to undermine the notion of sustainability (Grant, 2007).

This paper argues that ‘*man-made disasters*’ have the potential to impact on the living spaces of communities as severely as ‘*natural disasters*’ and is based on a case study of Moranbah, Queensland, a modern rural mining town (Freestone, 2010) with a permanent population of 8 511 people, located 200 kilometres inland from Mackay (KPMG, 2011). The town is currently experiencing severe housing stress, high housing cost and social problems due to the generally strong growth in the mining sector since the establishment of the town in 1973 (Freestone, 2010; Urban Land Development Authority, 2010b).

The boom in the mining industry surrounding Moranbah and subsequent State Government decisions have led the authors to view the current incarnation of the mining industry in Moranbah as a ‘man-made’ disaster. At the same time, the responses from research participants have revealed the vulnerability of the Moranbah community to this perceived disaster. The resilience of a community is closely associated with environmental, economic, social and human capital, all overlapping and linked closely with the UN’s factors that determine vulnerability.

The value of this research lies in viewing Moranbah as an example of the many resource towns which dot the economic landscape in Australia (Lawrie, Tonts, & Plummer, 2011). Secondly, there is a lack of research on the relationship between resource dependence and socio-economic well-being in Australia (Lawrie, et al., 2011). The validity of the Moranbah community opinion should be viewed against the background of twenty-first century trends in planning, such as the shift from government to governance that allows for more participative and communicative planning practices (Healy, 2010). Qualitative responses should augment quantitative data on which decision-makers base policies and interventions (Regional Social Development Centre, 2011).

Significant findings from other research studies that influenced this study are that resource town Local Governments are not financially in a position to alleviate housing shortages; Federal and State Government, and financial institutions are unwilling to do so, and systems are largely paternal, giving the occupants of mining towns little opportunity to self-determine the sustainability and liveability of their towns.

The paper first examines the nature of planning in the twenty-first century, then moves on to the Australian and Queensland context, followed by detail on Moranbah. Next the research question is posed, followed by the conceptual framework and an explanation of the methodology. The major findings are followed by a conclusion and recommendations.

BACKGROUND

The nature of twenty-first century planning

This case study should be put into a context wider than Australian resource towns: societal views on government have changed and resulted in a change in the planning-power-politics relationship dynamics. In the 1970s, planning systems and practices were regarded a tool of the state, and decision-making in the hands of the economic elite (Gualini, 2010). Current planning theory emphasises planning with the people rather than for the people (Khakee, Hull, Miller, & Woltjer, 2008). This transformation has brought forth concepts such as *liveability* (Gualini, 2010), as well as higher levels of scrutiny of planning structures and policies, and a cry for greater accountability (Healy, 2010; McGrath, Armstrong, & Marinova, 2004).

Despite these changes, bureaucratic paternalism is still found in planning policy and systems. Paternalism hampers participatory development, as planning takes place without the informed consent of stakeholders, albeit with the intention of benefitting them (Karlsson & Nilholm, 2006). Collaborative relationships are deemed to be a tool to counteract this 'dark side' of planning (Sanoff, 2000), serving public interest (Gleeson & Low, 2000). Planning currently is more than physical land use control; a-spatial influences now play an equally important role in determining outcomes (Young, 2008), and necessitates a departure from hierarchical systems (Brownhill, 2009; Nelson, 2007). The added societal aim of sustainability poses the philosophical question whether or not social and equity goals can be balanced with economic and environmental goals (Grant, 2007; Pears, 2007).

Australian and Queensland context: governance and resources

The Federal Government delegation of responsibility for regional development to State Governments, has been criticised on the basis that regional problems are mainly due to national and international policies and forces and, as such, require State and Commonwealth support (Beer, Clower, Haughtow, & Maude, 2005). The lack of support is evidenced in the fact that Local Government in Australia is financially weaker and more restricted than in

comparable countries (Beer, et al., 2005). In resource towns, the poor support extends to financial institutions who are reluctant to grant bonds on residential properties, leading to a reliance on non-private and temporary accommodation for mine workers (Australian Housing and Urban Research Institute, 2009).

The housing dilemma is compounded by the unpredictable and cyclical nature of the mining industry, and the often regional or remote locations of resource towns (Australian Housing and Urban Research Institute, 2009). Housing problems impact negatively on service workers and the local population, especially low and moderate income households (AHURI 2009). These social issues have generated a demand for greater mining industry support, partly resulting in a greater investment in social infrastructure. This investment is viewed with scepticism by communities, and is seen as profit motive cloaked as social responsibility (Riley & Basson, 2011). This negative view is borne out by authors such as Brannock and Tweedale (2012) who observe that entities only consider public interest if forced to do so by law.

Natural resource communities suffer the 'curse of resources' (Bush, 2008, p. 361). Communities are typically viewed as vulnerable to environmental and societal processes, and also less equipped to deal with it, especially due to external control forces (Flint & Luloff, 2005). This vulnerability has increased partly due to changed arrangements for accommodation for mining communities. In contrast to the 1960s, when more than 20 new mining towns were developed in Australia, no new mining towns were developed since the 1980s, with Fly-In-Fly-Out (FIFO) arrangements now preferred (Cheshire, Everingham, & Pattenden, 2011). Fly-Over effects mean that towns do not partake equitably in the economic benefit of mining activities, whilst suffering negative impacts (Cheshire, et al., 2011). The economic benefit to mines of employing this method of staffing remote mines is well documented, but communities do not share the benefits of the development of regional resources, something they feel entitled to (Storey, 2001). The mining industry is then expected to compensate for these negative impacts of non-resident workforces through providing employment opportunities for locals, business support and donations (Cheshire, et al., 2011). These forms of support foster a culture of dependency or patronage, as opposed to helping build a more diversified economy, skilling workers and building community capacity through inclusive local governance partnerships (Cheshire, et al., 2011).

Regional planning in Queensland is focused on de-regionalisation strategies, resulting in temporary workforces, not strengthening permanent communities in towns. In the eyes of these communities, Government views them as temporary and, therefore, not important (Brannock & Tweedale, 2012).

The role of Local Governments

Local Governments play a very important role in the sustainability of small towns due to their geographical and relation proximity to the community and they are crucial members of any development partnership (Griffin & Curtin, 2007; Martin, 2006). Existing governance structures are often weak and alternative development opportunities absent due to remoteness (Cheshire, et al., 2011). State interests in mining prevent Local Governments from steering mining development. At the same time Local Governments cannot deal with the pressure on the social infrastructure in their towns, necessitating state funding to alleviate these problems (Brannock & Tweedale, 2012). Non-resident workers are not counted as permanent residents by the Australian Bureau of Statistics (ABS), impacting on government funding of social

services, disadvantaging the permanent population for whom this funding was originally intended (KPMG, 2011).

Isaac Regional Council and Moranbah

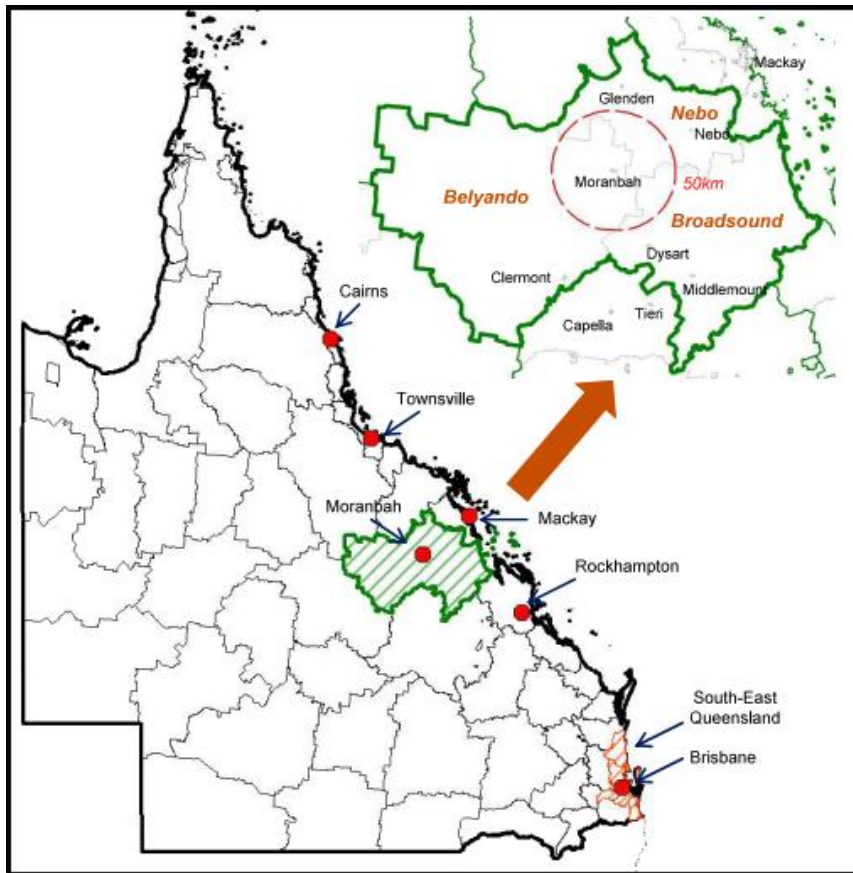


Figure 1 Location of Isaac Regional Council in Queensland

(Note: Reproduced from 'Redefining Regional Planning: Managing Change, Measuring Growth' by KPMG, 2011, p. 17. Copyright 2011 KGPM)

A KPMG study shows that Isaac Regional Council (IRC) is currently the fifth fastest growing municipality in Australia. The 2011 IRC resident population is estimated at 23,030, the non-resident population at 19,800, giving a total population of 42,830, a figure forecast for 2042. This growth has put severe stress on existing infrastructure and provisioning of services: the IRC ratepayers base of 23,000 residents are financing services provision for a population of 42,000 (KPMG, 2011).

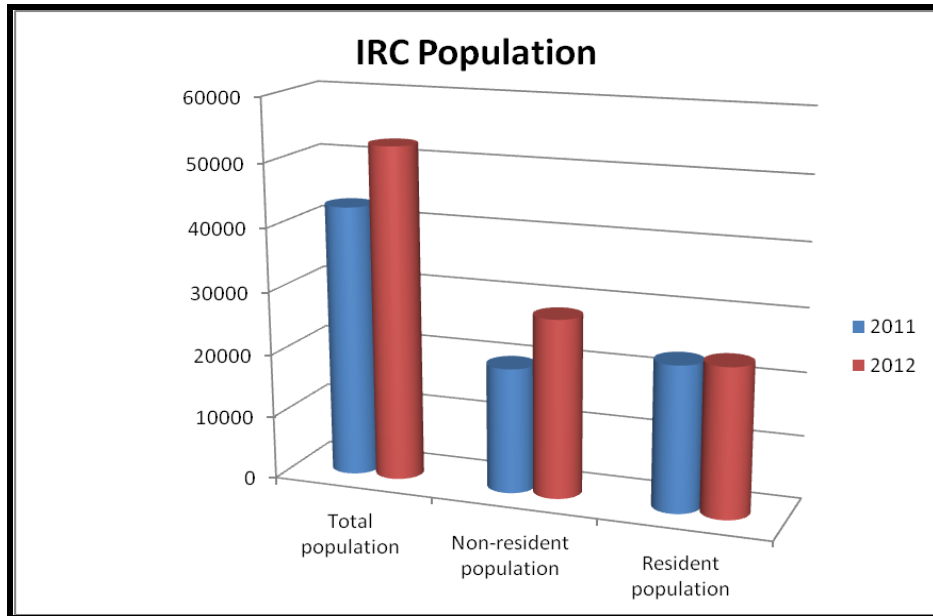


Figure 2 Isaac Regional Council Population

(Note: Adapted from 'Redefining Regional Planning: Managing Change, Measuring Growth' by KPMG, 2011, p. 17. Copyright 2011 KGPM)

Moranbah is an IRC mining community where the local population is significantly affected on all levels by nearby mining activities, but not all the occupants are directly associated with mining activities (Tuck, Lowe & McRae-Williams, 2005). It is landlocked by mining leases, preventing expansion. There are 29 operational mines in IRC with a further 23 mines planned. Two of these mines are in close proximity of Moranbah, with a third mine currently under construction (KPMG, 2011).

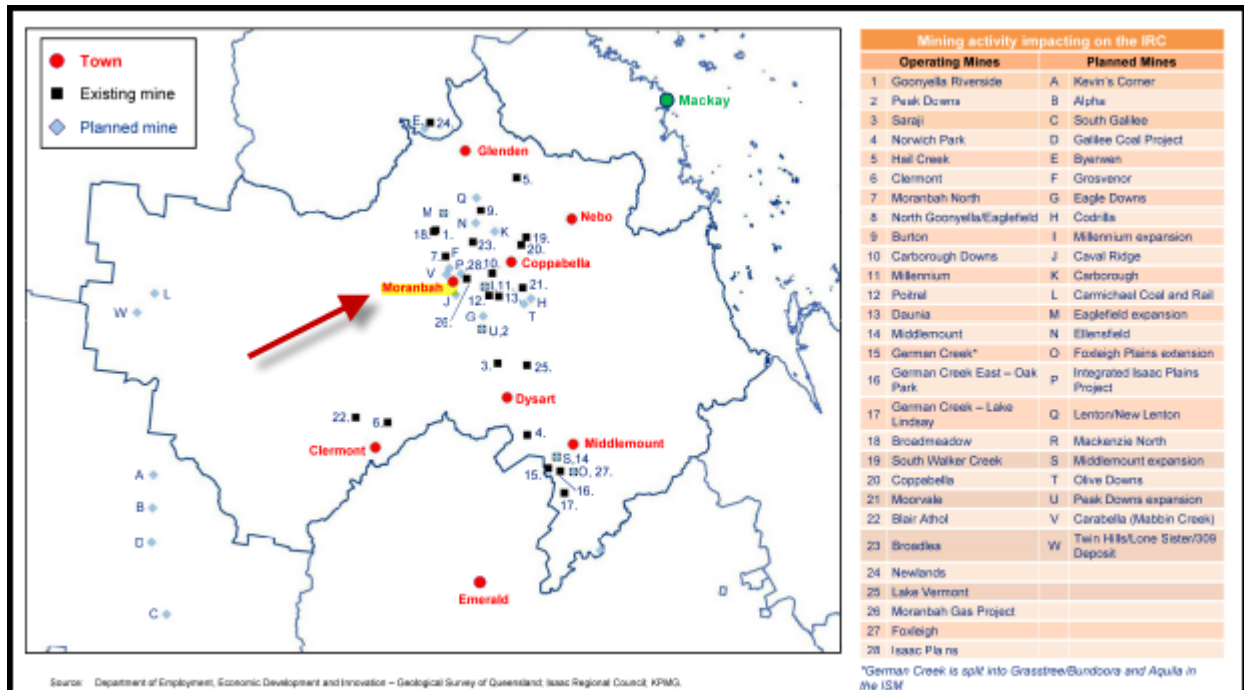


Figure 3 Isaac Regional Council Population

(Note: Reproduced from 'Redefining Regional Planning: Managing Change, Measuring Growth' by KPMG, 2011, p. 23. Copyright 2011 KGPM)

The mining industry preference for non-resident workers since the 1980s has contributed to a lack of suitable family accommodation in Moranbah. The inability to address the housing crisis brought about by the extensive mining activities surrounding Moranbah was further compounded by the 2008 amalgamation of the Councils of Nebo, Belyando and Broadsound into the IRC. Funding to provide infrastructure was terminated by State Government, leaving newly amalgamated regional councils relying on own funding sources to maintain and provide new infrastructure for a larger jurisdiction area. The inability of the local government, and the choice of mining companies to not address the housing crisis in Moranbah, resulted in the declaration of a 1218 hectare Urban Development Area (UDA) in Moranbah in 2010, making the *Urban Land Development Act 2007* (ULDA Act) the greatest regulator of mining accommodation in Moranbah (Brannock & Tweedale, 2012). The UDA declaration was an effort to alleviate the housing stress within a short time frame (Urban Land Development Authority, 2010a).

Table 1 Isaac Regional Council Population

2010 Moranbah population estimates		
Resident population	8,511	Estimated Resident Population (ERP) Annual estimates of the resident population during between- census years Derived from data on population indicators
Total non-resident workers	2,931	Non-resident worker Employees who live in an area for extended periods when working, but have a permanent place of residence in another area Includes FIFO workers
FTE population estimate	11,442	Full-time equivalent (FTE) population Approximation of total population living in an area at a given point in time
Per cent of non-resident Workers	26	

(Note: Adapted from information of the Office of Economic and Statistical Research, 2011. Copyright 2011 OESR)

Although the 2010 Moranbah population estimates, above, show non-resident workers as 26 percent of the FTE population in Moranbah, approximately 2000 additional rooms are currently in use in existing accommodation villages, and a further accommodation village of about 3000 beds is being considered by the Urban Land Development Authority (ULDA) in the Moranbah UDA. If approved, and when fully developed, it will more than double the non-resident worker population of Moranbah, representing another example of State Government Agency decisions which limit opportunities to provide family accommodation in Moranbah. There are also privately owned accommodation villages that have the potential to double residents serviced, by employing ‘hot-bedding’ where workers on-shift and off-shift share the same beds.

Currently, the non-resident population in Moranbah is predominantly housed in largely self-contained accommodation villages inside the urban footprint. This self-sufficiency results in limited use of local businesses and service providers. BMA was successful in obtaining approval of their proposal for a 100 per cent FIFO workforce for its proposed Caval Ridge mine which will be based in an accommodation village at Buffel Park outside the urban footprint of Moranbah, thus also resulting in basically no use of local businesses and service providers.

A small number of older accommodation villages in town is comprised of self-contained units and based on an occupancy model of permanent allocation to a specific individual, allowing the occupant to make use of the local commercial and retail infrastructure.

Moranbah has been named as Queensland's most expensive town to live in by the Queensland Government's Office of Economic and Statistical Research (OESR). Average homes rent for as much as \$1800 per week (Anderson, 2011). The soaring of house prices and median house prices like \$440 000 in 2009 (Myboot, 2012) have motivated older long-time residents to sell and move to more popular retirement destinations. This exodus of retirees erodes the stable permanent resident base of two generations, the people who represent the culture, character and life style of the Moranbah community (KPMG, 2011; Regional Social Development Centre, 2011) .



Figure 4 A house available for rent in June 2011 at \$900 a week

(Note: Reproduced from 'Mining town our most expensive place' by J. Anderson, 2011, n.p. Copyright 2011 Townville Bulletin)

RESEARCH QUESTIONS

This paper aims to answer the question if mining is perceived by rural communities as a panacea to all rural/regional ills or as a man-made disaster? The main research question of the case study revolved around community perception of the outcomes of the declaration of the Urban Development Area (UDA), but the topic addressed in this paper emerged as a very strong secondary theme.

THEORETICAL FRAMEWORK(S)

The multi-dimensional nature of planning does not always fit existing theoretical frameworks. For the main research, Self-determination theory, Causal agency theory and Social Production of Space Theory were combined. This was augmented by work done on natural hazards (Birkmann, 2007) which has many elements that can be applied with success to man-made hazards.

Disaster risk is a product of three major elements: exposure to hazards, the frequency or severity of the hazard and vulnerability (Birkmann, 2007). Vulnerability is a process within which qualitative and quantitative measures and instruments need to be defined to allow assessment of past, current, and potential future areas and people at risk. The use of a community-based risk index is appropriate in this context, aiming at identifying and quantifying the main risk characteristics (exposure, vulnerability, management capacity) within a community. Some indicators are very context specific and it is important to contextualise indicators and assessment approaches for local levels by taking into consideration specific socio-economic contexts as well as to the function they are intended to serve (Birkmann, 2007).

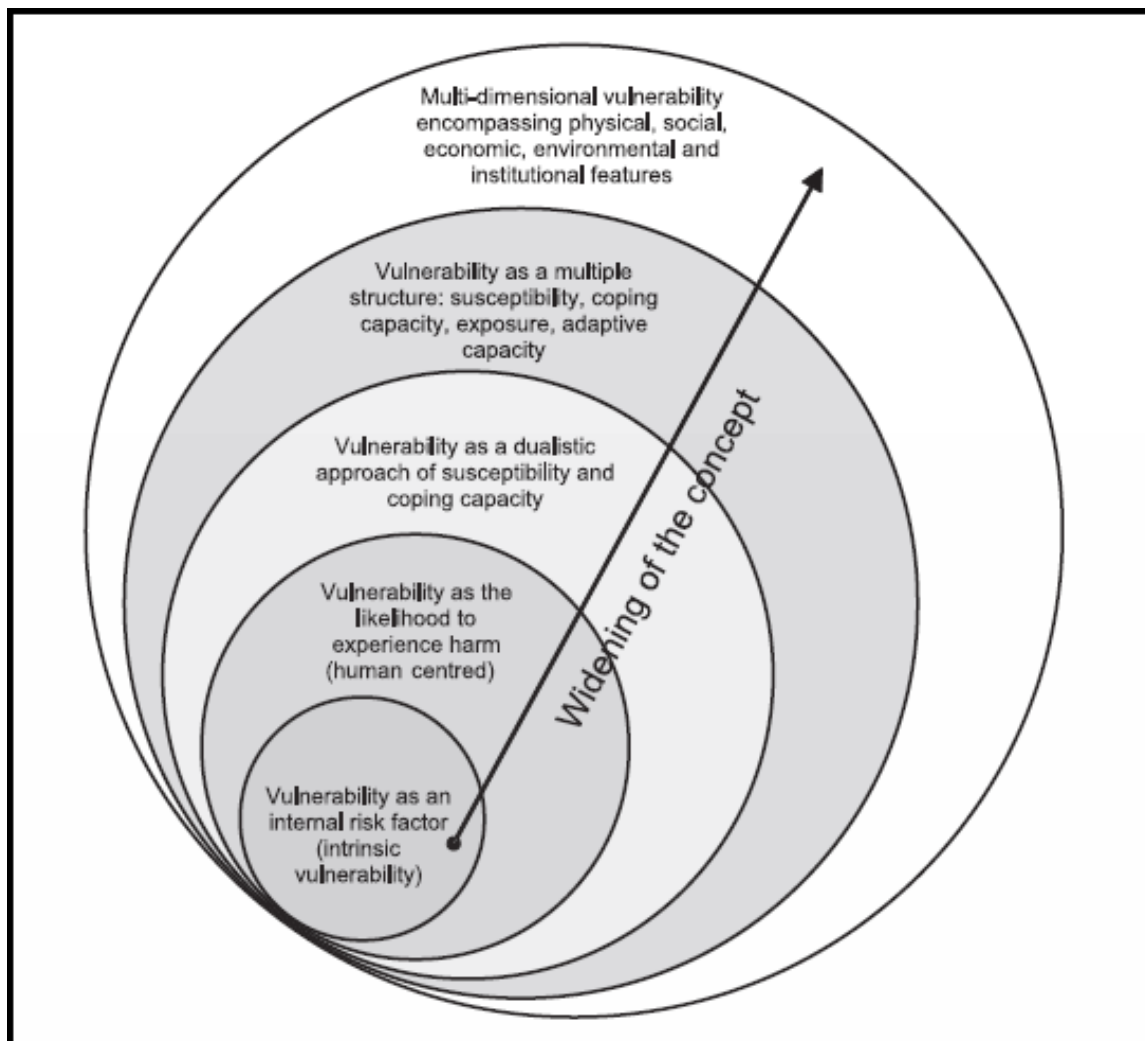


Figure 5 Widening of the concept of ‘vulnerability as advocated by Birkmann

(Note: Reproduced from ‘Measuring vulnerability to promote disaster-resilient societies: conceptual frameworks and definitions’ by J. Birkmann, 2005, p. 17. Copyright 2011 United Nations University Press)

The third leg of the theoretical framework is the social and human capital that is inherent in every community and that can be utilised to overcome disaster.

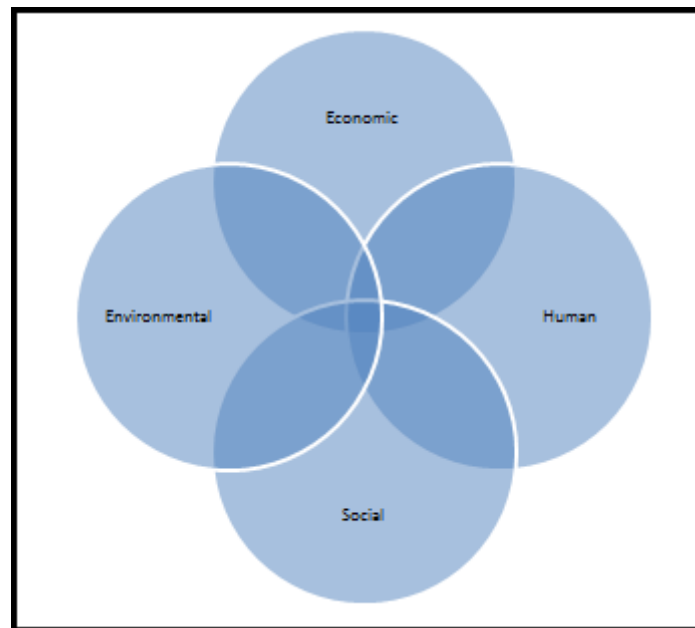


Figure 6 Domains of social and human capital

(Note: Adapted from 'Community well-being Indicators',
by Chief Minister's Department, Canberra, 2007, p. 4. Copyright 2007 ACT Government)

METHODOLOGY

A mixed methods approach was used for the case study. Data was collected on site using semi-structured elite interviews and questionnaires, including both open ended and closed questions. The data was collected from key stakeholders from different stakeholder groups, using a purposive sampling strategy. The data was analysed using commercially available software, Nvivo, as well as simple quantitative methods such as tabulation. Due to the emergence of the stakeholders' views on the impact of the mining industry on their future and the future of their town, follow-up interviews were conducted with planning officials at IRC, to triangulate the perception of the impact of the self-determination of the community as well as to obtain specific examples of the impact of the mining industry on local government planning decisions. This data, together with publicly available factual information, was subjected to a triangulated content analysis. The situation in Moranbah is dynamic and unfolding and the longitudinal nature of the data collection presents a more in-depth understanding of the situation in Moranbah.

MAJOR FINDINGS

The major finding in this paper is that the community of Moranbah perceived the mining industry more as a man-made disaster than as a panacea to regional ills. This is due to decisions made by State Government such as the overturning of the approval of the Local Government for the development of Grosvenor Estate, a subdivision of 350 residential lots. In addition, the approval not only of the number of mines in the IRC region, but also the approval of Caval Ridge Mine close to town, sterilizing some of the only available land earmarked for the future extension of the town further strengthens this viewpoint. Added to that, the decision by BMA (endorsed by State Government) to run a 100 percent FIFO operation at Caval Ridge, and the subsequent housing of workers in accommodation villages, contribute towards tipping the non-resident/resident ratio towards the non-sustainable end and

creating fears of a Fly-Over effect. Due to lack of funding, the town has never been able to expand its economic base, but is dependent on the goodwill of the mines to supplement social infrastructure.

Many of the findings of this research project were echoed by the RSDC 2011 report, in contrast to earlier studies that did not report serious problems in Moranbah (Petkova, Lockie, Rolfe, & Ivanova, 2009).

Reasons for moving to and residing in Moranbah

Participants came to Moranbah for perceived employment opportunities, some outside the mining industry, and ended up staying because they found it a pleasant and preferred place to live. This is in contrast to poverty-trapped lower socio-economic classes, unable to move on (Regional Social Development Centre, 2011).

Some participants have been living in Moranbah for several decades, starting off in the caravan park which, for many, was a stepping stone to a mining job and subsidised housing. This, in contrast to reports of people currently living in cars, tents and under bushes outside of town (Regional Social Development Centre, 2011).

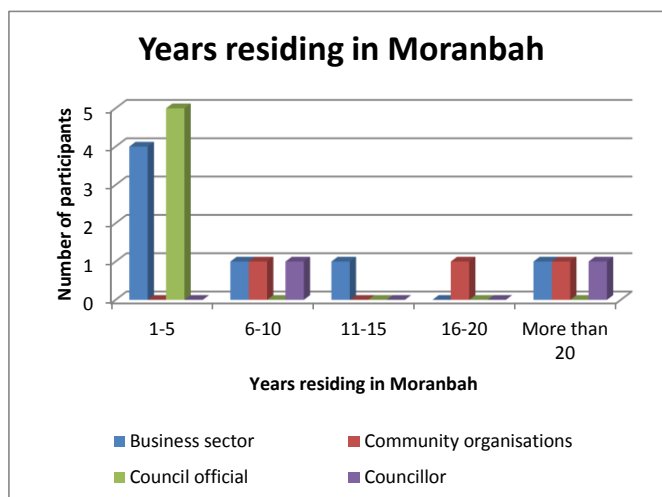


Figure 7 Number of years participants have resided in Moranbah

Moranbah was reported by the participants to have a small town feeling, in spite of the fact that it is a very modern place to live. The town used to have a very stable population previously, even with the camps and caravan parks. Now, the advent of contract labour, with people living in the accommodation villages, has created a very high turnover, people deemed to not have any community involvement.

There were also those who originally came to work in the mine, but have since left:

‘... own back patio.... a dog ... being normal... camp and pub ...only two things, ...just another shithole mining town, ... a transient thing where no-one cares, ... ‘ (Margaret)

Problems ascribed to mining

Housing was a big concern to the participants, for many of them due to the fact that they could not attract staff for their businesses and could not subsidise housing for those willing to come to Moranbah. Many reported that they could only employ people who have spouses working for the mining companies, or school children after school and on weekends. Housing costs made it difficult for business owners themselves to find housing, with even caravan park rents beyond the means on non-mine workers, a phenomenon also reported by Brannock and Tweedale (2012). A large portion of income was spent on housing, leading to a host of other financial and social problems for non-mine workers. The plight of people in lower economic classes in a two-stream economy is confirmed in the literature (Regional Social Development Centre, 2011). Moranbah, like other resource towns, has not been able to create other development opportunities that might create a better future for all its residents (Regional Social Development Centre, 2011).

It was reported that some mine employees would prefer to live with their families and that living apart does create a lot of stress. This was confirmed by the RSDC accommodation villages surveys that found that 11 percent of those in Moranbah accommodation villages would be interested in moving to town permanently (Regional Social Development Centre, 2011).

The town's social services were experiencing a lack of funding to deal with social problems that had arisen due to the mining activities, confirmed by the RSDC (2011). Moranbah did not have a safe house and insufficient crisis housing, which meant that victims of domestic violence often had to spend the night in the hospital waiting rooms. The understaffed police station was closed over weekends and often had insufficient staff to attend to domestic violence calls.

Health services and safety concerns

Respiratory illness such as asthma due to dust levels was reported as a major issue, causing at least two deaths a year. During dry spells, dust was reported to be so bad that some neighbourhoods could not hang washing outside. Medical professionals had waiting lists of up to three months, forcing people to drive to Mackay. Local general practitioners confirmed seeing more temporary residents than permanent residents (Regional Social Development Centre, 2011).

It was reported, also by other researchers, that there were concerns about sharing the road with workers coming off shifts, due to fatigue issues, with 13-23 per cent of such workers falling asleep on the way home (Brannock & Tweedale, 2012; Regional Social Development Centre, 2011). This problem on roads that, due to the increased use, were in a poor condition (Regional Social Development Centre, 2011).

Concerns about the future also included concerns about the nature of residents and perceived safety issues:

'... a lot of single men living in town, and Moranbah does have a very lovely community family feel to it which is, which is certainly unique to anywhere I've lived and it would be very sad if that changed...' (Andy)

Attitude towards State government

Several residents mentioned previous government intervention in Local Government decisions, such as the Minister of Local Government and Planning overturning Grosvenor Estate that would have released 350 residential properties, on the grounds that it was sterilising a natural resource. This was clearly seen as a decision not made in the best interests of the Moranbah residents, but in the best interest of the mine, a corrupt relationship between State Government and the mining industry. This dominated relationship between the mining industry and State Government was a very strong recurring theme during the interviews. It was clear that the residents believed that the State could have released land for development long ago if they were so inclined.

It was unanimously believed that Moranbah made a significant contribution to the State economy but did not receive what it deserved in return. This goes against the stewardship role that State Government is supposed to play:

‘Coal companies pay a royalty per tonne to extract the coal since ownership of the resource is vested in the state of Queensland who administers the resource on behalf of the community’ (Regional Social Development Centre, 2011, p. 8)

The fact that coal mines are now coming right up to the town was seen as a complete lack of care for the community on the part of the State Government. Some went as far as to say that the State Government did a deal with the mining companies:

‘... and to hell with the Moranbah community’ (Brad)
and

‘They pander to these mining companies, they really do let them actually just do whatever they want to do.’ (Mary)

The presence of the ULDA in town was seen by some as indication that at last somebody had noticed the problems in the community, but participants were wary of government promises, due to unfulfilled promises in the past. There was also scepticism as to whether their opinion would be taken into consideration by the ULDA. It was expected that 200-300 dwellings would become available within twelve months from July 2010 (Urban Land Development Authority, 2010b). In reality, construction of the infrastructure for the first housing project (approximately 150 lots) initiated by the ULDA only commenced in January 2012.

Attitudes towards mining industry

‘The number of mines close to a town and the extent of the non-resident workforce appear to be key factors determining the extent of social impact.’ (Petkova, et al., 2009, p. 225).

The opinion of Petkova et al. was clearly echoed by the participants, in spite of comprehending that the town was originally established as a mining community, that the mining sector was still the biggest employer, and that a third of the participants had spouses/family members who were employed on the mines. A third of the participants had themselves previously worked in the mining industry in Moranbah:

‘It’s the hand that feeds them; you don’t keep biting at it.’ (Doug)

The trigger for an oft reported fear in the community, was the proximity of the mines to town and a questioning of how that could have been allowed by State Government, once again alluding to the relationship between State Government and the mining industry. The mining

industry was seen as a dividing factor: mines rip the resources out of the town and leave nothing behind.

The impact of the mining industry on the provision of housing in Moranbah was well-understood by participants, making Moranbah the most expensive place to live in Queensland (Office of Economic and Statistical Research, 2011). Attracting & retaining staff was also a key finding of RSDC (Regional Social Development Centre, 2011).

'The town has everything you need really, but if you're not actually working at the mines it's quite difficult to live here, so...' (Andy)

At the same time, some mines do contribute to the community in other ways as well: in Moranbah this included a six million dollar contribution by several mines to the Aquatic Centre, in addition to supporting family events, sporting groups and scholarships. Some participants deemed this support simply as compliance with requirements in mining leases, public relations exercises or a pittance compared to mining profits. Research warns against this type of support since it breeds dependency (Cheshire, et al., 2011) resulting in a greater control over community development. The lack of State support makes this support very appealing though:

'... when you don't have money coming back into town via the state government, of course you are going to rely on the likes of BMA.' (Janine)

It has been confirmed by other researchers that efforts by mining companies to address the social impacts of the mining industry has been 'ad hoc, isolated and reactive' (Brannock & Tweedale, 2012, p. 2), mainly for the benefit of their own workers and not the affected communities. A warning is sounded against a culture of benevolence which stifles entrepreneurship (Rocha & Bristow, 1997). Apart from the dependency factor, it also places the responsibility of maintaining donated or subsidised infrastructure on the financially weak Local Government. For example the annual cost of maintaining the aquatic centre could be 10 percent of the capital cost, a standard figure used in asset management.

Objections were raised against the predominantly male accommodation villages in town which could be linked to increasing levels of violence, over-consumption of alcohol, an increase in fear of offences against the person and sexual offenses, the increase of which has been confirmed in IRC (Office of Economic and Statistical Research, 2011).

High incidences of domestic violence, alcoholism, depression and drug abuse were reported by participants involved in health care. Mention was made of social problems due to the fragmentation of mining employee's families. Social service organisations reported an increasing demand for services and a decline in financial support from the State Government.

The FIFO-issue was of particular concern, with predictions that it would greatly impact on the composition and social stability of the Moranbah population by tipping the ratio between residents and non-residents. There was a clear sense of being taken over by the accommodation villages, confirmed also by the RSDC (Regional Social Development Centre, 2011). The perception was that the more the mines implement FIFO, the less they will be committed to development of the local communities. The preference was for mining employees to stay in town with their families (Regional Social Development Centre, 2011). These beliefs had united the community against large-scale FIFO operations:

‘There’s no way in the world that this town’s going to accept one hundred percent fly-in, fly-out. I have never seen the business community, the unions and the townspeople united like I have on the seventy-five fly-in, fly-out. It does nothing for the community’ (Brad)

Self-determinism and stakeholder consultation

It was clear that the majority of the participants felt disempowered and not in control of important decisions that affect the liveability of their town and their futures:

‘All seem so like a lost battle, everyone is just focused on how we deal with the transient workers.’ (Rachel)

‘A lot of fear around at the moment... Fear because there are not any options anymore.’ (Sandy)

At the same time, the fear brought about by the encroaching mines and the threatening predominance of temporary residents, had united a large section of the community in the desire to stand up against these practices:

‘We had to wait for things to get a lot scarier before community started reacting. The catalyst has always been the closeness of mining operations, a health concern.’ (Sandy)

‘If you look at the FIFO debate, it has been fantastic, I have been so proud of the community. ... people have taken ownership of their town’ (Janine)

As with any community, there were those who participated in community activities and groups and those who did not, many of them workers who had been in Moranbah for many years, but still did not call it home. The ULDA was praised by some participants for their public consultation which had motivated a lot of people to become involved in the community. This followed in the wake of a:

‘very big public consultation around one of the coalmines....460 submissions went to the government over it at that stage 18 months earlier’ (Doug)

The increased community involvement is seen as positive because it will force greater transparency and accountability on the part of the mines. At the same time it will meet a basic human need:

‘...to build that sense of place and identity and that is what us humans want – to be listened to...’ (Janine)

One of the biggest obstacles to a united community was the 85 percent apathetic out-of-town investors, lacking information and education on the long term impact of mining on the community. Lack of information and education also contributed to a tendency in the local community to depend on the Local Government for leadership. Fear was also a reason for non-participation in community processes. Many mine employees did not want to express their opinion in public.

Attitude towards LG

Problems brought about by amalgamation and Council's difficulty to obtain and retain employees, were acknowledged. At the same time, there were doubts as to the competency of Council and the perceived inability of Council to deal with State and mining industry pressure:

'... too ready to accept the mining company's interpretation of what they need rather than what the community needs. I think it's all to do with political persuasion. And mining company, persuasion...' (Brad)

Vision for the town and concerns about the future

'There are really not choices here - we have to sterilise some coal to let the town develop.' (Sandy)

The fact that residents believed that Moranbah as a community was as important as urban communities was stressed:

'...people don't recognise that there is a history and that it does matter...'
(Summer)

Participants wanted Moranbah to progress and move into the future with a slightly larger population, with more houses for families and other industries that could sustain it, like Emerald. Most had specific wishes for more retail, bigger companies, a hospital upgrade, a tertiary institution and a redesign of some areas of the town:

'...working towards a stage where it is becoming a more mature community if you can put it like that' (Steve)

It was expected that the high salaries in the mining industry would continue, due to the relative remoteness of Moranbah and the perceived unpleasantness of working in a mine. Some feared that the mining companies would move in and start mining the town out when the current mines are starting to dry up in thirty-forty years' time. All participants wanted Moranbah to remain sustainable beyond mining. These concerns were also encountered by Brannock and Tweedale (2012).

Some concerns were based on the desire to protect personal investments:

'I've invested all the money I have, plus a big bank loan in this town basically. And I don't own a house here, I rent so if it keeps going up then, what am I going to do? I've got my finance on the line.' (Andy)

CONCLUSION

The researchers concluded that the long term social impact of mining can be comparable to that of a serious natural disaster. The current situation in Moranbah is the result of the State Government, for more than 40 years, viewing Moranbah as a temporary mining community. This view in spite of the constant opening of new mines that would probably add another 80 to 100 years of mining in the IRC area. Several decisions made by the State Government are deemed to not have had the long-term well-being of the community in mind, but short term financial gains for the State and the mining companies. These decisions include the number of mining leases granted in the IRC area, the encroachment of Moranbah by mining activity,

the overturning by the Minister of a Council approved residential extension to Moranbah on the grounds that it was sterilising a natural resource, and the recent approval of a 2500 bed camp at Buffel Park, a 100 percent FIFO arrangement.

Rural resource areas should not be undermined as it endangers the sustainability of rural communities, who are dependent on the way that natural resources are used, especially where external policies and regulations determine the management of the resources (Rogers, 2008). Instead, the sustainability and liveability of these resource boom towns should be improved by planning and developing these towns to broaden the economic base and aid the permanence of the community (Australian Housing and Urban Research Institute, 2009). This is especially pertinent given that worldwide there have been very few sustainable mining towns that remained sustainable after the closure of mines (Tuck, Lowe, & McRae-Williams, 2005).

FIFO operations in Western Australia proved to have impacted negatively on the growth of towns (Lawrie, et al., 2011). When evaluating the social and economic situation in resource towns, it is crucial that socio-economic data, such as medians and averages, not mask the impact of the mining booms on local residents. American studies have shown an increasing disparity in income with economic growth, in spite of an above average median and average income (Lawrie, et al., 2011). When approving FIFO operations, the ratio between permanent residents and non-resident workers should be carefully monitored as communities who have more non-resident workers than permanent residents find it challenging to remain sustainable (Regional Social Development Centre, 2011).

Lastly, it should be borne in mind that people need freedom and opportunity to use their judgement to maximise their welfare (Social Policy and Implementation Branch, 2007). State Government, State Agencies and Local Government should all espouse political process that can ensure individual and community welfare, with 'auto-efficiency, resilience and collaboration' uppermost (Becker, 2007, p. 141) to ensure the live-ability and life-ability of Moranbah (Social Policy and Implementation Branch, 2007).

RECOMMENDATIONS

There is capacity in every community to counteract negative forces in the community, and it is important that those capacities be harnessed and enhanced to bring about the desired changes, enabling communities to become agents of change in their communities (Flint & Luloff, 2005).

Education and training

- Better dissemination of information on the impact (both positive and negative) of mining by non-government associations and local government
- Building skills and capacity of local leaders and small organisations, including assessment of social capital as part of planning, using quantitative and qualitative indicators (Birkmann, 2007; Social Policy and Implementation Branch, 2007)

Stakeholder consultation strategies and processes

- Establishing permanent inclusive stakeholder consultation strategies and processes in Moranbah, including community organised stakeholder processes
- A layered system of stakeholder participation that would enable people to participate at a level, to an extent and in a format that they feel comfortable with

Research on how to improve and adjust existing indicator approaches for specific purposes and different scales (Birkmann, 2007)

Broadening the economic base of Moranbah is needed to fulfil the community's desire for a sustainable, permanent Moranbah.

Books/Edited Books/Book Chapters:

- Freestone, R. (2010a). *Urban nation - Australia's planning heritage*. Victoria Australia: CSIRO Publishing.
- Gleeson, B., & Low, N. (2000). *Australian urban planning*. St Leonards, New South Wales, Australia: Allen & Unwin.
- Gualini, E. (Ed.). (2010). *Governance, space and politics: exploring the governmentality of planning*. Surrey: Ashgate.
- Healy, P. (2010). Introduction to part 1 - Conceptual challenges from perspectives on spatial planning practice. In J. Hillier & P. Healy (Eds.), *The Ashgate research companion to planning theory - conceptual changes for planning* (pp. 501). Surrey: Ashgate.
- Khakee, A., Hull, A., Miller, D., & Woltjer, J. (Eds.). (2008). *New principles in planning evaluation*. Ashgate.
- Martin, J. (2006). Local Government in the Australian country town: new challenges in the 21st century. In M. Rogers & D. Jones (Eds.), *The changing nature of Australia's country towns* (pp. 264). Ballarat: Australia Vurn Press.
- Nelson, A. C. (2007). The social impacts of urban containment T. W. Sanchez & C. J. Dawkins (Eds.), *Urban planning and environment*. (pp. xiv, 174 p). Retrieved from <http://ezproxy.usq.edu.au/login?url=http://site.ebrary.com/lib/unisouthernqld/Doc?id=10224490>
- Pears, A. (2007). Stationary energy: a critical element of a sustainable urban metabolism. In N. A (Ed.), *Steering sustainability in an urbanizing world - policy, practice and performance* (pp. 272). Hampshire, England: Ashgate.
- Rogers, P. P. (2008). *An introduction to sustainable development*. London: Earthscan.
- Sanoff, H. (2000). *Community participation methods in design and planning*. Brisbane: John Wiley & Sons, Inc.
- Young, G. (2008). *Reshaping planning with culture*. Hampshire: Ashgate.

Journal Articles:

- Becker, J. (2007). How frameworks can help operationalize sustainable development indicators. *World Futures: the Journal of Global Education*, 63(2), 137-150.
- Beer, A., Clower, T., Haughtow, G., & Maude, A. (2005). Neoliberalism and the institutions for regional development in Australia. *Geographical Research*, 43(1), 49-58.
- Birkmann, J. (2007). Risk and vulnerability indicators at different scales: applicability, usefulness and policy implications *Environmental Hazards*, 7(1), 20-31.
- Brownhill, S. (2009). The dynamic of participation: modes of governance and increasing participation in planning. *Urban policy and research*, 27(4), 357-375.

- Bush, R. (2008). Scrambling to the bottom? Mining, resources and underdevelopment. *Review of African Political Economy*, 35(117), 361-366.
- Cheshire, L., Everingham, J., & Pattenden, C. (2011). Examining corporate-sector involvement in the governance of selected mining-intensive regions in Australia *Australian Geographer*, 42(2), 123-138.
- Flint, C., & Luloff, A. (2005). Natural resource-based communities, risk, and disaster: an intersection of theories. *Society and Natural Resources*, 18(5), 399-412.
- Grant, T. (2007). Policy approaches incorporating life cycle assessment In N. A (Ed.), *Steering sustainability in an urbanising world* (pp. 272). Hampshire England: Ashgate.
- Karlsson, K., & Nilholm, C. (2006). Democracy and dilemmas of self-determination. *Disability & Society*, 21(2), 193-207.
- Lawrie, M., Tonts, M., & Plummer, P. (2011). Boomtowns, resource dependence and socio-economic well-being. *Australian Geographer*, 42(2), 139-164.
- McGrath, N., Amstrong, R., & Marinova, D. (2004). Participatory development for regional sustainability in Western Australia: an enabling state? *Local Environment*, 6(9), 561-574.
- Petkova, V., Lockie, S., Rolfe, J., & Ivanova, G. (2009). Mining developments and social impacts on communities: Bowen Basin case studies. *Rural Society*, 19(3), 211-228.
- Riley, S., & Basson, M. (2011). Stakeholder perspective of the impact of the declaration of an Urban Development Area in Moranbah - how sustainable will the outcomes be? *Queensland Planner*, 51(3), 18-23.
- Rocha, J., & Bristow, J. (1997). Mine downscaling and closure: an integral part of sustainable development. *Minerals & Energy - Raw Materials Report*, 12(4), 15-20.
- Storey, K. (2001). Fly-in/Fly-out and Fly-over: mining and regional development in Western Australia. *Australian Geographer*, 32(2), 133-148.

Government/NGO/Other Publications

- Anderson, J. (2011, 6/4/2011). Mining town our most expensive place, *Townsville Bulletin*. Retrieved from http://www.townsvillebulletin.com.au/article/2011/06/04/236945_news.html
- Australian Housing and Urban Research Institute. (2009). Housing affordability and shortages in resource boom towns. *AHURI Research and Policy Bulletin Issue 120 September 2009*, 1-4.

- Brannock, J., & Tweedale, D. (2012). Planning for mining towns - their impacts and government intervention (pp. 1-17). Brisbane: Brannock and Associates Planning Consultants.
- Griffin, T., & Curtin, P. (2007). Regional partnerships at a glance. Retrieved from <http://www.ncver.edu.au/publications/1938.html>
- KPMG. (2011). Redefining regional planning: managing change,, measuring growth. In B. Salt (Ed.).
- Myboot. (2012). Welcome to Moranbah Retrieved 25/3/2012, from <http://myboot.com.au/4744/Moranbah/suburb.aspx>
- Office of Economic and Statistical Research. (2011). *Bowen Basin Population Report*. Brisbane: Queensland Government Retrieved from <http://www.oesr.qld.gov.au/products/publications/bowen-basin-pop-report/bowen-basin-pop-report-2010.pdf>.
- Regional Social Development Centre. (2011). Social issues relating to permanent and non-permanent residents in the Moranbah mining community. In RSDC (Ed.).
- Social Policy and Implementation Branch. (2007). *Community well-being indicators*. Canberra: ACT Government Retrieved from http://www.cmd.act.gov.au/data/assets/pdf_file/0018/114822/community-wellbeing-indicators.pdf.
- Tuck, J., Lowe, J., & McRae-Williams, P. (2005). *Managing community relationships, reputation and sustaining competitive advantage: the case of mining towns*. Paper presented at the 2nd National Conference on the Future of Australia's Country Towns, Bendigo. <http://latrobe.edu.au/csrc/fact2/refereed/index.html>
- United Nations. (2004). Note on terminology 1 from the WCDR conference secretariat to the drafting committee (18/11/2004) *International strategy for disaster reduction*.
- Urban Land Development Authority. (2010a). Fact Sheet#1. In ULDA (Ed.).
- Urban Land Development Authority. (2010b). Urban Development Area Retrieved 20/07/2010, from <http://www.ulda.qld.gov.au>