Surat Basin Scoping Study

Enhancing regional and community capacity for mining and energy driven regional economic development

Report to Southern Inland Queensland Area Consultative Committee

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June 2008
This report was commissioned by the Southern Inland Queensland Area Consultative Committee (ACC). The authors would like to thank the Southern Inland Queensland ACC for facilitating the community engagement process and for providing useful insights. The involvement of Southern Inland Queensland ACC has been enabled by the Federal Department of Infrastructure, Transport, and Regional Development. We are especially grateful to the Queensland State Government departments who have assisted through the process as well as the members of the Toowoomba, Chinchilla, Dalby and Roma communities who have been involved in our research process and whose participation and local knowledge provided invaluable information to us.

We suggest this report be cited as follows:


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1. Executive summary

The Queensland government has identified mining and energy production as priority sectors within the Queensland economy with an outlook for future growth. The Surat Basin plays an increasingly important role in this economic development path because of its large resources of open-cut thermal coal and coal seam gas. Production in the Surat Basin is thus intended to increase over the coming years with a focus on coal, coal seam gas and electricity production from coal. The Queensland government has stated that coal will remain the main fuel for electricity generation in the State for the foreseeable future.

Consequently, communities in the Surat Basin in Southern Queensland are facing significant change due to regional development led by resource development. The adjacent Bowen Basin has faced similar transformations due to the exploitation of coal reserves in the recent past. The resulting socio-economic transformations included significant benefits, but also unintentional and socially undesirable effects. CSIRO was commissioned by Southern Inland Queensland ACC and supported by the Australian Government Department of Infrastructure, Transport, Regional Development and Local Government to undertake a scoping study to be used as a foundation document in the development of a strategy enabling practical, evidence based interventions aimed at addressing key local and regional sustainability issues in regard to the further socio-economic development of the Surat Basin communities. These communities are represented by the newly formed Toowoomba, Dalby and Roma regional councils. The purpose of the scoping study was to assess the potential impacts of energy resource development in the Surat region from a community perspective, to identify international and Australian examples of good practice in management of such effects, and to identify viable points of intervention in the task of mitigating socially undesirable outcomes.

The likely scale and scope of the change entailed in the Surat Basin suggests that all tiers of government, as well as the private sector and Surat communities will need to work together in order to increase the benefits of mining and energy development and to avoid negative social and environmental outcomes.

Five major topics dominated the review of international and Australian literature concerning the social impacts of mining.

- The overarching theme concerns a reformation of the global mining industry in the last decade in response to widespread civil dissatisfaction concerning the impacts of mining upon communities worldwide. This reformation is framed in terms of Corporate Social Responsibility (CSR). Community engagement is a core component of this attempt to improve the contribution of the mining industry to sustainable development.

- The review found substantive discussion of the role of Social Impact Analysis (SIA) as a methodology to anticipate and address the social impacts of mining. SIA analysts argue that community engagement
and longitudinal extension of SIA is necessary to measure impacts and evaluate the success of attempts to mitigate those impacts.

- The literature focused on integrated social, environmental and economic indicators draws on both CSR and SIA literature in discussing the necessity of, and best methodologies towards, social impact indicator selection and measurement. Recommendations that communities be engaged in the formulation of meaningful indicators are put forward here.

- The literature on economic diversification in mining communities details the typical failure of long term regional economic development to result in mining regions due to the boom/bust nature of mining industries. However, these failures yield telling insights into how this structural dilemma can be overcome.

- Finally, literature examining examples of different types of mining communities, experiences of social impacts, and mitigation strategies provides useful illustrations and pointers towards best international practice in mitigating social impacts, ensuring long term regional economic development.

The community engagement process revealed clear expectations of negative social impacts in the four focus groups held throughout the Surat region. These were partially informed by an investigative trip to the neighbouring Bowen Basin regarding such impacts of mining industries by some research participants, and partially by initial experiences of socio-economic impacts of mining in the Chinchilla/Dalby area. Frustration was expressed with the inadequacy of soft and hard infrastructure, already experienced as at capacity, in the face of a mining boom. Existing funding mechanisms were not considered adequate to address infrastructure deficits in a timely manner. Current planning capacity in the region was described as fragmented and the need for a united voice to negotiate with the Queensland Government and mining companies was expressed. The Surat region’s rural lifestyle was viewed as threatened by the influx of new workforces with minimal orientation to existing communities. However, the opportunity to attract workers to settle in the Surat communities with their families was highly valued. The business community was viewed as at risk of being bypassed as service providers to mining companies. The chance to negotiate with mining companies in order to capture those servicing opportunities and grow regional businesses was perceived as very worthwhile. Skill shortages were expected, however clear and convincing strategies to address such shortages were articulated. In contrast, shortages in affordable housing were also anticipated however the issue was viewed as hard to deal with.

Approximately 50 local stakeholders participated in a community workshop to discuss how to increase community capacity to deal with the impacts of increasing mining and energy production in the Surat region. The participants chose four issues for discussion: regional planning; building robust business communities; skill and labour deficits; and affordable housing. Discussion was focused largely on how to effect unitary regional representation and robust business communities.
The scoping study arrived at a suite of options based upon the evidence afforded by the literature review, focus groups and workshop. They were subject to further discussion, specification and development by the project Steering Group. The options represent a bundle of actions that, according to the community engagement process and the literature review, are necessary to support the sustainable development of regional communities in the Surat Basin.

**Conclusion 1: Information sharing, communication and transparency is critical for enabling good governance and change management at the community level.**

Community and regional council representatives expressed an urgent need for accurate and timely information about the long term plans and activities with regard to mining development as the single most important factor for pro-active change management at the community level. Currently, there is an imbalance between the commercial confidentiality granted to mining companies and the need for accurate information by regional councils and local communities. Establishing a tripartite arrangement may allow negotiation of a mutually satisfactory solution to this imbalance. Such an outcome would permit effective communication between all stakeholders involved concerning when, where and how development is to occur and thus enable a coherent communication strategy with local communities.

**Response 1:** Establish a tripartite institutional arrangement between the Surat Basin regional councils, the government, and mining companies, to facilitate on-going dialogue, strategic planning and revenue sharing.

**Response 2:** Consider establishing mining town growth management groups.

**Response 3:** Build capacity for regional councils and communities to allow for effective regional representation.

**Response 4:** Establish a mediating body that operates in situations where consensus is not possible.

**Conclusion 2: Gain and revenue sharing will be essential to increase the social acceptability of mining operations and to increase the local economic opportunities from mining in the Surat Basin region.**

Mining activities create wealth but usually not in an evenly distributed way. State and national governments profit from royalties paid for mining leases and from tax revenues, companies gain from having access to precious resources which sell at increasingly profitable global prices. Individual workers and households profit from exceptionally high salaries and landlords or house owners may gain from higher rental incomes or increased property values. Because gains and revenues in mining activities are often much higher than those yielded by other economic activities, mining activities typically, as a consequence, constrain other forms of development. Because of the civil dissatisfaction this situation has caused across the world and the international mining company community’s interest in obtaining and maintaining a
social licence for their operations, it is both advisable and opportune to identify and test approaches for gain and revenue sharing.

Such gain sharing could be introduced by establishing a trust fund (see below) where those parties who earn over proportional amounts give some of the revenue and gains back to the community at large in a carefully targeted manner. Mining companies, as part of their corporate social responsibility, contribute to the development of rural communities by financial donations (and are already doing so in the Bowen and Surat Basins), State and Federal Governments who also gain considerably could add to these donations of mining companies. On this basis, it is also possible to request landlords and property owners who are earning high rents because of mining development to contribute a certain percentage of their gain back to the community.

Response 1: Consider establishment of a trust fund that builds a financial basis for investment today and in the future.

Conclusion 3: Economic diversification leveraged off the energy boom is essential to the long term well being of the region

The international literature agrees that economic development based on mining industries alone will not allow for sustained economic growth due to its temporary nature. The failure of mining to generate long term economic benefits, particularly in remote regions, has also been acknowledged in the Australian context. The fact that the Surat Basin region enjoys an existing viable economic base bodes well for its prospects of economic diversification. Economic diversification needs to be an early and integral part of regional economic planning since post hoc efforts to address economic diversification have typically failed. The momentum of the mining boom should therefore be used to intensify human resource development, infrastructure construction and encouragement of regional procurement and export.

Response 1: Maintain and enhance existing economic diversity.
Response 2: Create industrial ecologies and industrial symbiosis.

Conclusion 4: Investment in hard and soft infrastructure will be crucial to meet the demands of an increased population.

The ambition expressed by the workshop participants to build larger resident populations in many towns in the Surat Basin will require considerable investment in both hard and soft infrastructure. The current situation with regard to the condition of road networks, public transport, utilities, education, health care, police and community services only meets the requirements of the current population. There is preparedness at the State government level to invest in larger infrastructure projects directly related to developing the mining sector such as rail, rolling stock, port, water and energy infrastructure. However, investment into skills, housing, planning and soft infrastructure need to be increased accordingly to allow local communities to deal proactively with the inter-related aspects of social change as well as maintain their
communities as desirable places to live and work. Successful economic diversification would ensure the use of infrastructure established during the mining boom, for post mining economic prosperity.

Response 1: Allow for timely land release and encourage corporate housing initiatives to enable housing affordability.
Response 2: Earn a double dividend of increased resident population and retained workforce particularly in mining and energy production activities as a result of improved soft and hard infrastructure.

Conclusion 5: Information is critical for effective on-going management of regional opportunities from the energy boom.

Information is crucial for being able to plan, to make policy decisions and to evaluate past policies.

Response 1: Develop an agreed set of indicators for the region.
Response 2: Improvement of the EIS process to allow for institutionalised impact assessment procedures, taking account of all relevant social and environmental impacts at community level.

This suite of activities would enable active regional planning for economic growth and sustainability based on a collaborative approach involving all stakeholders and tiers of government. If the strategies were successfully implemented, they could support the Surat Basin in becoming a good practice example for aligning mining development with socio-economic development in mining communities.
2. Objectives

Communities in the Surat Basin in Southern Queensland are facing significant change due to regional development led by resource exploitation. This rapid change brings challenges and opportunities that not all of the Basin’s communities are adequately equipped to respond proactively to. The adjacent Bowen Basin has faced similar transformations due to the exploitation of coal reserves in the recent past. The resulting socio-economic transformations included significant benefits, but also unintentional and socially undesirable effects. Lessons can be learnt from these developments that are relevant to the management of change in the Surat Basin and, in particular, the mitigation of negative social impacts and enhancement of benefits that flow to local Surat Basin communities.

The likely scale and scope of the change entailed in the Surat Basin suggests that all tiers of government, the private sector and communities will have to work together to increase the benefits of mining and energy development and to avoid negative social and environmental outcomes.

This document presents the main results of a scoping study undertaken as a foundation to develop a strategy enabling practical, evidence based interventions aimed at addressing key local and regional sustainability issues in regard to the further socio-economic development of communities represented by the Toowoomba, Dalby and Roma regional councils.

The purpose of the scoping study was to assess the potential impacts of energy resource development in the Surat region from a community perspective and to identify viable points of intervention in the task of mitigating socially undesirable outcomes. This scoping study aims to be the basis for a further set of initiatives seeking to deliver sustainable social, economic and environmental outcomes across local communities in the region.

The specific objectives of the scoping study were:

- to provide preliminary insight on change dynamics and possible impacts in the Surat Basin;
- to provide a preliminary assessment of the external and internal regional drivers and dynamics effecting change in the region;
- to explore possible impacts of change in the area at regional and community scale, and
- to map existing institutional dynamics and identify synergies and barriers.
3. Background

Coal mining and electricity generation in Queensland

The Queensland government has identified mining and energy production as priority sectors within the Queensland economy with an outlook for future growth. The Surat Basin plays an increasing role in this economic development path because of its large resources of open-cut thermal coal and coal seam gas. Queensland’s main coal production of currently around 150 M tonnes per annum is concentrated in the northern Bowen Basin.

Production in the Surat Basin is set to increase over the coming years with a focus on export coal, coal seam gas and electricity production from coal. Some of the Surat Basin’s coal will be exported while other coal will be used for energy production. The electricity produced will be delivered to domestic markets. Queensland’s vast coal deposits mean that coal production will be increased to between 215 and 235 M tonnes a year by 2009-10 and coal will remain the main fuel for electricity generation in the State for the foreseeable future.

Social impacts of coal mining expansion in Queensland

Coal mining in Queensland’s Bowen Basin has contributed to population and employment growth as well as to a narrower economic base in a number of mining towns such as Nebo, Emerald and Blackwater. The scale and speed of growth has introduced numerous new social issues for regional and local economic development including employment and skills shortages, a shortage of affordable housing, social inequities and lack of appropriate infrastructure and services (Ivanova et al., 2005).

In order to mitigate unintended social consequences the State Department of Infrastructure and Planning embarked on a Sustainable Futures Framework for Queensland Mining Towns (DLGSPR, 2006). The framework aimed to assist local governments, State agencies, mining companies and communities to collaboratively develop appropriate strategies to plan for a sustainable future for mining towns. It will be important to see whether this framework will achieve the outcomes desired, whether such a mechanism for sustainability planning will be successful, and how trade-offs between mining development revenues and community revenues can be dealt with in the future.

Development of coal based reserves is in its infancy in the Surat Basin while the growth of electricity generation capabilities in the region is proceeding at a rapid pace. Focal centres for mining and electricity generation are emerging throughout the three regional council areas (Toowoomba, Dalby and Roma Regional Councils). These areas are where the initial impacts on the local economy and social fabric have been experienced. There has been long term experience with mining based development in the oil and gas industry around Roma. The specific situation around Roma, as well as around the current centres of coal based growth, is characterized by mining operations entering well-functioning agricultural areas, as well as towns based upon agricultural industries and services. This situation poses entirely different
challenges and potentials for compromise, than those occurring in areas where population centres have emerged around mines in the absence of an existing, diversified economic base.

**Geography of the Surat Basin region**

The Surat Basin region covers a large area of 122,655 km$^2$ and in the year 2006 was inhabited by 195,296 people, less than 5% of Queensland’s total population (Office of Economic and Statistical Research, 2008). The average population density is 1.6 people per km$^2$. To the east, the landscape is dominated by the fertile soils of the Darling Downs, which continue to support significant agricultural production. This production was the mainstay of the region’s economic development throughout the 20th century.

To the west, the landscape becomes drier and agriculture (where not supported by irrigation) has relied on grazing and dry land cropping. While there is an extensive drainage network, water availability is a large issue for the region, especially in the large population centre of Toowoomba.

The Condamine and Balonne Rivers drain the region toward the southwest. They are highly regulated river systems with off-take for irrigation occurring south of Dalby toward the top of the catchment and again to the south of the region around St George. By-product water from coal seam gas production might provide a local source of irrigation quality water and livestock quality water if treated to remove salt.

Despite the history of agricultural activity, the region has three relatively large extant areas of native woodland. Much of this woodland is protected as state forest and, to a lesser extent, national park. Woodland also exists on private land, especially the private holdings fringing the protected area. Combined, this is likely to represent a gradient of surviving biodiversity from the national parks, through state forest and onto private land.

**Regional councils in the Surat Basin region**

The Surat Basin region is administered locally by three regional councils following local government reform to amalgamate local councils into larger administrative units, which was completed in March 2008. Local Government in the Surat Basin is constituted by

- Toowoomba Regional Council,
- Dalby Regional Council
- and Roma Regional Council.

The regional councils of Toowoomba and Dalby form a major part of the Darling Downs Statistical Division. Roma Regional Council is the most eastern part of the large South West Statistical Division that reaches out to the border between Queensland and South Australia.
Table 1: Socio-economic characteristics of Surat Basin regional councils

<table>
<thead>
<tr>
<th>Shires and Towns in the regional council</th>
<th>Toowoomba Regional Council</th>
<th>Dalby Regional Council</th>
<th>Roma Regional Council</th>
<th>Queensland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population in 2006</td>
<td>151,269</td>
<td>31,379</td>
<td>12,648</td>
<td>4,041,368</td>
</tr>
<tr>
<td>Annual average change 2001-06</td>
<td>1.9%</td>
<td>0.5%</td>
<td>0.8%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Area</td>
<td>12,966 km²</td>
<td>50,860 km²</td>
<td>58,829 km²</td>
<td>1,734,190 km²</td>
</tr>
<tr>
<td>Population density</td>
<td>11.7 people/km²</td>
<td>0.6 people/km²</td>
<td>0.2 people/km²</td>
<td></td>
</tr>
</tbody>
</table>

Number of businesses and percentage of all businesses in 1998.

| Agriculture, forestry and fishing | 2,789 (32.3%) | 2,382 (60.3%) | 902 (54.9%) | 17.2% |
| Mining | 20 (0.2%) | 7 (0.2%) | 36 (2.2%) | 0.4% |
| Manufacturing | 390 (4.5%) | 100 (2.5%) | 35 (2.1%) | 5.5% |
| Retail trade | 1,134 (13.1%) | 309 (7.8%) | 129 (7.8%) | 15.2% |
| Total businesses | 8,647 | 3,953 | 1,644 | 201,337 |

Labour force participation and unemployment in 2001, in %

| Labour force participation rate | 62.8% | 64.6% | 71.3% | 63.1% |
| Registered unemployment | 6.8% | 6.5% | 4.0% | 8.2% |

Employment by sectors in 2006, in %

| Agriculture | 7.2% | 24.4% | 22.8% | 4.9% |
| Mining | 0.7% | 1.7% | 3.6% | 1.2% |
| Manufacturing | 11.8% | 7.4% | 6.1% | 10.7% |
| Utilities | 1.0% | 1.3% | 1.3% | 0.8% |
| Construction | 7.4% | 8.4% | 5.4% | 7.1% |
| Services | 71.9% | 56.7% | 60.9 | 75.3% |
| Mean taxable per-capita income 2004-05 | $39,047 | $37,083 | $38,294 | $42,094 |

Source: Office of Economic and Statistical Research, 2008. Population numbers only reflect permanent population.

The future role of energy development in the Surat Basin economy

Energy development is seen as a significant value adding opportunity in the Surat region by the Queensland Department of Tourism, Regional Development and Industry. The Surat region currently has a high reliance on agriculture, education and health services in terms of job provision, as well as a relatively low per capita income, compared with the Queensland average. About one quarter of the value added is
generated by the primary industries of agriculture, with a 13.3% contribution to gross regional product (GRP), and mining with a 9.9% contribution to GRP in 2004-05 (Office of Economic and Statistical Research, 2008). Thermal coal, coal seam gas and coal seam gas water have been identified as major development opportunities with a limited potential for oil, natural gas and liquid natural gas.

An opportunity assessment identified the following economic activities as highly suitable for the future economic development of the region: coal mining, export of thermal coal, coal fired power generation, coal seam gas (CSG) extraction, CSG-fired power generation, gas-to-liquids production, ammonium nitrate production, and industry precincts. Another group of activities was assessed as suitable including ethanol production, treatment of water for industrial/urban uses, re-use of water from CSG mines for lot feeding of stock (Department of Tourism, Regional Development and Industry - previously known as Department of State Development, 2007).

Coal and coal seam gas reserves in the Surat Basin cover a large area from Taroom in the northwest to Dalby in the southeast. This creates the potential to alter the character of a number of towns, including Taroom, Wandoan, Miles, Chinchilla and Dalby. These towns face the prospect of evolving from agricultural into mining towns. Furthermore a number of towns, such as Wandoan and Chinchilla, are already experiencing growth pressures.

If all of these energy resource exploitation opportunities were realized, the economy of the Surat region would depend on mining and agriculture as its main economic activities. The retail trade, small scale local tourism and manufacturing delivering to agriculture and mining would be of secondary importance. An analysis of multiplier effects of sectoral investments shows that an economic development strategy based on mining industries will create similar or slightly higher added value at the local economy level than agriculture, but it will create significantly fewer jobs than agriculture would (Office of the Government Statistician, 2004).\(^1\)

The main issue for the future development of the region will be how to provide an enabling environment for ensuring maximum gains from its future economic path by avoiding unintended side effects upon the social and environmental quality of the region. These have to be tailored for the economic structure that emerges in the region.

**Governance issues for mining development**

The State government believes dealing with growth pressures and social impacts of mining requires a coordinated response from governments, industry and communities (DLGPSR, 2006). Although communities can participate in the EIS they

\(^1\) The concept of multiplier effects describes the ‘gross’ effect in all industries (in terms of growth and employment) that result from an investment made in a focal sector. The information available from regional input-output tables used for this report is already 10 years old. However, more recent information is not publicly available and the relations between agriculture and mining in terms of their multiplier effects are not expected to have changed over the last decade.
are often only just informed of the existence of a project through this mechanism and local governments and communities depend on the willingness of mining companies to release relevant information as early as possible (even before the EIS process) so as to plan for change as early as possible. Nevertheless, the sustainable development of all assets in these towns and communities will depend on good governance and leadership being provided by the State government, and the ability of local government bodies to contribute to those processes.

According to academic analyses of efforts to further regional development (Eversole and Martin, 2005), this may be difficult to achieve. Current research by Brown suggests that despite widespread in-principle commitment by state and federal governments to regional programs, the resource allocations to underpin successful regional development remain relatively small (Brown, 2005:17-18).

According to Brown, an important reason for the failure to devolve meaningful levels of resources to the regional level is the structure of Australia’s institutional arrangements. The federal level of government is often remote from regional interests. State governments are themselves partially dependent on federal funding and are still too large to be reliably responsive to regional interests beyond the state capitals. Local governments, despite the highest levels of regional legitimacy, possess meagre revenue raising powers and are vulnerable to cost shifting by the higher levels of government. Consequently, local governments are usually too small, underfunded and powerless to initiate effective regional action (Brown, 2005:27-35) and have to get substantial support when confronted with unexpected events or rapid change. It is therefore vital that regional governments receive support to enable them to provide good governance.

Regional institutions and players

There are a number of important institutions and players that have emerged from within the official governance and planning processes at State and regional council level in Queensland. These include the Regional Planning Advisory Committee planning process, which involves community and government participation to develop statutory plans for the delivery of state government services into each of the individual planning areas.

The Queensland Department of Infrastructure and Planning has the lead role in these processes with regard to planning and infrastructure coordination. A range of Queensland departments have responsibility for many social issues in the regions, and the Queensland Department of Tourism, Regional Development and Industry similarly has a strategic role in development in Queensland’s regional communities. In addition to the departments, the Regional Managers Coordination Networks (RMCN’s) also play a role in the coordination of Queensland government activities in the region. These Departments and networks will be required to provide guidance in the transition of the region from an agricultural to a mixed agriculture, mining and energy economic base.

The Toowoomba, Dalby and Roma Regional Councils will be the essential local counterpart for State government for managing the ongoing changes. This level of
government is most familiar with local and regional issues but often needs to build its capacity and leadership for being able to manage local adaptation in a fast changing environment.

There are a number of non-profit organisations important for dealing with the social and environmental impacts of economic development, including the Western Downs Development Group, the Queensland Murray Darling Committee, the Condamine Alliance, the Queensland Natural Resource Management Regional Groups Collective, the Southern Inland Queensland Area Consultative Committee (ACC) and the emerging Queensland Resources Council. Each of these organisational structures has a role to play in supporting sustainable regional development in the Surat Basin region, in a period of significant change. With the ACC transitioning to the Federal Government’s Regional Development Australia (RDA) there is a strong emphasis on the local RDA (i.e. Southern Inland Queensland ACC) being a major player in regional development.

It requires substantial further research into institutional arrangements, governance structures and formal and informal actors’ networks to fully understand and improve the capacity of regional and local governance for dealing with substantial regional development issues.

Studies and reports on Surat and Bowen Regions

The Queensland Department of State Development commissioned a report concerning value adding in the Surat Energy Resource Province. An economic overview and context, opportunity analysis, and investment and business growth ‘road map’ were produced (AEC Group, February 2007). The region’s demography, economic structure, infrastructure and energy resources were reviewed to predict pressures upon the availability of skills and labour, as well as on social and physical infrastructure in the region. The reports conclude that integrating the agricultural and energy sectors (e.g. agricultural use of treated coal seam gas water) is uneconomic in comparison to the development of the mining and energy sector (coal mining and export, electricity generation, ammonium nitrate production and gas to liquid production). The road map to achieve such mining and energy sector development pointed to the need to up-skill the local labour force, meet the projected demand for services by building community capacity to support existing businesses, and attract new businesses. The reports advocate diversification of the regional economy via the mining and energy sector. The social, economic and environmental policy and planning context conditioning how these pressures can be managed was also reviewed.

How to achieve economic diversification within a mining region was teased out in a supply chain gap analysis of mining services in the Bowen Energy Basin, which was also commissioned by the Queensland Department of State Development. It was reported that full advantage was not being taken to meet the service requirements of the 21 mines operating in the Bowen Basin. This was because local supply companies were not organised under a consortium arrangement that would be capable of building constructive business relationships between suppliers, and between suppliers and mining companies. Furthermore, skill shortages meant that
local supply companies were not taking advantage of all of the opportunities available to them (SGS Economic and Planning, June 2007). A delegation of business and local government representatives from the Surat Basin ascertained that business community capacity shortfalls had wasted economic opportunities in the Bowen Basin. This delegation also documented the socio-economic problems that could be expected as a result of mining development, in their report on the investigative trip (Mackay Industry Network Tour, October 2007).

The major impediment to mining led development, the lack of a rail link to Gladstone port, is being tackled by a consortium of businesses called the Surat Basin Rail Joint Venture. This consortium was granted an exclusive mandate to pursue construction of the rail link by the Queensland Government in July 2007. An Initial Advice Statement was published by the consortium in November 2007, laying out the proposed route, its cost and how socio-environmental impacts could be minimised (Connell Hatch, November 2007). The (draft) terms of reference for an Environmental Impact Statement, necessary to issue development consent for construction of the railway link, were subsequently published by the Coordinator-General in April 2008.

The less tractable issues of impending skill and labour shortages have been subject to a number of unpublished analyses by the Surat community and State Departments. The Queensland Department of Education, Training and the Arts undertook an analysis of the vocational education and training needs in both the South West and Darling Downs statistical divisions in the face of mining led development. In the Darling Downs, pockets of significant indigenous unemployment were found along with the existence of multiple barriers, including low literacy and numeracy, facing the unemployed. This situation was worse in the southwest with skill shortages already inhibiting business growth and the region experiencing extreme difficulty attracting skilled workers. Within these structural constraints, considerable community capacity building has occurred around addressing skill shortfalls and improving training. The January 2008 Dalby-Wambo and Western Downs Skills Formation Strategies, funded by State and Federal funds, list engagement efforts undertaken with schools, businesses and community groups, the extension of training in these regions, and the facilitation of further training programs and projects.

The issue of housing shortages in the Surat Basin was discussed at a Ministerial Regional Community Forum at Allora in December of 2007. The panel contextualised the issue within the national crisis in affordable housing. The need for the State government to release land, local government to streamline approvals and the federal government to provide incentives for the private sector to produce affordable housing was discussed. The January 2008 draft Maranoa and District Regional Plan, dealing with the Western portion of the Surat Basin Energy Province, of which Roma forms the centre, lays out a hierarchical network of towns to inform soft and hard infrastructure planning and the supply of urban land for residential expansion of those centres. The draft plan notes that a key infrastructure issue facing the region is that royalties collected from resource extraction are not being invested back in the region (Queensland Government, 2008:41).
The studies of social and economic impacts of the mining boom in the Bowen Basin, undertaken by researchers from the University of Central Queensland, draw attention to the uneven spatial manifestations of mining development. Their reports and international journal articles document how the local communities of the Bowen Basin are concerned that they are shouldering many of the costs of accommodating new developments while the benefits flow more broadly to regional and state centres (Rolfe et al., 2007; Rolfe et al., 2006). The applicability of this finding to the Surat Region is underlined by recent developments in the region resulting in local population increases and a surge in housing demand.
4. Approach and methodology of the scoping study

This study used a combination of desktop review, semi-structured interviews, direct observation and participatory workshops to assess the social impacts of mining and energy development in the Surat Basin. Key community representatives occupying a range of roles, representing diverse interests and drawn from the major socio-economic sectors in the Surat Basin communities were invited to participate in focus groups and a community workshop. Their participation in the focus groups facilitated the sharing of their perspectives on the social impacts of mining development in their region and the articulation by participants of strategies to cope with the anticipated but unintended social consequences of such development. Their participation in the community workshop further refined these elements.

We took this grounded theory approach to allow for an understanding of issues and identification of categories of solution from a community perspective to gain more locally grounded insights. In order not to miss perspectives of higher levels we engaged in a literature review to support and challenge the local findings.

In a scientific context, the nominated issues are discussed in terms of the concept of ‘vulnerability’ while the strategies are discussed in terms of the concept of ‘adaptive capacity’.

The notion of vulnerability of a community, of local businesses and of households to the negative impacts of change takes into account a community’s exposure and sensitivity to the drivers of change, as well as its capacity to adapt to different drivers of change. Adaptive capacity refers to the ability of communities, businesses and households to take proactive action when faced with significant change. Adaptive capacity is an emergent property depending on the diversity of assets and activities on which social wellbeing and cultural identity depend. In the context of the Surat Basin, adaptive capacity could be said to refer to the ability to use the Basin communities’ existing human and social capital assets to ensure the preservation of their natural capital (rural landscapes) and to attract new physical capital (infrastructure) that could in turn increase human and social capital (via population increases).

Assets are usually described in five areas: human capital, social capital, natural capital, physical capital and financial capital (Ellis, 2000).

- **Human capital** includes people’s education, knowledge base, skills and health. It enables people to maximise their gains when opportunities or challenges occur.

- **Social capital** refers to reciprocal relationships between people within communities and between communities that support cooperative action to accrue social benefits. Social capital is based on trust; fundamentally, we are reluctant to extend a favour to a person we do not trust to reciprocate in the future. Trust is necessary to sustain three main components of social capital - bonding, bridging and linking. Bonding social capital refers to the ability to
cooperate with other members of a community (people like us). Bridging social capital refers to the extension of trust and reciprocity to members of other socio-economic groups and communities. Linking social capital refers to relationships that facilitate access to the resources (skills and finance) necessary to implement proactive strategies. Linking social capital involves strategically linking with hierarchical organisations such as governments and corporations by identifying common goals. All three components of social capital have to be present to reliably trigger effective adaptation to change. This is because bonding social capital on its own, whether it occurs within a rural community, or within a large bureaucracy, tends to be inward looking. Such inwardness leads to unfriendliness towards ‘outsiders’, limited numbers and/or types of leaders, restrictions on individual initiative, and demands for behavioural conformity.

- **Natural capital** includes the natural resources and ecosystem services a community can rely on. It refers to good agricultural land and soils, availability and security of good quality water, non-renewable resources, climate, rural landscapes and biodiversity.
- **Physical (produced) capital** refers to all elements of hard and soft infrastructure including roads, rail, air services, water supply and sewerage, recreational, educational and health services (schools, hospitals, police stations).
- **Financial capital** refers to the financial resources households, businesses and communities have access to, primarily savings and access to credit as well as stocks and bonds.

The engagement with representatives of local communities was undertaken in two steps. Firstly, focus groups were held in Roma, Chinchilla, Dalby and Toowoomba to discuss how main representatives of Surat Basin communities see the current situation of their community, their community’s future and the process of change. We were interested in the local perspective of people who live and work in these communities with regard to vulnerabilities and coping capacity in a development scenario characterized by increased mining activities.

- Focus group Roma (Communities of Roma, Mitchell, Surat, St George, Wallumbilla, Yuleba, Taroom, Wandoan)
- Focus group Chinchilla (Communities of Chinchilla, Miles, Tara, Moonie)
- Focus group Dalby (Communities of Dalby, Bell, Oakey, Jondaryan)
- Focus group Toowoomba (Community of Toowoomba and surrounding district)

The focus groups were organised as round table discussions structured in three main parts: Participants were asked to discuss the current situation, the likely future and
the process of change starting with very general questions to initiate discussion. The focus groups discussion were recorded and transcribed.

In a community workshop held at Dalby a group of 50 community representatives discussed strategies for Surat communities to improve the communities’ capacity to deal proactively with change. The participants were senior members of the Surat Basin communities and included mayors, local government, state agency, social service and business representatives. The focus group findings were used as an input to the community workshop and participants identified strategies to:

- Increase community capacity to adapt and cope with the envisaged change;
- Ensure opportunities were captured and used during change; and
- Avoid adverse social consequences of change.

Based on the analysis of the existing literature and case studies and on the analysis of the community engagement process, the project steering group together with the study team developed a suite of options for increasing social adaptability to changing economic circumstances. To arrive at these options we employed a framework for strategic regional development assessment. The broader notion of sustainability or sustainable development was used as a guiding principle in this process.

**Sustainability principles to underpin strategic regional development options**

All societies and cultures are governed by commonly held principles, rules and values etc, which guide government, business, community and personal decisions about many things, including the use of natural resources and development. These same principles are constantly being reshaped, reinforced and changed by custom, new knowledge, past experiences and events, as have occurred and will increasingly occur with the new mining development.

There are many examples of principles which have been developed to support sustainable development. Most of these principles draw upon those outlined in international agreements or protocols, such as the Rio Earth Summit and Kyoto Protocol. In framing principles for sustainable development, it is useful to group these under four broad headings: governance, economic, environmental and social, as shown in Figure 1.
Some of the guiding Principles for Sustainable Development which could support the economic development strategy for the region are listed below under the four broad headings of Governance, Economic, Social and Environment. These principles have guided our analysis and have helped to identify change dynamics and possible responses for the Surat Basin.

**Governance Principles** relate to such things as: Integrating social, environmental and economic factors in decision making; taking a whole-of-government perspective; empowering people; engaging the community; focusing on the wider region; focusing where risks are highest and where regional governments have a capacity to influence.

- **Economic Principles** relate to: Focusing on multipliers and value adding; materials and energy recovery and taking all costs (including life cycle costs) and benefits into account in assessing the feasibility and desirability of development.

- **Environmental Principles** relate to: Valuing and protecting ecological integrity and biodiversity; using resources prudently, and implementing the precautionary principle.

- **Social Principles** relate to: Ensuring equity within and between generations and believing in and fostering the ability to create a sustainable future.

The inter-relationship between these sets of principles leads to the identification of economic, social and business efficiencies. Governance is the primary mechanism which we use to establish rules, guidelines, learning and practices to achieve these efficiencies. Sustainability governance principles thus reflect the values and rules that
guide the use of all forms of resources at a society and individual/firm/agency operational level.
5. Analysis

Key issues identified in the literature\(^2\)

The scoping study involved a review of international and Australian examples of mining based economic growth in the literature. The literature (detailed in Appendix 2) agrees on a number of findings which appear to be of universal relevance with regard to social impacts of mining. In particular, there is agreement with regard to the strategies and formal economic planning requirements needed to enable successful mitigation of social impacts in mining areas.

Five major topics dominated the review of international and Australian academic literature concerning the social impacts of mining.

- The overarching theme concerns a reformation of the global mining industry in the last decade in response to widespread civil dissatisfaction concerning the impacts of mining upon communities, framed in terms of Corporate Social Responsibility (CSR).
- Secondly, the review found substantive discussion of the role of Social Impact Analysis (SIA) as a methodology to anticipate and address the social impacts of mining.
- Thirdly, the literature focused on integrated social, environmental and economic indicators draws on both the CSR and SIA literature in discussing the necessity of, and best methodologies towards, social impact indicator selection and measurement.
- The literature on economic diversification in mining communities details the typical failure of long term regional economic development to result in mining regions, due to the boom/bust nature of mining industries.
- Finally, literature examining examples of different types of mining communities, experiences of social impacts, and mitigation strategies provides useful illustrations and pointers towards best international practice in mitigating social impacts ensuring long term regional economic development.

Global trends in the mining industry

The operating context for the mining industry has changed remarkably during recent decades and the mining industry has emerged as a global player based on a number of potent multi-national companies. Economic growth in China, India, Brazil and Russia, as well as in other world regions, has reinforced global growth in resource use, and mining production has consequently increased to unprecedented levels. The use of labour in mining operations has increasingly been supplanted by the use

\(^2\) For more details of findings from the literature review see Appendix 2.
of new technologies. This process has reduced the labour requirements of the mining regions and benefits mining communities receive in the form of wages. Simultaneously, a trend towards decentralised government in many nations has increased the say of local authorities while reducing the provision of services and infrastructure by the State. As a consequence, there have been many examples of an upsurge of civil dissatisfaction with the mining industry because of environmental degradation, underdevelopment and inequality that has almost universally occurred in mining regions across the world (Gonzales Guerra, 1997; WBCSD, 2002; Andrews, 1998).

Expression of civil dissatisfaction peaked at the global Conference on Environment and Development in Rio in 1992 and has since led to a greater recognition of the need to understand the complexity of the relationships between mining companies, States, local governments and communities. There are a number of tensions inherent to the relationships including:

- Central and local governments regarding revenue sharing;
- Social obligations to local communities and financial obligations to company owners and shareholders;
- The move to contract labour (most developed in Australia) and the need to recruit, train and retain highly skilled labour.

To address these issues and to react to the deteriorating reputation and credibility of mining activities, the major mining companies embarked upon reform through the mechanism of corporate social responsibility (CSR). In 1999, nine mining companies launched the Global Mining Initiative, aiming to promote a sustainable development paradigm for the industry. In Australia, the effort to reform the industry was led by the Minerals Council of Australia who identified 5 critical issues including:

- The need to improve the sector’s governance;
- Stakeholder engagement;
- Fairer distribution of costs and benefits;
- The promotion of inter-generational benefits;
- The rights and well-being of indigenous communities.

In short, the literature supports the assertion that civil dissatisfaction has triggered attention to corporate social responsibilities and changed the orientations of major mining companies, but the risk remains that this shift could prove to be rhetorical ‘green wash’ unless operationalised consistently by both multi national companies and small to medium enterprises on the ground.

**Extend Environmental Impact Analysis to cover main Social Impact Analysis areas**

Environmental impact assessment (EIA) does not directly address the social impacts of mining development and social impact assessment (SIA) has emerged as a corrective. However, standard SIA’s, like standard EIA’s, are usually conducted only
as part of an assessment process for major new projects such that follow-up assessments are not conducted and original predictions not subsequently tested. The general consensus in the professional SIA community is, firstly, that SIA should be undertaken both as a component of development assessment and at regular intervals during the mine’s operation with attention paid to the likely social impacts of mine closure. And secondly, that accurate predictions regarding social impacts of mining are dependent upon widespread *stakeholder participation* in SIA (further to the use of statistical information) as the impacted communities are an important source of information regarding how their communities are structured and how they are likely to react to mining development. A pertinent example in the context of the Surat Basin is Rolfe et al.'s (2006) recommendations regarding SIA, which arose out of University of Central Queensland research in the social impacts of mining in the Bowen Basin. These recommendations stress that:

- Many social and economic impacts occur: after the approvals stage; during changes in the scale of mining operations; are cumulative; and arise out of mining closure;
- Studies are often inconsistent and predictions not followed up and checked;
- Regular social and economic impact assessment should be used as an input into the use of sustainability indicators and annual reporting by mining companies;
- SIA is enhanced by the involvement of communities in negotiation and decision making stages.

**Provide indicators for measuring impacts and successful mitigation**

As mentioned above, mining companies are increasingly dependent on a ‘social licence to mine’ in order to operate profitably by increasing the chances of gaining access to new sites and operating existing sites without disruption. Indicators are used to measure the social impacts of mining development and the degree of success of mitigation measures. They constitute a methodology for measuring the ‘social licence’ to mine over time. Social, as well as environmental and economic, indicators are consequently an important tool for companies to report to governments, shareholders and communities on how well they are fulfilling their corporate social responsibilities. The interrelated nature of social, environmental and economic performance has become generally more accepted in the corporate domain, as Feltmate (1998: 189) states: “Financial institutes and organisations are beginning to document the relationship between sustainable development/environmental performance and a positive Return on Investment for companies and shareholders”.

The literature stresses that social impact indicators are ideally chosen using community engagement principles and should be tailored to the specific social and environmental context in which a mining company operates. For example, Fleury and Poulin (2000) recommend the following:
- Define the objectives and users of the indicators;
- Plan the construction of an inclusive database of information incorporating wide stakeholder input;
- Compile available and new on-site information;
- Select indicators from database;
- Evaluate the selected indicators in terms of criteria such as relevance, calculability, clearness, sensitivity to change.

Social indicators constitute a way to continue SIA beyond the development approval moment, test the robustness of mitigation measures, and ensure that social impacts are considered by mining companies regularly by being integrated into routine annual corporate reporting activities.

**Regional planning via tripartite partnerships**

The Sustainable Futures Framework for Queensland Mining Towns (DLGPSR, 2006) acknowledges the need for collaboration between local governments, State agencies, mining companies and communities to develop appropriate planning mechanisms, strategies and measures to enable a sustainable future for mining towns. Such planning has to address the fragility of mining economies. The reviewed literature indicates that the economic volatility of mining regions needs to be addressed:

- A tripartite institutional arrangement between local government, central government and mining companies that facilitates ongoing dialogue and revenue sharing;
- Community and local government capacity building;
- A concerted, long term program of economic diversification.

Tri-sector partnerships between businesses, government and civil society should set common goals, monitoring and reporting systems and collaborative decision making and activities to ensure that mining communities receive direct and immediate benefits. It is important that State governments provide a formal framework for such partnerships so that motivated companies are not commercially penalised relative to less motivated companies. It is also crucial that gain and revenue sharing between central government and local communities bearing the impacts of mining is ensured. The example of the Bowen Basin shows that the social impacts of mining are immediate, but community capacity building takes years. It requires, however, significant human and social capital building in order that communities and local government can become true partners in trilateral relationships.

**Economic diversification**

The literature dealing with economic diversification in mining communities across the world is clear that it is very difficult to achieve a well balanced regional economy where mining is dominant. Large-scale mining tends to occur in remote regions with low population and skill bases. In such circumstances, mining tends to become the
near exclusive economic activity, which is problematic when the resources are exhausted and mines close. Post hoc efforts to address economic diversification (following mine closure) typically fail as they face a formidable pattern of social and economic dependency upon mine operations. This phenomenon has been well documented in the Australian context, and the failure of mining to generate long term economic benefits has been referred to by Australian analysts as a ‘quarry economy, resource curse and Dutch disease’ (Mercer, 2006; Rolf, 2007).

The fact that the Surat Basin already enjoys a diverse economic base bodes well for its prospects of economic diversification as it is starting from a higher population, infrastructure and, skills base than a more remote community. However, the reports assessing the socio-economic impacts of coal mining in the Bowen Basin indicate that skill shortages in the non-mining sector can be expected to occur in the Surat Basin as coal mining becomes more dominant.

McMahon and Strongman of the World Bank (1999) suggest that the features of a reformed mining sector that generates broad-based and sustainable community benefits will include:

- Training and social services focused on the community as a whole;
- Use of local community to fill most employment positions;
- Spin-off employment opportunities equally or more important than mining jobs;
- Mine services outsourced to community rather than in-house;
- Local community will have significant and increasing input into the mining operation;
- Negotiation and agreements with central and local governments, indigenous people and NGOs;
- Significant part of taxes and royalties go to the local community;
- Mining company contributions to help build the community asset base.

Given a deliberate and purposeful effort to ensure the widest possible local and regional involvement in the economic benefits of mining operations, the literature indicates that spin off services and industries can be established.

**Different patterns of mining resulting in different social issues in mining towns**

The literature highlights the highly specific nature of mines and the communities that host them. McMahan and Remy (2001) do however propose a useful typology of mining communities:

- Long established communities highly dependent on mining;
- Company towns established in order to mine;
- Long established communities with diversified economic bases that now host mines;
- Fly-in, fly-out operations (typical of the USA, Canada and Australia)
- Temporary encampments; and
- Major, long term mining cities.

The long established communities described in the literature are characterised by extreme social dependence on a narrow economic base as well as severe environmental degradation. Company towns were premised on the older, labour intensive style of mining development.

Long established communities that come to host mining operations and fly-in, fly-out operations are now more typical, and more relevant to the Surat Basin situation. The social impacts experienced in the Bowen include skill shortages, shortages of affordable housing, and larger centres attracting flow-on benefits at the expense of smaller communities. Without effective mitigation strategies, this experience indicates that the extended urban coastal area of southeast Queensland and inland regional service centre of Toowoomba may monopolise benefits generated by mining in the Surat Basin. The Hunter Valley is also a long established agricultural region accommodating coal mining. University of Queensland’s Centre for Social Responsibility in Mining (2004) found that the Drayton Mine near Muswellbrook generated community dissatisfaction regarding: inadequate employment and training; poor support of local businesses; negative family and community impacts of continuous rosters and 12 hour shifts; and poor community communication and engagement.

The most successful example of a fly-in/fly-out operation is uranium mining in the predominantly indigenous communities of Northern Saskatchewan, Western Canada which has operated under a tripartite arrangement since the 1990s. The largest company, Cameco, has achieved an 85% indigenous workforce as a result of sustained training and re-training programs. Fly-in/fly-out on a 7day on/7day off roster has minimised social impacts and allowed workers to sustain traditional lifestyles (Parsons and Barsi, 2001).

The ambition of evolving into major, long term mining cities or ‘mining metropolis’ is a possibility for the Surat energy region. The prime example here is Sudbury in Ontario, Canada. Following four boom decades, Sudbury faced economic disaster due to falling nickel prices. Sudbury’s local leadership rallied to unite the community and diversify the regional economy by exploiting all opportunities for government assistance so as to expand public sector employment and establish a machinery manufacturing industry. Of particular importance in this success story was the earlier establishment a single, regional planning agency and economic plan which foresaw the downturn (Richardson, 1991). Similarly, the Western Australian mining towns of Kalgoorlie/Boulder, facing the exhaustion of nickel reserves, have used their high quality infrastructure to establish a successful mining services sector over the last two decades (Maxwell, 2001). In both the Sudbury and Kalgoorlie/Boulder cases, researchers note a strong tradition of self-sufficiency, entrepreneurialism, mutual support and individual initiative.
Key issues identified in the focus groups

The challenges and opportunities raised and discussed by the community representatives who participated in the four focus groups clustered around the topics of: regional planning; maintaining rural lifestyle and liveability; building robust business communities; avoiding skill and labour deficits; ensuring affordable housing; and climate change and water shortage. It is important to note that that the method used here enables to better understand the perceptions of community representatives. In other words, the findings represent the knowledge of the people who live and work in the Surat region and therefore have a very profound knowledge of regional problems and challenges.

Regional planning

Discussion of the topic of regional planning revolved around the identification of several tightly linked challenges. The primary concern highlighted was that the region’s infrastructure is inadequate in the face of rapid expansion in the mining sector and the expected accompanying population increases. Shortfalls are currently experienced in:

- education and recreational facilities;
- health services;
- transport (public transport is poor and road and rail infrastructure are run down);
- ICT (lack of a broadband service and limited mobile coverage);
- inadequate water supplies; and sewage systems are already at or over capacity.

It was viewed as crucial to address infrastructure shortfalls in order to able to attract incoming mining workforces to settle with their families in the region so avoiding a fly-in/fly-out mining workforce pattern and the social problems inherent to temporary predominantly male encampments. However, participants expressed the perception that clear funding mechanisms to address forward focused infrastructure needs are not currently available.

Participants suggested that Local Governments do not have the necessary funds and funds have not been forthcoming from the Queensland or Commonwealth Governments. Poor information flows to the Surat Basin communities regarding the assessment and approval of mining development proposals were also thought to be causing unnecessary levels of community speculation that impeded private investment in infrastructure, particularly housing.

The existing departmental use of Australian Bureau of Statistics (ABS) population numbers or Queensland Department of Education enrolment numbers to substantiate

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3 For a detailed documentation of community perspectives gathered in focus groups and community workshops see Appendix 1.
infrastructure funding needs was viewed as inadequate. The speed of mining driven socio-economic change means that this data is typically out of date by the time it is used. This concern was underlined by an investigative visit to the sister region of Bowen Basin undertaken by several focus group participants, which highlighted the importance of early infrastructure provision to addressing social impacts of mining.

The difficulty of communicating infrastructure funding needs to governments was viewed as exacerbated by the fragmentation of local planning efforts by the traditional local government focus on particular towns. These fragmented plans and planning groups were viewed as ill adapted for dealing with the State Government or mining companies. The lack of a peak representative group was in this respect a disadvantage. However, substantial local planning effort has already been undertaken by a wide array of individuals and groups. Strategies are especially advanced around addressing skilled labour deficits. Focus group participants suggested that this work could be consolidated under the auspices of an existing peak community group (the Western Downs Development Group).

Secondly, the presence of State Agency regional offices in Toowoomba and Roma were viewed as able to facilitate communication with local groups and the Queensland Government. Finally, it was noted that the long term and multiple company nature of Surat Basin mining development affords some lead time to provide a planning framework to harness the benefits, and address the potentially negative impacts, of mining development.

The opportunity to scale up planning efforts to a regional level was identified. Several elements were highlighted as necessary in such a project. Firstly planning needs to be coordinated at a regional scale so as to represent and prioritise sub-regional needs while presenting a single voice to mining companies as well as State and Federal Governments. Secondly, a regional plan to coordinate the long term, staged growth of the region’s towns needed to be formulated so that towns can be made self-sustaining beyond the mining boom. Thirdly, multi-sectoral private and public funding needed to be obtained and coordinated in order to implement this plan. Two existing regional planning mechanisms were identified that could be used to progress regional planning. Firstly, the three new regional councils (Toowoomba, Dalby and Roma Regional Councils) were highlighted as a mechanism whereby all sub-regions could be represented and growth could be coordinated and controlled. Secondly, the potential of Queensland Government mining development assessment processes was discussed, particularly the requirements for an Impact Assessment Statement (IAS), Environmental Impact Statement (EIS), and Growth Management Group (GMG):

**Maintaining rural lifestyle and liveability**

Maintaining the Surat region’s liveability in the face of a mining boom was also an important topic for the focus group participants. Concern was also expressed that tension may develop between established residents and new (‘mass’, overnight, fly-in/fly-out and drive-in/drive-out) residents associated with the mining industry. A potential loss of social fabric resulting from highly paid mining employment that
employs a block roster shift pattern and limiting capacity for community involvement was highlighted.

New mining industry jobs were also viewed as potentially widening tension between the older, more often, agriculturally oriented residents and younger, more entrepreneurial, non-agricultural residents. The risk that an increase in social dysfunction may occur with the addition of a mining workforce, with problems such as drugs, alcohol and spouse abuse was discussed. Ongoing efforts to overcome the isolation of the Indigenous communities may be undermined by resurgence in criminal activities (prostitution and drugs) which are sometimes seen as a quick way of making money in a community suffering from unemployment. And finally, the farming community, already decreased in size by rural adjustment, was perceived as at risk of being displaced altogether from the region, which poses risks for the preservation of the rural landscape, social heritage and long term economic industries for the sake of a temporary industry.

However, the focus group participants believed that their region afforded an attractive lifestyle capable of attracting new residents to form mining workforces. The lifestyle elements discussed included: the availability of most services, particularly in Dalby and Toowoomba; the low commuting times; less pressured lifestyle; safe and family friendly communities; rurality, open space and diverse recreation options. It was also pointed out that the Surat Basin region is highly affordable compared to southeast Queensland, with a wide range of property purchase options available, very low unemployment and good employment opportunities for dual income families and youth. In particular, the participants nominated high levels of social capital in the region’s communities, as an asset. The region’s communities were regarded as possessing a strong sense of identity and being cooperative, collaborative and welcoming places.

The focus group discussion highlighted an opportunity to encourage new workforces associated with mining industries to settle in the region with their families. The integration of new residents was viewed as requiring attention to the base population’s needs to ensure they did not become a neglected group, continuation of social capital construction efforts dealing with social problems in existing communities (e.g. indigenous communities), and formally welcoming, orienting and inviting new residents to become involved in the existing community activities. In terms of the retention of farming communities, it was suggested that constructive, ongoing negotiations between farming communities and mining companies was crucial. Those negotiations were viewed as concerning the rehabilitation of land so that it can be returned to agricultural uses and mutually satisfactory land ownership and management arrangements while mining takes place on agricultural land.

Building robust business communities

The impact of mining companies upon Surat Basin businesses was viewed as both a significant challenge, and an opportunity. In general, the currently diverse economic base was perceived as being at risk of being undermined if mining became the dominant economic activity. Agricultural industries were seen as being particularly vulnerable in this regard as they would not be able to offer the high wages to skilled
workers that mining companies could. The participants viewed ensuring the capacity of the existing business community to service a mix of industries, not just mining, as necessary to ensuring the region’s long term economic health.

The loss of new business opportunities associated with mining to outside service providers such as corporate dealerships was regarded as a high risk. And the lack of good quality information to support the identification of business opportunities and good forward planning by the region’s business community was viewed as a worrying deficit. However, the service provision opportunities that a new industry such as mining affords, and the Bowen Basin experience that negotiation with mining companies to ensure their use of local services was as crucial, were discussed. The cooperative nature of the existing business communities was highlighted as strength in terms of harnessing these new business opportunities and the focus group participants believed intensified cooperation and mutual support through mechanisms such as chambers of commerce was necessary.

**Avoiding skill and labour deficits**

Regional distribution of skilled labour, already in short supply, is expected to become more problematic in the Surat Basin because the mining industry is able to pay salaries twice as high as non-mining businesses. Focus group participants believed that skill shortages will worsen if agricultural economic activity increases due to increased rainfall. The ability to attract skilled labour to the Surat Basin region was viewed as critically dependent on the provision of infrastructure and the affordability of houses and rents in the region.

Focus group participants reported on positive trends in recent years which have improved regional capacity to deal with skill and labour shortages. Progress has been made in youth retention both by attracting young adults into the local labour force and attracting people who have left to return to the region. The Surat Basin communities have institutionalised forums to engage with young adults, namely the Western Downs Career Group and the Learning Agenda Queensland, which have increased opportunities for apprenticeships and employment.

The focus groups identified four main strategies to address skill and labour shortages. Further efforts to retain young adults would include establishing industry, business and school partnerships in order to build future workforces; encouraging young adults to consider a trade instead of a University education; and making communities more attractive for those who leave, especially when they start raising children themselves. Support of, and managerial capacity building for, local business owners would include: provision of local training opportunities for business owners; encouraging business owners to create long-term salary packages for their employees; and government subsidies and support schemes to support such training and salary packaging. Focus group participants also saw potential to bring existing local people into the workforce by increasing workforce participation by women; offering flexible work opportunities to those over 65 years old; and to engage Indigenous Australians in the local labour force. The poor transparency of mining development information, however, hinders business communities in making such adjustments.
Ensuring affordable housing

The focus group participants were well aware of the loss of affordable housing in the Bowen Basin due to mining and viewed the problem as highly likely to recur in the Surat Basin. Focus group participants describe the loss of housing affordability as an intractable problem. They described a cycle, already being experienced in some of the Surat communities, beginning with rapidly increasing demand for houses and rental accommodation outstripping supply, price rises to unprecedented levels, and the migration of low income earners from the community. Existing social capital is thus lost and local businesses experience difficulty employing support staff drawn from lower socio-economic groups. Retention of young adults and attraction of new residents (miners and their families) becomes more difficult as home ownership becomes less viable. Work camp type towns emerge around major construction projects and workers elect for fly-in/fly-out or drive-in/drive-out arrangements to avoid high housing costs, which in turn results in a plethora of social problems. While other community members gain financially from the housing boom, trade-offs between the interests of investors, owners and rental occupiers are not solved in a mutually beneficial way.

Nevertheless, Surat Basin communities could draw upon their sense of community and local identity to value community over private interests thereby keeping rents within reasonable margins, or allowing for innovative forms of gain sharing. And, unlike a densely urban region, there is suitable land for building available in the Surat Basin that could be released early to keep land prices low. Given timely, accurate information about future population growth, business and private investors could be encouraged to build housing and new houses could be built before development kicks-in (as is the case in Dalby where, a focus group participant stated, 600 new houses are being built).

Despite the above relative strengths, the focus groups were unable to identify an integrated, generally accepted strategy for dealing with housing affordability. Participants were particularly critical of the possible use of legal restrictions on rental income for rental property owners. The suggestions made in the focus groups included: an increased supply of housing commission houses with controlled and subsidised rent; rental assistance or subsidies; higher housing densities to provide housing at lower levels of investment; financial contributions by mining companies channelled into public housing provision; increased land releases to provide a surplus of land supply over demand; improvements in public transport infrastructure to allow for longer commuting times; improved private sector investment; tax incentives for investments in houses tied to restricted rent; and gain sharing.

Climate change and water shortage

The focus groups made little reference to climate change but also little explicit reference to other global or national drivers of change. It was noted that the development of clean coal technologies could eventually add more value to the national economy than resource exports. Other participants commented that international agreement regarding the reduction of greenhouse emissions could actually slow down the foreseen mining development in the Surat Basin region.
In contrast to climate change, it is well understood that water is an immediate resource challenge for Surat Basin communities. The question is how population growth and a growing coal mining industry will be supported by limited water resources, which may become even less reliable under a drying climate change scenario. Furthermore, the role of agriculture might increase according to the focus group participants due to the population growth of southeast Queensland, which would place further pressure on water availability. The potential of methane gas water to contribute to regional water supplies is seen as a short term opportunity only. The crucial question for Surat Basin communities is how to manage growth with inadequate and unreliable water. Focus group participants believed that projected mining industry growth might not occur because of this impediment.

**Challenges and opportunities**

Approximately 50 local stakeholders worked together in a community workshop to discuss how to increase community capacity to deal with the impacts of increasing mining and energy production in the Surat region. The aim was to ensure that opportunities were captured and problems anticipated and addressed in order to avoid the entrenchment of adverse social outcomes. The participants chose four issues for discussion: ‘regional planning’; ‘building robust business communities’; ‘skill and labour deficits’; and ‘affordable housing’.

The absence of an organisation that represents the whole Surat Basin region was identified as a core weakness in regard to identifying the needs of the region’s communities, and negotiating with mining companies and the Queensland Government. The Western Downs Development Group, three new regional councils, and community advisory boards to the councils were nominated as possible ways forward. The State agencies’ Regional Managers Coordination Network was also recognized as a valuable resource. Negotiation and lobbying skills were recognized as invaluable to regional representation as it will be more productive to offer solutions than complain of problems.

Information sharing and transparency, both top-down in regard to mining development in different localities, and bottom-up in regard to the impacts of that development experienced in various communities in the Surat Basin, was regarded as crucial. Workshop participants expressed a concern that if strong linkages between community and the regional forum was not ensured, information sharing and transparency might degrade.

Facilitation of cooperation and negotiation with mining companies was regarded by the workshop participants as very important. Mining companies should be encouraged to understand their responsibility for making use of available services and promoting skills development on a regional basis. The participants stated that companies should also be encouraged to make donations to communities in an organized fashion via a fund managed by a regional body, and should not just hand out money opportunistically to single institutions.

A robust business community based upon a broad portfolio of economic activities was viewed as an important goal. Representation of the regional business
community by a unified body and the creation and strengthening of Chambers of Commerce were viewed as important to achieving effective two way communication between regional businesses and resource companies, and the identification of the products and services energy or resource companies required.

Workshop participants identified the recruitment and retention of new skilled labour as crucial to avoidance of skill and labour shortages. Recruitment and retention of skilled labour was viewed as dependent upon provision of good community facilities to attract and retain people, and promotion of the region. A better understanding of capacity building and human resource development by local business managers was advocated. This could be achieved through outreach to local youth via school – industry partnerships, and apprenticeships for local youth. The creation of attractive salary packages including elements such as housing, training, and flexible hours could further improve the attractiveness of local employment.

Ensuring provision of affordable housing was viewed as a difficult and controversial issue. Some participants identified potential mechanisms for ensuring affordable housing such as incentives for developers to provide affordable housing, legislative control of rentals, and rent caps. An example of non-profit housing for aging people presented in Dalby was also provided. Workshop participants also discussed early land release to ensure demand did not outstrip supply. However, no agreement on strategies to meet this issue could be reached.
6. Conclusions and responses for consideration by the key project stakeholders

The conclusions and responses presented here are based upon the evidence afforded by the literature review, focus groups and workshop. The options represent a bundle of actions that, according to the community engagement process and the literature review, have a great potential to support the sustainable development of regional communities in the Surat Basin.

**Conclusion 1: Information sharing, communication and transparency is critical for enabling good governance and change management at the community level.**

Community and regional council representatives expressed an urgent need for accurate and timely information about the long term plans and activities with regard to mining development as the single most important factor for pro-active change management at the community level. Currently, there is an imbalance between the commercial confidentiality granted to mining companies and the need for accurate information by regional councils and local communities. Establishing a tripartite arrangement may allow negotiation of a mutually satisfactory solution to this imbalance. Such an outcome would permit effective communication between all stakeholders involved concerning when, where and how development is to occur and thus enable a coherent communication strategy with local communities.

**Response 1: Establish a tripartite institutional arrangement between the Surat Basin regional councils, State and Federal governments and mining companies to facilitate on-going dialogue, strategic planning and revenue sharing.**

In order to plan for responses to existing and proposed mining projects a collaborative approach is advisable between State government, local government, mining companies and community stakeholders in order to be able to deal coherently with the range of social, economic and environmental impacts that typically accompany mining based economic growth. Both the Surat Basin community commentary to the researchers and international cases from the Northern Saskatchewan, Western Canada suggests that a regional approach is warranted in order to prevent socio-economic cost shifting. The three newly established regional councils could work together to establish such an arrangement with State government and mining companies operating in the region. However, due to significant differences between the three regional councils with regard to their current economic bases, resource endowments and development prospects, it might also be appropriate to establish arrangements separately. If the three councils established separate arrangements with mining companies and the State government, good communication between these forums would be necessary. The trilateral arrangement suggested has the potential to form an indispensable foundation for more specific activities aimed at supporting local and regional sustainable development.
Response 2: Consider establishing mining town growth management groups

Mining town growth management groups comprising State government, local government, industry and community stakeholders have been identified as a mechanism within the Sustainable Futures Framework to progress strategic planning for communities experiencing growth pressure due to mining activities. Such a growth management group has been successfully established in the Belyando Shire Council. The process is government driven and includes all important stakeholders, agrees on administrative and financial arrangements and on the terms of reference for developing a growth management strategy. Establishing a growth management group could provide a framework within which the tripartite arrangement could be achieved.

Response 3: Build capacity for regional councils and communities to allow for effective regional representation.

In order to be able to effectively enter into a trilateral arrangement, local councils and communities need to build capacity and leadership capability in order to best represent and advocate for their areas of responsibility. As the international literature makes clear, rapid community and local institutional capacity building is necessary for constructive community engagement over the impacts of mining to occur. In order to build such capacity, regional councils should establish a leadership group convening local experts, important community stakeholders and mining company representatives. This will ensure that regional councils are best equipped to manage the full range of social, economic, environmental and governance issues likely to occur in the region. These leadership groups could be established as advisory groups to the regional council, as foreseen by the Local Government Act. Such an arrangement would assist regional councils to express all issues that occur with regard to regional development with a single, strong voice.

Response 4: Establish a mediating body that operates in situations where consensus is not possible.

It is also important to establish mechanisms which could be used in case of conflict or to make use of existing institutions that provide those services. It requires further investigation as to which legal mechanisms and/or institutions could be used to resolve worst case scenarios.

Conclusion 2: Gain and revenue sharing will be essential to increase the social acceptability of mining operations and to increase the local economic opportunities from mining in the Surat Basin region.

Mining activities create wealth but usually not in an evenly distributed way. State and national governments profit from royalties paid for mining leases and from tax revenues. Companies gain from having access to precious resources which sell at increasingly profitable global prices. Individual workers and households profit from exceptionally high salaries and landlords or home owners may gain from higher rental incomes or increased property values. Because gains and revenues in mining activities are often much higher than those yielded by other economic activities,
mining activities typically, as a consequence, constrain other forms of development. Because of the civil dissatisfaction this situation has caused across the world, and the international mining company community's interest in obtaining and maintaining a social licence for their operations, it is both advisable and opportune to identify and test approaches for gain and revenue sharing.

Such gain sharing could be introduced by establishing a trust fund (see below) where those parties who earn over proportional amounts give some of the revenue and gains back to the community at large in a carefully targeted manner. Mining companies, as part of their corporate social responsibility, contribute to the development of rural communities by financial donations (and are already doing so in the Bowen and Surat Basins). State and Federal Governments who also gain considerably could add to these donations of mining companies. On this basis, it is also possible to request landlords and property owners who are earning high rents because of mining development to contribute a certain percentage of their gain back to the community.

**Response 1: Consider establishment of a trust fund that build a financial basis for investment today and in the future.**

The Surat Basin region could establish a trust fund that would be operated and managed by a tripartite regional body. Following the principle of gain and revenue sharing, the trust fund monies could be donated by the government, mining companies and local businesses based on a tripartite agreement. Instead of providing community packages, mining companies could be encouraged to pay into the trust fund. The same would apply to private businesses and households who are willing to donate to the fund. The government could match these private contributions from mining companies and by private investors. A primary function of a tripartite regional body could be to regulate trust fund expenditure and direct the resources of the government towards substantiated regional priorities in a timely manner. Timely funding of priorities made urgent by rapid mining development was an urgent issue expressed by research participants. Such an innovation, already supported by the policy position of the international mining sector, could point towards solutions to similar problems experienced in other regions and point the way, as has Northern Saskatchewan, towards international best practice.

The trust fund would have two main objectives. Firstly, it would fund regional diversity projects in the Surat Basin proposed to the regional tripartite body and prioritised against sustainability standards regarding infrastructure, housing and human capacity. How this prioritisation takes place would inform the design of the tripartite agreement between State, local government and mining companies. Secondly, a proportion of the fund assets could be invested and remain in reserve for the time when mine decommissioning due to resource exhaustion. Thereby, some of today’s gains can be transferred to future generations to support sustainable development.

**Conclusion 3: Economic diversification leveraged off the energy boom is essential to the long term well being of the region.**
The international literature agrees that economic development based on mining industries alone will not allow for sustained economic growth due to its temporary nature. The failure of mining to generate long term economic benefits, particularly in remote regions, has also been acknowledged in the Australian context. The fact that the Surat Basin region enjoys an existing viable economic base bodes well for its prospects of economic diversification. Economic diversification needs to be an early and integral part of regional economic planning since post hoc efforts to address economic diversification have typically failed. The momentum of the mining boom should therefore be used to intensify human resource development, infrastructure construction and encouragement of regional procurement and export.

**Response 1: Maintain and enhance existing economic diversity**

The community engagement as well as the scientific literature identifies the capacity of the existing business community to service a mix of industries, not just mining, as a valuable asset to ensuring the region’s long term economic prosperity. This will require a high level of cooperation between businesses, good quality information to support the identification of business opportunities and forward planning by the region’s business community. The cooperative nature of the existing business communities is important in terms of harnessing new business opportunities and the focus group participants believed intensified cooperation and mutual support through mechanisms such as chambers of commerce was necessary.

**Response 2: Create industrial ecologies and industrial symbiosis**

The industrial ecology literature and its practical applications in many parts of the world demonstrate the potential of synergies that reduce resource use, emissions and waste in industrial processes via innovative process design. The most obvious example for the Surat Basin region is the use of coal seam gas water in industrial and agricultural activities. The regional business community of the Surat Basin could, in this mode, explore the potential for establishing industrial clusters around mines and energy production. This could be driven by the existing innovation fund for industries and corporations to co-invest in industrial symbiosis projects and explore the potential of establishing industrial parks around mining and energy production facilities. The existing Centre of Enterprise could support a focus on business clusters and cooperation among businesses.

**Conclusion 4: Investment in hard and soft infrastructure will be crucial to meet the demands of an increased population.**

The ambition expressed by the workshop participants to build larger resident populations in many towns in the Surat Basin will require considerable investment in both hard and soft infrastructure. The current situation with regard to the condition of road networks, public transport, utilities, education, health care, police and community services only meet the requirements of the current population. There is preparedness at the State government level to invest in larger infrastructure projects directly related to developing the mining sector such as rail, rolling stock, port, water and energy infrastructure. However, current investment into skills needs to continue
while housing, planning and soft infrastructure also need to be increased accordingly to allow local communities to deal proactively with the inter-related aspects of social change as well as maintain their communities as desirable places to live and work. Successful economic diversification would ensure the use of infrastructural assets established during the mining boom for post mining economic prosperity.

Response 1: Allow for timely land release and encourage corporate housing initiatives to enable housing affordability.

A major obstacle to the formulation of rental friendly renters' legislation and affordable levels of rent is the dispersed housing ownership structure in Australia. As people typically own just one rental property, the stability of rental contracts and rents is difficult to guarantee. The rental agreements found in European nations is politically unpalatable under such conditions. Corporate ownership of larger numbers of units for rental purposes is a necessary, but not sufficient, first step towards ensuring increased stability and security for renters. Globally, insurance companies, banks and pension funds have become corporate investors and owners of rental properties. The reason for such development was the need of banks and insurance companies to invest part of their money in safer assets so as to increase resilience toward stock-market fluctuations by holding considerable assets in the housing market. Corporate owners usually guarantee better rental conditions including longer lease terms, higher flexibility of use, and more stable rates of rent.

Surat Basin communities could therefore explore the potential to bring corporate investment and ownership into the housing and rental market and identify and provide an enabling environment in which such investments become more plausible. The aim would be to enable multi-storage and multi-functional apartment houses in medium to high price segments that reflect the requirements of short-term, well paid residents. Such apartment houses would contribute to increased housing density and would offer one and two bedroom accommodation as well as larger units. They would allow for a modern lifestyle while reducing the environmental footprint of land use and could, if well equipped, encourage the mining workforce to live in the existing Surat Basin communities.

Response 2: Earn a double dividend of increased resident population and retained workforce particularly in mining and energy production activities as a result of improved soft and hard infrastructure.

By encouraging temporary workforces to reside in local towns the benefits to local communities would be greater than if fly-in fly-out was the dominant pattern, as was strongly expressed by the research participants. A resident workforce would more likely remain longer in mining jobs thereby saving mining companies the considerable costs involved in staff recruitment and training. The increase of a residential mining workforce crucially depends on affordable high quality housing, as the Bowen Basin experience demonstrates.

Conclusion 5: Information is critical for effective on-going management of regional opportunities from the energy boom.
Information is crucial for being able to plan, to make policy decisions, and to evaluate past policies.

**Response 1: Develop an agreed set of indicators for the region.**

A set of agreed indicators for sustainable regional development to support planning, policy making and evaluation in the Surat Basin region is required. This would enable a tripartite regional body and local governments to make informed decisions about where to invest resources and where to put effort. Such information would ideally involve regional economic and social modelling to identify trends and scenarios for economic development, multiplier effects, employment, housing, and pressure on environmental resources.

**Response 2: Improvement of the EIS process to allow for institutionalised impact assessment procedures, taking account of all relevant social and environmental impacts at community level.**

Currently, the formal approval procedure for mining and energy production projects considers a variety of environmental impacts through the EIS process. Social impacts are in principal part of the EIS but are usually not dealt with in a systematic way, making it difficult to anticipate and deal with social impacts. The effect of this shortcoming is clearly demonstrated in the case of the Bowen Basin. It is important to ensure that issues such as workforce accommodation, housing affordability, skills and labour shortages, and infrastructure requirements are adequately assessed in the EIS and an enhanced EIS process could become a tool to support community planning. In this regard it is important to raise the awareness of community, businesses and local government for the potential of the EIS process to deal with social impacts and the need to raise social issues in the terms of reference for the EIS.
7. Concluding comments

The scoping study of social issues that are relevant when thinking about the future of Surat Basin communities has combined information from a community engagement process with current international literature. Our conclusions, as well as responses that potentially improve the adaptive capacity of communities in the Surat Basin region, all point to the collaborative effort that would be required to enable a sustainable future of the region. State and Federal Governments, Regional Councils, local stakeholders and communities, businesses and mining companies will have to work together to ensure success and to avoid severe shortcomings in the social sphere as the region’s economy changes. It will require a lot of effort, new thinking, and different practices by involved players. If such collaboration and regional planning were be put into practice, the Surat Basin region, because of its existing capacities, could become a showcase for reconciling mining business, community and State interests.
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Appendix 1: Community engagement

One major activity in this study was to assess the communities’ perspectives on social impacts related to increased mining activities and to develop strategies to cope with unintended social consequences of such development, using a participatory approach. The engagement with representatives of local communities was done in two steps. Firstly, focus groups were held in Roma, Chinchilla, Dalby and Toowoomba to discuss how representatives from Surat Basin communities saw the current situation of their communities, their communities’ future, and the process of change. We were interested in the local perspective of people who live and work in these communities, with regard to vulnerabilities and coping capacity in a development characterized by increased mining activities. The four focus groups were held as follows:

- Focus group Roma (Roma Town and Shires of Bungil, Warroo, Bendemere and Taroom)
- Focus group Chinchilla (Shires of Chinchilla, Murilla and Tara)
- Focus group Dalby (Dalby Town and Shires of Wambo and Jondaryan)
- Focus group Toowoomba.

The focus groups were organised as round table discussions structured in three main parts. We asked participants to discuss the current situation, future possibilities, and the process of change, starting with very general questions to initiate discussion. The focus groups’ discussions were recorded and transcribed. The general issues discussed included:

- Communities in the Surat Basin NOW: “What do you see as positive aspects of your communities NOW?”, “What are the qualities, characteristics or values that need to be retained, maintained or enhanced?”, “What do you see as shortcomings of your communities NOW?”, and “What should be changed in the future?”

- FUTURE of communities in the Surat Basin: “What are your hopes for the future of your communities?”, “How should your community look, feel and function in 20 years’ time?”, “What needs to be considered in particular?”, “What are your concerns with regard to the future of your communities?”, “Where do you see the main vulnerabilities of your communities with regard to resource led development?”, and “What could go wrong?”

- How to manage the transition: “What will be critical to avoid unintended and socially undesirable effects of mining development in Surat Basin communities?”, “What do you see as suitable institutional and community responses?”, “How could a process occur where the main capacities of Surat Basin communities are enhanced, and vulnerabilities are limited?”, and “How can you
contribute to creativity and innovation to achieve positive
development in Surat Basin communities?"

The findings of the focus group discussions were presented in a community workshop in Dalby. In this workshop, participants were asked to develop strategies to cope with potential impacts identified, in a working group setting. The strategies that were developed were then presented and prioritised by the participants.

**Literature review**

The study was supplemented by a literature review on social impacts of mining in Queensland, Australia and internationally, to identify good practice examples which might become relevant for Surat Basin communities. The literature review helped identify ways in which other communities successfully dealt with social change that occurred when mining became a major part of the local economy. The study team arrived at a set of strategies based on the information gathered from the community engagement process and the review of the literature. The literature review can be found in Appendix 2.
A1.1 Findings from focus group discussions in Chinchilla, Dalby, Roma and Toowoomba

A1.1.1. Introduction

The four focus groups that were held in Roma, Chinchilla, Dalby and Toowoomba brought 90 people around the table, representing different social subgroups including government agencies, private businesses, skills and training providers, health and social services, as well as mining enterprises. For an overview of how the groups were represented see Figure A1.1.

FIGURE A1.1: REPRESENTATION OF SOCIAL SUB-GROUPS IN THE FOCUS GROUPS

There was a different mix of participants in each focus group. State departments and state agencies were represented in the Roma and Toowoomba focus groups, but not in the others. The focus groups in Dalby and Chinchilla had a much better representation of the wider community, and issues related to agriculture mainly occurred in the Chinchilla meeting. Figure A1.2 documents the representation in each focus group.
We grouped these 20 issues into 6 larger clusters of issues that were of main importance for local communities with regard to coping with social impacts. Clusters include:

- Displacement of low socio-economic groups
- Greenhouse policy context
- Water
- Proximity to South East Queensland
- Low unemployment and youth retention
- Inequity and access to housing
- Displacement of farming community
- Affordable housing
- Learning from relevant experiences
- Indigenous assets and vulnerabilities
- Displacement of farming community
- Learning from relevant experiences
- Information provision
- Learning from relevant experiences
- Affordability and viability
- Skill and labour deficit
- Infrastructure provision
- Skills and training
- Need for regional planning
- Need to build populations
- Need to negotiate with mining companies
- Need to build populations
- Transmigration, social integration
- Need to negotiate with mining companies
- Proximity to South East Queensland
- Water
- Greenhouse policy context
- Forest-based industries
- Other

All contributions to the overall discussion were coded and related to one of 20 main issues, which are presented in Figure A1.3. Focus group participants identified issues related to regional planning as most important, followed by rural lifestyle and liveability which they identified as a major attribute of their communities.
Ensuring affordable housing “avoiding displacement of lower income earners, and housing new residents”

Maintaining rural lifestyle and liveability “growing self-sustaining communities post boom”

Building robust business communities “cooperation to capture opportunities”

Avoiding skill and labour deficits “retaining and training youth and attracting skilled labour”

Enabling regional planning “expressing the interests of the region with one voice”

Coping with water shortages and climate change “lack of water as a growth impediment”.

A1.1.2. Enabling effective regional planning

“Government (is) fairly slow to react in a lot of ways, so we have to push the barrow ourselves and just hope that our head is harder than their brick wall” (Dalby).

Four advantages available to the Surat Basin communities were identified in terms of instituting effective regional planning. Firstly, substantial local planning effort has already been undertaken by a wide array of individuals and groups. Strategies are especially advanced around addressing skilled labour deficits. Focus group participants suggested that this work could be consolidated under the auspices of an existing peak community group (the Western Downs Development Group):

“I go to so many meetings and we're trying to address exactly the same topic… Because there’s probably 27 organisations out there doing exactly what you’re trying to do … Because there are a lot of talented people with a lot of knowledge that if it is pulled together it would be more constructive” (Chinchilla).

“There’s a group called the Western Downs Development Group. Their sole purpose is to address the labour and skills shortages within the district. They can be like an advisory body to what's happening in the region” (Roma).

Secondly, the presence of State Agency regional offices in Toowoomba and Roma has the potential to facilitate communication with local groups and Queensland Government Departments:

“We have a lot of State agencies that have a regional office based in Toowoomba. That's of big benefit for Toowoomba, because you can talk to the head honchos, and people that can make decisions, locally. Which makes life a lot easier” (Toowoomba).
Thirdly, the learning afforded by the investigative visit to the directly relevant sister region of Bowen Basin has highlighted the pitfalls to be avoided in order to proactively address the social impacts of mining development:

“They came back (from the Bowen Basin trip) with those sentiments very strongly in their minds. This was a great opportunity, but we had to be really proactive in making sure that we protected our community assets. Some people in Emerald were saying that after 30 years the (mining) development was only marginally a good thing. The lesson there was you need to be on the front foot with this” (Toowoomba).

“That’s one thing that came out of our trip up to Mackay, that we need to get together as a region and not just each individual, but actually have an overall body that becomes representative of all of the regions of the Surat Basin, and then we put together a proposal of all these issues that we’re coming up with now, and especially those social impacts” (Chinchilla).

Finally, the long term and multiple company nature of Surat Basin mining development affords some lead time to provide a planning framework to harness benefits and address potentially negative impacts of mining development:

“We can’t say what’s going to happen for sure, but every six months, there’s almost a new project announced or coming into the pipe line. A lot of these projects do have a pipe line of three or four years. We have environmental impact statements and all this sort of stuff, so there is a bit of a lead time” (Dalby).

On the other hand, four major vulnerabilities were identified. Firstly, local planning efforts are fragmented in nature, by focusing on particular towns. These fragmented plans and planning groups are unsuitable for dealing with State Governments and agencies or mining companies who would prefer to deal with a peak representative rather than multiple groups. A coherent regional approach to strategic planning needs to be formulated as a matter of urgency:

“We need a regional organisation, not just a regional council but a regional organisation that sits above and that can coordinate. What I think is lacking for this region is a clear approach. If we're going to be lobbying and advocating for improvement we have to do it as a region” (Chinchilla).

“You have to have a cross-section of people representing each small community, but to actually approach the mining companies and the coal companies or whoever; you really need to come from a regional point of view. They don't want to deal with 10 different people” (Chinchilla).

Secondly, the region’s infrastructure was highlighted as unable to cope with mining development and population increases. Shortfalls are currently experienced in:

- Education (schools are full and school buildings need to be overhauled);
Health services are inadequate (for example, Dalby has been unable to attract a permanent dentist);

Transport (there is very little public transport, and road and rail conditions are poor);

Recreation (sporting facilities are at capacity already);

ICT (there is no broadband service to regional Australia and mobile coverage does not extend beyond town boundaries);

Water (water supplies are already inadequate); and

Sewage (for example, Roma’s sewage treatment plan is already operating far beyond the capacity it was originally designed for).

It was viewed as crucial to address infrastructure shortfalls in order to attract incoming mining workforces to settle in the region:

“I think the biggest negative that these communities have is their health and services that people come from cities expect” (Chinchilla).

However, clear funding mechanisms to address the need to overhaul and expand infrastructure are not available. Local Governments do not have the resources to deal with the rapid expansion of infrastructure required, and funds have not been forthcoming from the Queensland and Commonwealth Governments:

“Our local government is (not) big enough to do the things that they have to do in the time they have to do it. Other levels of government are going to have to inject considerable money into these communities to enable them to get to the level that they need to be, to provide the facilities, services and the amenity that the towns need for people to want to live here, otherwise they will be living on the coast and flying in and out” (Dalby).

Thirdly, the existing conventional departmental use of information such as Australian Bureau of Statistics (ABS) population numbers or Department of Education enrolment numbers to substantiate infrastructure funding needs was viewed as an inadequate funding mechanism, because the speed of change is expected to outstrip the data capturing that change:

“The problem with governments, I suppose, is they work on data. Data is like a history and it’s not what is going to happen in the future. You wonder sometimes, at what point in time does that infrastructure flow in advance, rather than with the historical data” (Chinchilla).

“If you get a growth spurt like (in) Chinchilla that whole growth can happen like that and never be recorded” (Chinchilla).

“Mackay was an example, they fought all the way they kept on coming up with the same problem, that the figures that they were showing the government wouldn’t accept” (Chinchilla).
The limitations of ABS data were perceived to have been reproduced in the Department of State Development reports on the Surat Basin by the consultant AEC Group, weakening their validity:

“AEC reports were totally conservative. Things that they thought were not possible when they wrote that report are things that are actually happening in the area now. And they talk about the fact that maybe it’s going to be half as big again as that report indicates. So it’s a fluid document and it will need updating and I guess it is important for communities to know that” (Dalby).

Thirdly, poor information flows regarding the mining development proposals were causing unnecessary levels of community speculation that impeded private investment in infrastructure, particularly housing:

“People need more information - but it needs to be properly updated every six months or so. If there is better information, I think communities can respond. Some of that response is private (if) … we were sure there was going to be an extra 2,000 people in Dalby in 10 years’ time, then more and more private people would actually build more houses” (Dalby).

“In Chinchilla, when Kogan Creek first came to town, there was a lot of apprehension in the town and hesitance, because we were virtually guaranteed Kogan Creek five or seven years ago, and the rug was pulled out from under us and they did the development elsewhere instead of doing it in Kogan Creek. I believe it took probably 12 to 18 months for the townspeople to actually see the development was real” (Chinchilla).

The adaptive pathway required to up-scale planning effort to a regional level was identified. Several elements were highlighted as necessary in such a project. Firstly planning needed to be coordinated at a regional scale so as to represent and prioritise sub-regional needs while presenting a single voice to mining companies, State and Federal Governments and agencies:

“You need to have the umbrella to be able to help and coordinate and prioritise actual projects as such. We can’t just wait for the government to come in … We know our region and … should be in a position to actually dictate what we actually want, as a collective group” (Chinchilla).

“… have an overall body that becomes representative of all of the regions of the Surat Basin, and then we put together a proposal … that follows on for several years …” (Chinchilla).

Secondly, a regional plan to coordinate the long term, staged growth of the region’s towns needed to be formulated so that towns could be made self-sustaining beyond the mining boom:

“I reckon in 20 years’ time Chinchilla is going to go to 30,000 people, Miles is going over 20,000 people, Tara is going to go to 20,000, what’s that going to do? So what should our sporting facilities look like, our hospitals, our
schools and then bring that back to 20, to 15 to 10,000 people and so then we can have a five, ten, 15 year plan” (Chinchilla).

“If we take this opportunity and put some infrastructure there - maybe an airport at one of them, or better roads or better rail services - you could look down in 20 years time and find that those towns have now grown, and I’m not sure what the size is but I suspect something like 12,000 or 15,000 people. If you’ve grown those towns to that size then they will be self-sustainable beyond the resource boom. And maybe this is a one-off opportunity to do that for the region. If we just leave it and don’t do any planning then it’s inevitable that Toowoomba will grow and grow too much. And those towns won’t grow enough” (Toowoomba).

Thirdly, multi-sectoral private and public funding needed to be obtained and coordinated in order to implement this plan:

“I think there is an opportunity there for the Surat Basin to not see the boom and bust that you see in the Bowen. We need to, all governments, State, Federal and local and business, we need to work together and the investment market, to try and make it happen. Even with superannuation funds or whatever who will fund these projects” (Chinchilla).

Two existing regional planning mechanisms were identified that could be used to progress regional planning. Firstly, the three new regional councils (centred in Toowoomba, Dalby and Roma) were highlighted as a mechanism whereby both sub-regions could be represented and growth could be coordinated and controlled:

“All councils have town planning schemes at the present time, but because of the amalgamation, there needs to be a new plan. I think it’s a great opportunity to look at all these issues and provide a new plan for the next 10 or 20 years” (Chinchilla).

Secondly, the potential of Queensland Government mining development assessment processes was discussed, particularly the requirements for an Impact Assessment Statement (IAS), Environmental Impact Statement (EIS), and Growth Management Group (GMG):

“Taroom Shire Council approached the coordinator general to form a Wandoan GMG. (We) now have an agreement with the coordinator general’s department that we will form a community group which will have representation on the Wandoan GMG. If you’re involved in a significant project, it is the first place to go (Chinchilla).

“Before the EIS, there is the IAS … the initial advice statement … The terms of reference is where you can have a say about what things get addressed in the EIS” (Chinchilla).

“Some of the companies that we’re talking about that are proposing to come to this area are bigger than governments (and) can provide infrastructure …
there (are) processes that they’ve all got to go through to set up their projects or to take the resources out of our area. So communities need to be vigilant and get involved in those processes” (Chinchilla).

A1.1.3. Maintaining rural lifestyle and liveability

Three major features were discussed in terms of the maintenance of the region’s liveability. Firstly, the focus group participants believed that their region afforded an attractive lifestyle for current residents and is capable of attracting new residents for the mining workforce:

“(I don’t think) drive in, drive out, type operations in mining (are) going to happen (other than) in the short term. It’s a pleasant place to live, and a lot of people would be quite happy to come to this part of the world to raise their families. (We have) got a lot more to offer here than somewhere like Cloncurry. So I think you’ve got an opportunity to attract a lot more people in the longer term to set up more permanent residences - even in the smaller communities” (Toowoomba).

The elements discussed included the availability of most services, particularly in Dalby and Toowoomba:

“I really do believe we have filled up the majority of the city services” (Dalby).

“It’s fairly well serviced; for a city of this size and location you’ve got pretty much everything that you require in one spot” (Toowoomba).

The low commuting times, less pressured lifestyle, safety and family friendliness, rural setting, open space and recreation options were all viewed as attractive:

“You’re three minutes away from your kids so you can pretty well work out who their friends are, who their friends’ parents are” (Roma).

“It’s the relaxed atmosphere that we have here … You go to the cities or the bigger areas, and everybody seems to be in a rush and hurry” (Dalby).

“Garden city (means) recreation. We have a huge amount of recreation space per head of population. If it’s four or five times Brisbane, it must be 25 times Sydney” (Toowoomba).

It was also pointed out that the Surat region is highly affordable compared to southeast Queensland (SEQ), with a wide range of property purchase options available, very low unemployment, and good employment opportunities for dual income families and youth:

“You can create a pretty good life for yourself. You can have a nice car and a nice house and a backyard for your kids and get away on a good holiday. A lot of people in the community … the wife and husband are together
working. They’re not doing huge hours and they’re on $100,000 a year” (Roma).

Secondly, the region was viewed as enjoying robust economic strength built upon natural assets such as good agricultural soils and climate, past financial investment, and high levels of social capital that have enabled communities to cooperate in the face of change. The participants pointed out that the region’s strong mix of industries (for example, agriculture, hospitality, education, retail, food processing and manufacturing) means that the regional economy is buffered from downturns in particular industries:

“I think it’s the stability of our economy … the rural industry has been the backbone of our economy and it’s … (changing) now … providing new opportunities” (Chinchilla).

“Twenty years ago, Dalby enjoyed some fairly good seasonal conditions, (and was) very much a farming community. It stopped raining because of our water harvesting techniques - cotton became a very major (industry). We also got involved in feedlots, and not everyone likes living next door to feedlots, but they are a great part of our business. So we are living in a changing world and without this diversification we’ll just stagnate” (Dalby).

Thirdly, the participants nominated high levels of social capital, particularly in the smaller communities, as an asset. The region’s communities were regarded as possessing a strong sense of identity and being cooperative, collaborative and welcoming places:

“People across the region would say the small scale of communities is real positive - the sense of strong relationships within communities and a real local identity” (Toowoomba).

“Very generous community setting too … how the people look after each other, non profit organisations, very strong” (Chinchilla).

“We work very hard with council at (making Dalby a) welcoming community regardless of creed or colour. I think that demonstrates that this community does have that caring resolve. In 20 years’ time, who knows who will live here or what they’re going to look like or where they’re going to come from? We need to be addressing that now and there is an endeavour to do that” (Dalby).

However, five vulnerabilities or constraints were also volunteered regarding the region’s liveability. Firstly, that there is potential for conflict to develop between subgroups regarding the tension between the preservation of existing social capital and construction of new social capital. Tension could develop between the older, more traditional residents (agricultural, multi-generational, retired, established leadership, show society) and younger, less traditional residents (entrepreneurial, non-agricultural, new leadership):
“My observation is that you have got the second or third or fourth generation of people on the land. But then you start talking to some of the younger people, and you can see this entrepreneurial spirit coming out. One group is trying to move forward quickly whereas some of the more established people are a bit traditional … like the kangaroo in the headlight. What do you do next, sort of attitude” (Toowoomba).

Specifically, concern was expressed that tensions may develop between established residents and new ('mass', overnight, fly/drive in/ fly/drive out) residents associated with the mining industry.

“That comes back to how to manage the community dynamics … When you have a huge influx of people coming in the dynamics totally change and it takes a long time to come back to being an actual community … we’re seeing issues with Tara with the influx of people there, it’s changed hugely. It’s only in the last ten years they’re starting to get a traditional or country culture coming back in” (Chinchilla).

Secondly, a loss of social fabric may result from highly paid mining employment that employs a block roster shift pattern:

“We may lose a lot of the people who are currently involved in keeping the area going, like volunteers; they may all go out to work. So we’re concerned that (this) will affect the fabric of our society” (Chinchilla).

“There (are) a number of people who have got domiciles in town, bringing their wives and their children and a whole range of other things, but the ones who fly in, fly out, they don’t spend their money in town. They go to the Roma Airport and they fly home” (Roma).

“I think the Surat Basin is a bit different to the Bowen in that many of the towns up there were basically plonked there by the mining companies in the ‘60s and ‘70s. Across the Surat Basin you have existing towns built on other rural industry … they’re concerned … a sense of identity could be lost if you’ve got hundreds or even thousands of workers rotating on a four day on, four day off, type shift. They could come to be known as a work camp town, rather than a community” (Toowoomba).

Thirdly, an increase in social dysfunction may result. New social problems may arrive with a mining workforce, such as drugs, alcohol and domestic violence.

“There were a lot of social issues. The council in the shire had to have halfway houses for abused wives” (Chinchilla).

“(A) growth in welfare issues, health issues, within the communities. Young people with a lot of money, drug problems” (Toowoomba).

“You start to see more resurgence of drugs, prostitution … I think anybody who is in a lower socio-economic group tends to gravitate towards those
activities, simply because … it’s a good way of making quick money, and it’s a good way of making big money” (Indigenous informant).

Fourthly, the farming community, already reduced in size by rural adjustment, is at risk of being displaced altogether from the region. This poses risks for the preservation of rural landscapes, social heritage and long term economic industries for the sake of a temporary industry.

“(We do not) want to see the Darling Downs turned into a mine landscape. There is potential for it to end up looking like the Nowra corridor, because there is four million tonnes of coal under the Darling Downs” (Dalby).

“The alienation of what is good quality agricultural land, and some of these areas around here where there’s massive coal deposits that have leases on it, it’s brilliant farming country. So there is that real conflict there between traditional uses and future uses, especially where … mined for 10 years and then left … Is there any potential for it to go back to its productive capacity?” (Dalby).

In terms of the adaptive pathways, a consensus emerged from the focus groups that the new workforces need to be enticed and encouraged into settling in the region with their families to support integration into, and enrichment of, the region’s communities:

“If we can get families to this area it’s got to be the biggest impact for overcoming a lot of the social issues that we can get, instead of just drive in drive out” (Chinchilla).

Specific points brought up were targeting tree-changers (people wanting an alternative to city life) and migrant communities rather than individual migrants:

“I think what’s been interesting the last few years is the green change. More and more people, when you go into a small community, are not second or third generation, they’re two or three months into …” (Toowoomba).

“If you’re going to get immigrants, it’s always good to target particular areas for your migrants … They’re less likely to shoot off to Brisbane for a job, or shoot over to WA for a job, if they’ve arrived as a community in an area” (Toowoomba).

Making the regional communities attractive will require the provision of sound infrastructure through a clear plan for staged management of population growth:

“(We) worked out that Chinchilla will probably be 10,000, Wandoan perhaps five or six … a community of 10,000 is starting to get a sustainable population … (to) go from 2,000 to 10,000, you need to see management of the growth, otherwise it has issues” (Chinchilla).

The integration of new residents was viewed as requiring attention to the base population’s needs to ensure they did not become a neglected group, continuation of
social capital construction efforts dealing with social problems in existing communities (e.g. indigenous communities), formally welcoming, orienting and inviting new residents to become involved in the existing community activities:

“(We) have to ensure that the local community don’t become the neglected group. You’ve got those long term populations that need respect, understanding and consideration” (Chinchilla).

“Community involvement, community activities, sports, there are a lot that can bring communities together” (Chinchilla).

“… part of … security comes from the capacity in the community to provide for its population, so the infrastructure supports the sporting opportunities, neighbourhood watches, police services, so all of that goes to that” (Chinchilla).

“It might be something as simple as opening up an avenue for these new people that come to town” (Dalby).

“A program called Black on Track, which deals with people to make them face their own problems – their drug (problems), and their alcohol and their violence and their criminal history – and make them realise that the answer lies within them” (Indigenous informant).

In terms of the retention of farming communities, it was suggested that constructive, ongoing negotiations between farming communities and mining companies (bridging social capital) was crucial. Those negotiations were viewed as concerning the rehabilitation of land so that it can be returned to agricultural uses and mutually satisfactory land ownership and management arrangements while mining takes place on farmland:

“There’s a substantial group of farmers already pulling together at the moment, looking at this and wanting to work with these companies. We need to come to some arrangement where we can both come out at the end, still smiling” (Dalby).

“If you go up to Goonyella, it’s over 30 kilometres long, that hole in the ground - but over there is the top soil, over there is the sub-soil, over there is the over-fill while they’re taking the coal out. When they’ve finished, all of that goes back. It is just so well managed with regard to environmental … they’re in trouble if they don’t put it back, as good as it was before they started mining. It’s very, very good management practices” (Dalby).

“I suspect that we may ultimately see primary producers being custodians of land that they don’t own. They’re drawing an income off what they’re farming. It might be that the mining companies own it” (Roma).
A1.1.4. Building robust business communities

Two major opportunities were identified in terms of expanding the Surat region’s business communities. Firstly, the service provision opportunities that a new industry such as mining affords were discussed using the Bowen Basin experience as a reference point:

“… in the Mackay region … the businesses supported each other and they captured the work that was available locally. They’re still probably losing 90% of it, and only 10% was found locally, but every business … involved were able to support each other through that. And that’s definitely the way to go” (Chinchilla).

“You might not supply something to a mine, but you might supply something to a business that supplies to the mines” (Chinchilla).

“… the (crumbs) that are falling off the edge of that table runs into millions and millions of dollars anyway. I think we’re in a really good position to build on that base” (Chinchilla).

“There’s a lot of growth particularly in transport and engineering that’s going to come through in the next couple of years” (Roma).

“When the bigger companies do come to town, they suggest that they will support local - try and get as much as they can locally and an issue has been raised as to how we can make sure this happens and how do we be proactive and actually tap into that opportunity that exists” (Dalby).

Secondly, the cooperative nature of the existing business communities was highlighted as strength in terms of harnessing these new business opportunities:

“… in Goondiwindi… the local businesses there get together once every three months and do a presentation on their business to the other businesses within that main street … something they’ve formed themselves… They talk about what issues they’ve got, where they’re struggling, where there (are) opportunities within the area. They just bounce things off each other … networking together, and trying to help each other out with issues. One thing that happens within this community at times is bad debt will run through and rip everyone off within the community … it’s something we can talk about and protect each other” (Roma).

“… the business world gets on pretty well together. There is an air of friendship, and I suppose that is brought around by the fact they’ve got to rely on each other” (Toowoomba).

However, three major vulnerabilities or constraints were identified. Firstly, the loss of new business opportunities to outside service providers such as corporate dealerships was regarded as a high risk:
“The worst thing you see happen in Roma is these big corporate dealers coming in. We’re talking about one in town at the moment, their idea of community minded is they employ staff and that’s it. Where local businesses you find are more giving towards community clubs ... Small businesses will do that. Commercial or corporate businesses won’t do that - or it’s very hard to get them to” (Roma).

Secondly, the risk that the currently diverse economic base could be undermined by the dominance of mining as an economic activity was perceived. Agricultural industries were regarded as particularly vulnerable as they would not be able to offer the high wages to skilled workers that mining companies can:

“Any viable community centre - whether it be a town or a city or whatever - can’t be built on one product because things change. The health of this region, whether we are talking about Mitchell or Roma or wherever … (depends on) a balance of resources. We’re going to require primary production as well as mining” (Roma).

“In my particular business, I rely more on farmers than I do on energy companies, so we need to have a better dialogue, I guess, between the coal mines or whoever, because really our long term future, while the energy section is great for this community, we will still be a farming community in a hundred years time” (Dalby).

Thirdly, a lack of good quality information to support the identification of business opportunities and good forward planning by the region’s business community was highlighted as a worrying deficit:

“Part of that is having access to quality information in order to plan. I mean if I knew there was going to be 10,000 people here next year I could start recruiting staff and start to be ready for it, for my business” (Roma).

Three adaptive needs were identified for the Surat region’s business community to harness the service provision opportunities brought by mining activity. Firstly, the focus group participants believed it was necessary to increase the resilience of the business community in the face of change, through intensified cooperation and mutual support:

“It’s going to be much more important that groups such as this have regular gatherings in the future. Like the Chamber of Commerce … Whilst now the council is made up mainly of businesspeople, I wouldn’t be surprised if the new council has a rural focus and not that business focus” (Roma).

“You’ve got to set your business up and you can rely on other people in the industry, so in the future when the mining disappears and goes away, those businesses still can carry on supporting each other” (Chinchilla).

Secondly, the participants viewed servicing a mix of industries, not just mining, as necessary to ensure the region’s long term economic health:
“I think that’s what we’ve got to start looking at in the future. In 20 years, the business and the industry that has set up here can sustain themselves and don’t rely on the mining industry but relying on all of the industries put together” (Chinchilla).

“We’d like to see a diversified economic base not dependent on a single industry” (Toowoomba).

Thirdly, negotiation with mining companies to ensure their use of local services was regarded as crucial:

“We’d also like to see the mining companies being good corporate citizens in our area and that this area retains a good mix of agriculture, business, industry and power of people, all working harmoniously together” (Chinchilla).

“If the others are going to come in anyway, why don’t we take the opportunity to invite them, but encourage them to understand the appropriate cultural behaviour? So they come in and they utilise our support services. They let us know what they need and we supply that for them” (Roma).

“I spent 11 years (working with) a branch multinational. Even though they were French, they could still see the benefits of working in with the local community … There is a choice. You don’t just have to say, come and plunder us. There’s going to people to work with who we want to. And understanding their corporate culture is one way of doing it” (Roma).

A1.1.5. Avoiding skill and labour deficits

An important issue that occurs when development speeds up is whether sufficient, and enough appropriately skilled, labour is available to enable and supply growing industries. Regional distribution of skilled labour is expected to be problematic because mining industries are able to pay salaries twice as high as non-mining businesses. A focus group participant summarised what usually happens when mining competes for employees with other economic activities.

“A lot of communities I’ve come across have lost a lot of workers to the mines. They’re paying $80,000 a year to $100,000 a year and that mechanic that is earning $40,000, a lot of small businesses can’t handle loss of their employees. Even local farms, they’ve got tractor tickets, they’ve got tickets like that, and the first thing they’re going to do is go to the mines” (Chinchilla).

Focus group participants reported a number of positive trends in recent years, which we will interpret as assets the Surat Basin communities hold that will enable them to better cope with and avoid skill and labour shortages.

Firstly, some successful progress has been made in retaining young adults in the local labour force and attracting people who have left to return. With regard to the
loss of young adults who move in order to take advantage of urban jobs and lifestyles, rural communities are confronted with a national, even global trend towards urban migration. Being able to retain a higher percentage of young adults can therefore be seen as a great success, and further learning from such experience in understanding the crucial factors for retaining community members should be made possible.

Secondly, the Surat communities have developed institutionalized forums to engage with young adults, for example, the Western Downs Career Group and the Learning Agenda Queensland. It becomes increasingly important, that a whole-of-community approach is taken to offer young adults attractive career opportunities in the community. This includes increased opportunities for apprenticeships and employment.

Thirdly, rural communities offer a pleasant place to live where a high quality of life is more easily achieved than in a large city. This factor, however, might not be acknowledged by people who are after certain amenities not easily found in rural towns. It certainly involves pro-activeness to invest in a community's infrastructure and amenities to make the locality more liveable and attractive.

Despite those achievements, Surat communities still appear vulnerable to skill and labour shortages. First of all, low unemployment and the shortage of certain skills is a general phenomenon throughout Australia. The labour market is increasingly a “sellers’ market” with a reduced commitment of employees to their employers, increased flexibility, and low costs of job loss. This inevitably leads to increased competition between different economic sectors for labour in rural Australia, especially between mining industries, agriculture and small local businesses. Agriculture and small businesses cannot offer competitive salaries and tend to lose their labour force. Subsequent skill shortages eventually degrade rural quality of life, because certain services cannot be offered.

The focus groups identified a set of adaptive pathways or strategies to cope with skill and labour shortages. They suggested four main strategies, namely: the retention of young adults, capacity building for local business owners to attract skilled labour, bringing existing community members into the workforce, and providing greater transparency about planned developments. Attempts to retain young adults would include:

- Building relationships with young people before they leave school by establishing industry, business and school partnerships for building the future workforce;
- Encouraging young adults to learn a trade instead of obtaining a University education; and
- Making communities attractive for those who want to come back to their communities, especially when they start raising children themselves.

Support of, and capacity building for, local business owners would include:
- Strategies enabling them to improve their managerial skills for human resource development:

- Providing local training opportunities for owners of small businesses; and

- Business owners creating long-term salary packages for their employees.

Provision of government subsidies and support schemes would enable capacity building for business owners and also assist them to offer lucrative salary packages, while greater transparency about planned development would enable business owners to engage in proactive behaviour to make use of opportunities that might occur when mining activities increase. The transparency of mining development information necessary for business communities to make such adjustments will not be easy to achieve, as a focus group participant related:

“I sat at a table four or five years ago with a person from a government department who said to the general gathering, you people would be absolutely amazed if I told you what was going to happen in this area in the next five to ten years. When asked what that meant, the answer was, I can’t tell you” (Dalby).

The ability to attract skilled labour to the Surat region would critically depend on the provision of infrastructure and the affordability of houses and rents in the region.

Focus group participants saw a great potential to bring existing local people into the workforce. This would include: increased workforce participation by women; offering flexible work opportunities to those over 65 years old; and to engage indigenous Australians in the local labour force.

Focus group participants also thought that the situation might worsen if agricultural economic activity increases due to increased rainfall:

“If the drought breaks, and we’re just starting to see signs of it, if the rural industry kicks on again where are they going to get workers from?” (Dalby).

A1.1.6. Ensuring affordable housing

The lack of affordable housing has become an Australia-wide phenomenon and is particularly acute in large cities, sea change communities and in mining communities. Rent and house prices have skyrocketed in many locations, inducing hardship for low income families and reducing the capacity of families to own their home. It appears there is not much a local community can do when rapid increases in housing demand and the ability to earn much higher rent incomes occur due to a growing population with high incomes. Nevertheless, Surat communities, like communities in general, hold a number of assets capable of easing the situation considerably. Among those assets identified by focus groups participants the most powerful one for Surat communities could be their sense of community and local identity:

- An exceptional sense of community and local identity could allow Surat communities to value community interests over private
interests thereby either keeping rents within reasonable margins or allowing for innovative forms of gain sharing;

- The building of new houses could occur before development kicks in, such as is the case in Dalby where currently, as a focus group participant stated, 600 new houses are being built;
- In many places there is suitable land for building available, which could be released well in advance to keep land prices low;
- Well functioning economies in Surat communities could enable businesses and private households to invest in housing infrastructure.

Focus group participants, however, describe the loss of housing affordability as a difficult problem to tackle:

- The vicious cycle starts when rapidly increasing demand for houses and rental accommodation creates an imbalance between supply and demand. As a consequence, prices rise to unprecedented and unaffordable levels for low income earners who eventually have to leave their communities.
- Existing social capital will be lost through the displacement of long-term residents, including low income earners and pensioners.
- The retention of young adults becomes more difficult because achieving home ownership becomes unrealistic.
- Attracting new workers (miners) to bring their families to town becomes less realistic as well.
- Eventually local businesses experience greater difficulty employing support staff because the lower socio-economic groups who would engage in such employment have been replaced by high-income earners.
- Work camp type towns emerge around major construction projects and workers prefer fly-in fly-out arrangements to avoid high housing costs, an arrangement which results in a plethora of social problems.
- The flipside of such development though is that other community members gain financially from the housing boom. Trade-offs between the interests of investors, owners and rental occupiers cannot be solved in a mutually beneficial way.

The focus groups were unable to identify an integrated strategy for dealing with housing affordability but identified a number of strategies. Many of these strategies were not supported by all participants. Participants were particularly critical of the possible use of legal restrictions on rental income for rental property owners. Strategies suggested included:

- Early information about future population growth permits the attraction of housing investors early;
- An increased supply of public housing with controlled and subsidised rent enables low income earners to stay in their communities;
- Rental caps, rental controls, rental assistance or subsidies;
- Apartment style accommodation could provide housing at lower levels of investment;
- Financial contribution of mining companies to communities could be channelled into a larger community housing provision;
- Increased land releases to provide a surplus of land supply over demand thereby keeping land prices lower;
- Improvements in public transport infrastructure to allow for longer commuting times;
- Reasonable supply of private sector investment;
- Tax incentives for investments in houses could be tied to restricted rent;
- Gain sharing.

A1.1.7. Climate change and water shortages

Climate change, and its accompanying effects of reduced rainfall and increased likelihood of extreme weather incidents, are high on the policy agenda and are increasingly recognized by the general public. The Surat community’s focus groups made little reference to climate change but also little explicit reference to other global or national drivers. One of the participants was critical about the reality of climate change and the agenda that arises:

“The climate change agenda, I think Australia is going to totally lock up its current resources and not mine it for our own use, power generation and whatever, because of the so-called effects of climate, but at the same time they’re prepared to do the risky bit and dig it out of the ground and send it overseas for somebody else to burn” (Chinchilla).

It is not easy to understand, hence this participant’s comment, why Australia would send its resources overseas while not using them domestically because of greenhouse gas emissions. The solution was viewed as resting with the development of clean coal technologies which eventually could add more value to the national economy than resource exports:

“I think really for this area to grow and to continue to grow, the clean coal technology needs to be advanced very quickly to make it into an income earning area for this region. To be first off the mark with the clean coal technology and to be able to sell that technology to the world attached to the resources that leave this area” (Chinchilla).
Other participants commented that international agreement regarding the reduction of greenhouse emissions could actually slow down the foreseen mining development in the Surat region.

“Some of the climate change might actually dry up some of these coal mining industries” (Chinchilla).

“Things could slow down because of the Kyoto or the Bali protocol. That may slow the coal industry down for example” (Dalby).

Forecasting such developments would be difficult, however, especially when most of the information would not be available to communities because of confidentiality agreements between mining companies and State authorities. In contrast to climate change, it is well understood that water is a resource challenge for Surat Basin communities, as the following participant summarises:

“If you’re talking about this community in 20 years time I would want to see investment in water infrastructure and beneficial use of water. We’re not getting any wetter, we’re going to get drier and my concern about this development is that you need to have water infrastructure to support that development and that means looking at recycling, a whole new attitudinal change to how we use water. Particularly in light of the amount of water we know that is needed to support the coal industry and then what happens to the water that comes out of the coal and gas. So how all of that is managed is really a complex issue for this region” (Chinchilla).

The question is how population growth and growing industries will be supported by limited water resources which may become less reliable under climate change scenarios. Not only do growing populations and emerging industries demand more water, the role of agriculture might also change according to the focus group participants. The population growth of Southeast Queensland (SEQ), from Nambour through to the Gold Coast, will potentially redefine the agricultural role of the Surat region as the breadbasket for the SEQ population. This would further put pressure on water availability. The potential for methane gas water to contribute to regional water supply is seen as a short term opportunity only. Focus group participants even discussed larger projects such as desalination plants and the potential to fill dams up with desalinated water. The crucial question for Surat Basin communities is how to manage growth with inadequate and unreliable water. Focus group participants believe that mining industry growth might not occur because of this impediment.

A.1.2 Identifying Adaptive Pathways: Findings from a community workshop in Dalby

“It’s about having information, it’s about carrying out regional planning and it’s about having the financial resources to do something about the issues that we have. We want to build proactive communities that acknowledge a change and try to work with it and we want genuine consultation.”
A.1.2.1 Introduction

In a workshop held at Dalby on January 24 2008, a group of approximately 50 community representatives discussed strategies for Surat communities to improve the communities’ capacity to deal proactively with change. The participants were senior members of the Surat Basin communities and included mayors, local government, state agency, social service and business representatives.

The focus group identified six main issues with regard to regional vulnerability and adaptive capacity and was asked to select one or two of these six issues to discuss in greater detail. The participants chose four issues for discussion: ‘regional planning’; ‘building robust business communities’; ‘skill and labour deficits’; and ‘affordable housing’. ‘Rural lifestyle and liveability’ as well as ‘coping with water shortages and climate change’ were not selected for in-depth discussion. The participants were asked to identify strategies for each of topics selected to:

- Increase community capacity to adapt and cope with the envisaged change;
- Ensure opportunities were captured and used during change; and
- Avoid adverse consequences risked by change.

The working groups were asked to present their strategies to the group as a whole. All participants engaged in prioritising the suggested strategies. Prioritisation revealed that building robust business communities and regional planning were viewed as the most important strategies. Avoiding skills and labour deficits were given less priority and affordable housing emerged as a highly controversial issue.
The strategies participants suggested were clustered into 8 main categories:

- Regional representation;
- Information, communication and transparency;
- Avoiding skill shortages;
- Robust business communities;
- Data availability;
- Community planning and community building;
- Lobbying; and
- Affordable housing.

Regional representation, to express the communities’ and regions’ requirements with one voice, was seen as the single most important requirement for being able to deal with changes in a positive way. The second most important cluster of issues identified was the need for timely and accurate information; the need for increased transparency to understand what is likely to happen; and the need for enhanced communication. High priority was also given to strategies to avoid skill and labour shortages and to build robust business communities. A need for accurate and up to date data was expressed, as well as planning at the community level and community capacity building. Strategies, including lobbying, for affordable housing were given the lowest priority. The strategies nominated to ensure affordable housing were rare and contradictory (for a detailed description of strategies suggested see the following section).
A.1.2.2. Representation of the region as a whole

The workshop participants identified the absence of an organisation that represents the whole Surat region as a core weakness when identifying the needs of the region and its communities, but also in regard to negotiating with mining companies and State Government agencies. The Western Downs Development Group was considered the best available body to afford such regional representation.

The Local Government Act which regulates the amalgamation of LGAs into regional councils enables those councils to establish community advisory boards to facilitate and enhance local representation. These boards would advise their regional councils. The community advisory board mechanism could also be used to enhance community engagement by the new regional councils. Establishment of an overarching body for the Surat region able to lobby the Federal and State governments was identified as a core strategy to enhance adaptive capacity. However, because the local government amalgamations will result in three regional councils in the Surat Basin, such a representative body would need to have three regional sub-groups, to make sure that all local interests would be well represented. The specific community groups that need to be represented, from the point of view of the workshop participants, include businesses, indigenous community, health, welfare, rural groups, etc.

A panel of experts from within the region for the Surat Basin should be established to work within or in close cooperation with a new overarching body representing the
whole region. Such a panel of experts would provide regionally focused expert capacity that regional councils could access. The main function of the overall regional body would be to negotiate with State government and mining companies and to organise transition management.

A.1.2.3. Information, communication and transparency

Information sharing and transparency with regard to mining development in different localities, and the impacts of that development upon the various communities in the Surat Basin is crucial:

“They’ve got to make sure they’re feeding information back down through here so that everybody knows what’s going on.”

Accurate and timely information is needed in order for communities to cope with change and to make most out of opportunities that might occur as part of that change. Workshop participants expressed a concern that the linkage between communities and the new regional councils might degrade. Special emphasis was put on the need to establish a working relationship with the RMCN.

The issue of information recurred during discussion of population growth and the infrastructure deficits that are anticipated to develop:

“One of the biggest fears of growth is the problem that we will perpetually lag behind in services as we grow.”

The workshop participants concluded that State government usually relies on outdated Australian Bureau of Statistics figures and therefore hard (physical) and soft (social services) infrastructure investments will always be delayed.

A.1.2.4. Avoiding skill shortages

Workshop participants identified the recruitment and retention of new skilled labour forces as an issue that is crucial to avoidance of skill and labour shortages. One major strategy would be to retain young adults in the community by identifying local employment opportunities for them. Recruitment and retention of skilled labour was viewed as dependent upon: community and business understanding of what a recruitment and retention strategy would imply; how to integrate new employees; provision of good community facilities to attract and retain people; promoting the region as a great place to live and work; and improvement of local training opportunities.

Recruitment and retention of skilled labour would be also be supported by: expanding school work experience programmes; local community partnerships; school – industry partnerships; offering apprenticeships to local youth; and by creating attractive salary packages. This requires an understanding from both employers and potential employees that such salary packages can include monetary and non-monetary elements, such as: housing; training; flexible hours; lifestyle elements; and a focus on skills development. All this would require a better understanding of capacity building and human resource development by local business managers.
“To grow businesses you need to grow the people that you employ.”

It would also be of crucial importance to enable a positive attitude to a trade education in lieu of a University degree. While people leaving to study at University are often lost to the local labour force, young adults might base a prosperous future on a trade education and would help to avoid a skill shortage with regard to services dependent on skilled labour. As one of the workshop participants has put it:

“University education is not the only career opportunity; it’s about building the sense that TAFE apprenticeships, trades are a great opportunity for people.”

A.1.2.5. Building robust business communities

The goal of building robust business communities, from the point of view of workshop participants, involves region-wide issues. Major mining and energy projects will have implications both for the region and enterprises within it. Workshop participants identified five strategies for achieving a robust business community based upon a broad portfolio of economic activities:

- Representation of the whole business community by one unified body;
- The creation and strengthening of Chambers of Commerce;
- Effective two way communication between regional businesses and resource companies;
- Identification of the products and services energy or resource companies require will require understanding what can feasibly be supplied by regional enterprises:
  
  “Essentially it’s about making sure that resource companies source their inputs from within a region as much as possible.”

- Availability of up-to date information and statistics regarding the region;
- Improved education and capacity building by involving Chambers of Commerce, economic development officers, and other existing networks in order to keep people informed regarding training needs. Training packages should be targeted at the skills resource companies will need.

A.1.2.6. Data availability

Workshop participants agreed that the availability of accurate and timely data and up-to-date information would be important to policy planning and the evaluation of the success of the above-mentioned strategies. Such information would include asset mapping to identify the resources communities possess, including their business capacities. Data and information provision would involve a gap analysis, to identify gaps with regard to making use of opportunities that flow from mining activities. It would also require tools for predictive analysis to understand potential regional futures. The Commercial in Confidence provisions that the Queensland Government offers mining companies concerning development approval information stands in the way of achieving sufficient information provision and creates imbalanced flows of information.
A.1.2.7. Regional planning

The workshop participants agreed that regional planning is a multi-faceted process and that mining is only one issue among other issues. Regional planning, therefore, is certainly not a not a single-issue process. Unfortunately, Australia continues to lack comprehensive and coherent national policy frameworks and related programmes that are firmly embedded in a spatial framework and thus capable of addressing issues such as the management of resources, infrastructure provision and distributional impacts of the processes of rapid economic and social change (AFTF, 2007) that occur regionally when mining development takes place.

The participants identified the stage when terms of reference for major development projects are developed as where regional councils and State agencies should identify what they wish to be addressed by a mining company in the Environmental Impact Assessment (EIA). If social issues were to be formally addressed, then the EIA framework is the most opportune process available. It is still difficult for regional councils to identify all the social and economic issues that should be addressed:

“I guess knowing what to ask for is probably a tricky thing too.”

Discussion occurred as to whether it would be worthwhile to develop a template of issues to look at when requesting social issues be dealt with in the EIA terms of reference, in order to provide advice to communities. However, doubt was expressed as to whether a template or tick-off list would really be helpful with regard to potentially very different issues in different communities and localities.

“I think checklists and whatever are fine but particularly with the social aspects it’s about speaking with one voice and having a coordinated approach and being proactive about all that stuff.”

While it is important to identify all issues early when the terms of reference are developed, companies can refer issues to the State government, who are obliged to decide whether the EIA is considered an adequate basis for issuing development conditions and approval.

Numerous requirements are regulated within the mining licence system, such as, for example, land rehabilitation. Rehabilitation of landscapes, in the view of one workshop participant, is a relative thing:

“If you’re going to turn prime grazing country and take 100, 150 metres of ground out, stir it up and put it back again, there is no way in the world it’s going to come back and look anything like what it was in the past.”

Most often, areas are flattened out and revegetated. Within the EPA there is a responsibility for monitoring whether rehabilitation is compliant.

“All the environmental issues are pretty standard. There is Commonwealth and State legislation companies have to comply with.”

Social issues, however, have to be articulated by local governments and local communities. An EIS becomes a public document. In the preliminary stage of an EIS
companies establish a register of interested parties to work with and are obliged to call for public submissions.

If a project is recognised as a project of state significance by the Department of State Development it becomes more difficult for local governments and communities to raise social issues and have them addressed and solved.

Participants at the workshop expressed a need to profile the region and the people working and living in the region, to celebrate living in the bush, and that local governments should be prepared to welcome new businesses and people into the region.

A.1.2.8. The need for partnerships and lobbying

By establishing a regional body that would represent the Surat Basin communities with one voice, the establishment of partnerships between the region and mining companies operating in the region would become more tangible, but also the capacity for negotiation and lobbying would increase. These skills were recognized as invaluable by the workshop participants:

“The problem is how to get a message across? How do you negotiate with big companies? How do you negotiate with state governments as a community?”

Workshop participants agreed that it is more useful to offer solutions to the State government than to ask the government to address problems. The State agencies’ Regional Managers Coordination Network was recognized as an important institution. The network is the representation of State government across a whole range of agencies capable of dealing with issues such as the development of the Surat Energy region:

“The RMCN network is really a clear key group that should be consulted in conjunction with the local councils.”

Cooperation and negotiation with mining companies was regarded by workshop participants as very important. Mining companies should understand their shared responsibility for making use of available skills and promoting skills development on a regional basis. The participants stated that companies should also make donations to communities in a more organized fashion via a fund and should not just hand out money opportunistically. Instead of providing community benefit packages or support to single institutions, such as schools, they should provide their support to a fund managed by a regional body.

A.1.2.9. Affordable housing

The provision of affordable housing was seen as a very difficult issue. A trade off was perceived between the ‘individual freedom’ of landlords to gain as much revenue as possible and the need for households to find viable tenure. The workshop participants identified incentives for developers to provide affordable housing, legislative control of rentals, and capping maximum rent as potential mechanisms for
ensuring affordable housing. However, there was no agreement and participants strongly disagreed with the idea of a rental cap. The community had little knowledge concerning rental agreements in other parts of the world, and the ownership structure for rental properties appears to form an impediment to culture change regarding affordable housing provision.

An example from the Australian Capital Territory (ACT) was given to show that affordable housing could be provided. An example of non-profit housing for aging people presented in Dalby was also provided. Other issues identified included: government support schemes; lower cost smaller housing (single or two bedroom units); and the need for town planning to avoid low cost housing ghettos.

Workshop participants also discussed the availability of land for the construction of housing as a crucial factor, where planning is used to ensure a surplus of land ahead of housing demand. In summary, it seemed that affordable housing is the single issue where least agreement on which strategies would improve the situation could be reached.
Appendix 2: Literature review

A2.1. The Mining Industry as a global player

The operating context for the mining industry has changed significantly in recent years. Gonzales Guerra makes a useful distinction between three mining epochs of the twentieth century:

- Up to the 1950’s where little interaction took pace between mining projects and communities, and mining in the developing world took place under colonial regimes. During this era, companies typically negotiated only with central governments over taxes, royalties and land titles;

- From the 1950’s to the 1970’s community action to tackle the negative impacts of mining was limited in scope and degree. International multilateral agreements began to draw attention to the social and environmental impacts of mineral development;

- The rise of neoliberalism from the1980’s on meant a global opening up of nations to foreign investment, and a rapid rise in both mining activities and protests regarding their negative social and environmental impacts (Gonzales Guerra, 1997:3-5)

McMahon and Strongman of the World Bank describe this third epoch as “the rise of the community” and attribute it to four factors:

- Replacement of labour by capital via use of new technologies that reduce labour forces and hence community benefits via wages;

- The assimilation of local and indigenous communities is no longer viewed as desirable or inevitable;

- Increased investment in developing countries has increased conflict between companies and local and indigenous communities and increased NGO activism, supported by modern telecommunications, regarding community and indigenous rights in the face of mining projects;

- The trend towards decentralised government has increased the say of local authorities while reducing the provision of services (McMahon and Strongman, 1999:2-3).

Civil dissatisfaction with the mining industry peaked at the 1992 Rio Conference on Environment and Development held by the United Nations, where the interaction between environmental degradation, underdevelopment and inequality was highlighted (World Business Council for Sustainable Development, International Institute for Environment and Development and Mining Minerals and Sustainable Development Project, 2002:14). As stated by Andrews, of the World Bank: “the mining sector in developing countries is still rarely found to be an important engine of sustained economic growth” (Andrews, 1998:6).
Pressure upon governments and mining companies to deal with civil dissatisfaction is formally expressed in terms of public participation rights. According to the International Bar Association’s Energy and Natural Resource Law Section research, public participation in decision making is being accelerated by:

- The democratisation of former Soviet Bloc, African, Asian and Latin American countries;
- Adoption of the international legal paradigm of sustainable development of which public participation is a central tenet;
- The international environmental movement forming a proving ground for public participation;
- The incorporation of major international financial organisations (such as the World Bank) of public participation into lending requirements;
- The designation of public participation as a political ‘right’ by human rights law regimes;
- Increasing recognition of the rights of local communities as well as indigenous and tribal peoples; and
- Increased ability to obtain, analyse and disseminate information and views via the Internet and thus erode barriers to participation (Zillman, Lucas and Pring, 2002:64-65).

Zillman et al. (2002) make the point that soft law tends to harden into hard (legally enforceable) law over time and interpret the growth in soft law concerning public participation in mining and energy decision-making as an irreversible trend.

Andrews argues that mining companies today need to understand the complexity of their partnerships with states, owners and financial backers, workforces, local communities and invest accordingly. Relevant tensions inherent to these partnerships arise between:

- Central and local governments regarding revenue sharing;
- Social obligations to local communities and financial obligations to owners and shareholders;
- The move to contract labour (most developed in Australia) and the need to recruit, train and retain highly skilled labour (Andrews, 1998).

As a consequence of the deteriorating reputation and credibility of mining activities, the major mining companies have embarked upon a reformation through the mechanism of corporate social responsibility (CSR). The most important signpost of this reformation was the Global Mining initiative launched in 1999 by nine mining companies which:

- Formed a new peak association to promote a sustainable development paradigm for the industry (International Council for Mining and Metals or ICMM);
Completed the Mining, Minerals and Sustainable Development (MMSD) project funded by 28 mining companies, furthered in several global mining regions, and managed by an independent NGO; and

Convened a Toronto 2002 conference to further dialogue between NGOs, governments, international agencies and mining companies (Brereton, 2002:5; Schiavi, 2005; Danielson, 2006).

In a paper reporting on insights and outcomes of the above mentioned MMSD project, McPhie and Hodge state that “Throughout the life of MMSD North America, one clear message was articulated time and time again: to re-establish industry credibility, there needs to be hard evidence of progress and change, not just talk … If this process peters out … the degree of cynicism will mount dramatically” (McPhie and Hodge, 2002:274).

In Australia, the effort to reform the mining industry through participatory research and dialogue between federal and state governments, NGOs, unions and indigenous groups was led by the Minerals Council of Australia. Their final report nominates 7 critical issues including the need to improve the sector’s governance, stakeholder engagement, fairer distribution of costs and benefits, the promotion of inter-generational benefits and the rights and well-being of indigenous communities (World Business Council for Sustainable Development, International Institute for Environment and Development. et al., 2002).

An international indigenous people’s NGO, the Tebtebba Foundation, based in the Philippines, describes these initiatives as “an effort to green wash the industry” (Tebtebba, 2002:8), and reaffirmed the principle of free, prior and informed consent by indigenous and local communities as the appropriate foundation for community-company negotiations (see Shanta, 2007 for an elaboration of this principle). Director of the University of Queensland’s Centre of Social Responsibility in Mining David Brereton, however, states that “it would be simplistic and misleading to see the GMI as just a public relations exercise” (Brereton, 2002:5). Brereton adds that implementation of these internal control systems to improve social and environmental practices at the site level remains problematic for even leading companies. He comments that commitment to implementation is lacking below the senior management level (Brereton, 2002:20). Furthermore, Sethi and Emelianova, of the International Centre for Corporate Accountability, comment that in the effort to construct a consensus in the mining sector enforcement measures have been neglected. They state that “this situation admirably suits the poorly performing and recalcitrant companies … that stand to gain from enhanced public approval at no cost to themselves” (Sethi and Emelianova, 2006:229).

In short, civil dissatisfactions have triggered attention to corporate social responsibilities and changed the orientations of major mining companies but this shift could prove be rhetorical ‘green wash’ unless operationalised consistently by both minor and major companies on the ground.
A2.2. Measuring Impacts: corporate reporting and indicator use

The arena in which stakeholder versions of sustainable development are being played out is that formed by indicators. Indicators measure progress towards the goal of sustainable development. Community engagement principles ideally underpin indicator selection. Indicators have to be theoretically sound, policy relevant and feasible.

The reporting and indicator arena is currently highly contested, a reflection of the very different perspectives held by mining stakeholders. Jenkins, describing mining companies as prolific disclosers of social and environmental information, analysed 16 global mining company reports and found them to be highly strategic documents. Jenkins states that “rather than choose to construct communities based on their complex realities, or geographical boundaries, the companies have preferred to identify the community in relation to themselves, the company at the centre or heart of the community”. Jenkins adds that “community strategies are built on the neo-liberalist mining industry rationale that their presence in the area is essential” (Jenkins, 2004:32). A contrasting analysis is given by van Berkel and Bossilkov who report a significant contribution by Australian mining companies to sustainable development reporting internationally (van Berkel and Bossilkov, 2004).

Underlying principles for community and stakeholder engagement are delineated by the Australian Ministerial Council on Mineral and Petroleum Resources’ Principles (Australian Government Department of Industry, 2005). Kemp, Boele and Brereton also provide a useful list of principles to underpin a community relations management process:

- A well designed community relations management process needs to triangulate (integrate) company systems, performance and community perceptions;
- Use of a balanced rather that traditional risk-dominated model so as to highlight opportunities as well as risks and maintain a focus on relationships with stakeholders;
- Stakeholder involvement in evaluating the community relations management system;
- Integrating operational aspects already in place (for e.g. social impact studies, complaint/feedback mechanisms and reviews of community relationship management systems etc); and
- Hire professional community relations personnel so as to build organisational capacity (Kemp, Boele and Brereton, 2006:398-400).

Feltmate’s list of indicators are tied to the corporate bottom line of Return on Investment (ROI) and the author states that “Financial institutes and organisations are beginning to document the relationship between sustainable development/environmental performance and a positive ROI for companies and shareholders” (Feltmate, 1998:189). Such an approach emphasises macro-indicators such as GNP or global poverty levels. An example of the macro approach to
corporate reporting can be found in the World Coal Institutes’ report of the global industry as a whole (World Coal Institute, 2001).

Fleury and Poulin, at the other end of the micro/macro continuum, stress that indicators should be tailored to the specific social and environmental context in which a mining company operates. The authors illustrate their inductive approach to the task with the Bolivian city of Potosi which has a 500 year mining heritage. They recommend five steps:

- Define the objectives and users of the indicators;
- Plan the construction of an inclusive database of information incorporating wide stakeholder input;
- Compile available and new on-site information;
- Select indicators from database;
- Evaluate the selected indicators in terms of criteria such as relevance, calculability, clearness, sensitivity to change (Fleury and Poulin, 2000).

An example of use of a localised (site based) approach can be found in Newmont Gold Company’s sustainability report for its Martha open pit gold and silver mine in New Zealand (Newmont, 2005).

Emphasis on a company’s local, regional and national reputation has the potential to close the gap between micro environmental and social indicators and macro economic indicators as companies are increasingly dependent on an informal ‘social licence’ in order to operate profitability, i.e. to gain access to new sites and operate existing sites without disruption (Tuck, Lowe and McRae-Williams, Undated).

A2.3. Social Impact Assessment

Social impact assessment (SIA) has emerged in response to the shortcomings of environmental impact assessment (EIA) which does not explicitly address local and regional social impacts. Pope et al. analysed the controversial granting of development permission to the Gorgon Gas Development project by the West Australian Government. These analysts found EIA to be a reactive process focused on minimising impacts of a proponent driven project and a process that is prone to trading off environmental and social losses for economic gain by the State (Pope, Morrison-Saunders and Annandale, 2005).

Ivanova, Rolfe and Lockie, using the Bowen Basin as a case study, highlight the potential of SIA to proactively identify win-win solutions: “While genuine conflicts of interest may exist, lack of active engagement between mine proponents or operators and relevant communities exacerbates that conflict and limits opportunities to capture benefits and limit negative impacts” (Ivanova, Rolfe and Lockie, 2005:58). In these authors’ view current shortcomings of standard SIA process include:

- SIA’s are usually conducted only for major new projects and ignore existing, changed or expanded operations;
They are conducted at the beginning of a project, follow-up assessments are not conducted and original predictions and/or modelling are not subsequently tested;

Some important variables impacting upon local and regional communities are not covered (Ivanova et al., 2005:58).

These authors identify tension between the use of SIA to make predictions regarding social change and using SIA to facilitate public involvement in decision-making. The general consensus in the professional SIA community is that accurate predictions are dependent upon widespread stakeholder participation (Lockie, Momtaz and Taylor, 1999; Ivanova et al., 2005:64-65). This participatory SIA position confronts the technocratic rationality typical of governments and developers that emphasises the use of quantifiable, objective data in decision-making (Lane M. et al., 1997; Lockie, 2001). Hence there is tension between the way SIA could be used as a management tool throughout a mine’s life cycle and the way it is currently typically used as a permitting hurdle (Joyce and MacFarlane, 2001). MacFarlane states that SIA’s are anticipatory and probabilistic documents; and “demographic and economic projections have been shown to have an average absolute error between 50-100%”. He therefore advocates that “the absence of solid proof should not rule out a potential impact” (Macfarlane, 1998:24).

Joyce and MacFarlane recommend that SIA be based on the following guidelines:

- Gather information on the capacity of key parties to participate in the development process and make the creation of such capacity a first order priority;
- Identify social change processes already underway and social change due to mining;
- Promote the principles of respect and transparency;
- Integrate qualitative and quantitative approaches so that technical information is balanced with human experience;
- Place the mining project in the context of sustainable development and the community’s vision of their future (Joyce and MacFarlane, 2001:22-23).

Recommendations by Rolfe et al. regarding SIA that arose out of University of Central Queensland research in the Bowen Basin stress that:

- Many social and economic impacts occur: after the approvals stage; during changes in the scale of mining operations; are cumulative; and arise out of mining closure;
- Studies are often inconsistent and predictions not followed up and checked;
- Regular social and economic impact assessment should be sued as an input into he use of sustainability indicators and annual reporting by mining companies;
SIA is enhanced by the involvement of communities in negotiation and decision making stages (Rolfe, Ivanova and Lockie, 2006).

A2.4. Community Resilience

Sociological studies draw attention to the subtlety of social processes and fragility of social resilience in the face of the rapid social and economic changes inherent to mining communities. Such changes include: integration of new residents, dealing with economic restructuring, health impacts of contamination, and mine closure.

Ross and McGee studied community reaction to lead contamination in Broken Hill, in circumstances of a contracted mining workforce, where alternate employment opportunities were unavailable. The authors found that a collective, proactive, community response failed to emerge in response to the problem of lead contamination for child health. Instead, concerned parents were left feeling socially isolated and stigmatised. They conclude that social dynamics are highly complex phenomena that cannot be guaranteed to be captured by the ‘best guess’ SIA processes. They point, therefore, to a risk that the adaptive capacity of communities will be overestimated (Ross and McGee, 2006).

A study of efforts to revitalise South African coal-rim cluster towns following mine closure concluded that “a lack of entrepreneurial skills and the apartheid legacy of disempowerment are as restrictive as funding shortages are to community projects’ (Nel, Hill, Aitchison and Buthelezi, 2003:379-380).

An opposite example regarding the complexity of social dynamics and their outcomes can be found in the post mining socio-economic development of the city of Sudbury, Canada following a 40 year nickel mining boom. Although formal planning factors were important to the successful re-positioning of the city, an informal social alliance was pivotal: “Political, business, and union leaders were all involved in the emergence of an entirely informal, but nevertheless broad and effective, coalition of influential interests and individuals” (Richardson, 1991:170).

Kelly and Steed reported on an investigation of three small communities in South-Western Australia with populations ranging from 800 to 1,100 facing forest industry restructuring. The communities collectively perceived/appraised the threat, stress and future opportunities involved very differently. The most cohesive community (i.e. least fragmented, cynical and prone to public conflict) mobilised via lobbying resolved the threat in their favour thus drawing attention to the importance of community capacity and capacity building (Kelly and Steed, 2004).

Freudenburg’s ten years of research in four Western Colorado communities is unique in that it involved control groups. The research compares four towns all of which had pre-growth populations of 1,000 to 5,000, only one which doubled in size (from 5,000 to 10,000) due to the construction of a power station. Calling the high growth town ‘Boomtown’, Freudenburg reports the development of: “a mosaic of primary groups – people who are close to one another personally, and who can provide each other with support. The primary patches of the social fabric have not been ‘destroyed’ by rapid growth, despite the decline in the density of acquaintanceship; their survival has permitted social buffering of individuals and the maintenance of psycho-social
Community functioning was instead disrupted in the areas of informal control of deviance (due to increased anonymity); socialisation of the young (due to impaired enforcement of community norms); caring for those in need of help (due to a decline in shared responsibility) (Freudenburg, 1986). Freudenburg’s research indicates that adolescents are acutely vulnerable to the negative consequences of social change both because of their personal developmental stage and their daily exposure to newcomers in the school environment (Freudenburg, 1984).

**A2.5. Regional Planning via Tripartite Partnerships**

Planning for mining regions has been historically difficult to achieve in Australia and internationally due to the challenges inherent to aligning the interests of, and coordinating action between:

- Mining companies in remote areas;
- Communities with poor capacity for collective action;
- Under-resourced local governments; and
- Centralised state (provincial) and federal governments (see for example Lea and Zehner, 1985).

Nonetheless, regional planning is indispensable if the fact that mining economies “are very fragile and susceptible to collapse” is to be overcome (Tapela, 2002:4). As Richards states: “Mines are not transferable economic opportunities in the sense that many industrial development options are” (Richards, 2004:22). The absence of a normal housing market reflects this underlying structural fragility. Mine workers tend to be reluctant to purchase housing in mining communities as “the market value of houses in resource-based towns is directly related to the life span of the resource and the fortunes of the mining company within the vagaries of fluctuating base metal prices and within the peaks and troughs of a business cycle” (Bradbury, 1985:9). The reviewed literature indicates that the economic volatility of mining regions needs to be addressed via hand in hand progression of regional and project development that includes:

- A tripartite institutional arrangement between communities, central government and mining companies that facilitates on-going dialogue and revenue sharing;
- Community capacity building;
- A concerted, long term program of economic diversification;

Warhurst, linking the sustainable development and corporate social responsibility literatures, argues for the establishment of tri-sector partnerships between business, government and civil society. She advocates that such partnerships should set common goals, monitoring and reporting systems and collaborative activities to ensure that host communities receive direct and immediate benefits (Warhurst, 2001). However, historical distrust between civil, governmental and corporate
stakeholders is an obstacle (Veiga, Scoble and McAllister, 2001). Consequently, a trilateral relationship between the three main stakeholder types is generally lacking, rather, current practise is dominated by the existence of two bilateral relationships: “In general, the company and the central government had a relationship with respect to macro issues, and communities were rarely at the table when negotiations took place. On the other hand, the company and the local communities had a bilateral relationship with respect to micro issues that developed in an informal manner. Central governments largely abdicated responsibility on community issues to companies with the exception of Canada (McMahon and Remy, 2001:2).

A key improvement to correct this situation was identified by the MMSD project - a need for state provision of legal frameworks that deliver better outcomes so that highly motivated transnational companies are not commercially penalised relative to less motivated small and medium mining companies (Richards, 2004:22). Revenue sharing between central governments and local communities bearing the impacts of mining are also crucial (McMahon and Remy, 2001:14). The validity of these recommendations is underlined by the social and economic impacts of mining development in the Bowen Basin under the new mining company preference for fly-in/fly-out and drive-in/drive-out by employees to work a block shift. Larger coastal centres have grown at the expense of the fifteen small communities (with a combined population of 42,000). The latter have suffered losses such as housing and skill shortages as well as high rental prices (Rolfe, Miles, Lockie and Ivanova, 2007). These externalities have arisen despite that fact that a major company operating mines in the area, BHP Billiton, operates a successful community partnership program supporting existing community organisations (Centre for Social Responsibility in Mining, 2005).

While the Bowen Basin example demonstrates that the impacts of mining are immediate, community capacity building takes time (years). The World Bank’s study of mining-community relationships on three continents concluded that significant human and social capital construction needs to take place before communities can become true partners in trilateral relationships (McMahon and Remy, 2001:2). Local people must learn “how to organise, how to negotiate with both companies and central governments, and how to take advantage of the opportunities offered by the mining operations (McMahon and Remy, 2001:12).

Richards provides a useful stage based planning intervention framework arising out of African experiences that deals with this economic diversification imperative:
### TABLE A2.1: RICHARDS’ PLANNING INTERVENTION FRAMEWORK

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<thead>
<tr>
<th>Phases</th>
<th>Types of Planning Interventions</th>
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<tr>
<td></td>
<td>Procedural</td>
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<tr>
<td><strong>Exploration</strong></td>
<td>- Engagement of communities re royalties, benefits, governance systems, and settlement formation(s)</td>
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<td></td>
<td>- Consideration of alternative settlement forms/locations in relation to national/regional settlement policies/strategies</td>
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<td></td>
<td>- Establishment of local/regional institutional framework to guide planning</td>
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<tr>
<td></td>
<td><strong>Substantive</strong></td>
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<tr>
<td></td>
<td>- Regional viability assessment for urban development</td>
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<td></td>
<td>- Establish program of sustainable settlement development in line with projected mining life with alternative economic bases</td>
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<tr>
<td></td>
<td>- Establishment of Mining Community Reserve Fund (MCRF) and approval of regional development plan acceptable to all stakeholders (government, mining companies, communities)</td>
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<tr>
<td><strong>Construction</strong></td>
<td>- Establishing local community governance structures and begin implementing regional plan with clear objectives and monitoring and evaluation framework</td>
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<td></td>
<td>- Constant synchronisation of public and corporate goals and development priorities</td>
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<tr>
<td></td>
<td><strong>Substantive</strong></td>
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<tr>
<td></td>
<td>- Sequential upgrading of physical infrastructure, social services and institutions</td>
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<td></td>
<td>- Active promotion of development of enterprises in selected economic sectors as well as forward and backward linkages from mining</td>
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<td></td>
<td>- Develop clear targets for measuring economic diversification into selected economic sectors</td>
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<tr>
<td><strong>Transition &amp; maturity</strong></td>
<td>- Encourage further partnerships for concerted economic diversification</td>
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<td></td>
<td><strong>Substantive</strong></td>
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<tr>
<td></td>
<td>- Programs to retrain miners to fit into alternative sectors using MCRF</td>
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<td></td>
<td>- Consolidation of investment into alternative economic sectors and community development</td>
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<tr>
<td><strong>Closure</strong></td>
<td>- Environmental, social and economic plans and programmes for absorbing effects of winding down and possible mine closure</td>
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<td></td>
<td><strong>Substantive</strong></td>
</tr>
<tr>
<td></td>
<td>- Incorporation of region into ‘normal’ national/regional settlement management systems</td>
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<td></td>
<td>- Implement environmental management plans</td>
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<tr>
<td><strong>Post-mining era</strong></td>
<td>- Management of self-sustaining region and settlement development</td>
</tr>
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(Richards, 2004:14)

The Queensland State Government’s discussion paper “A Sustainable Futures Framework for Queensland Mining Towns” advocates that the problems encountered in the Bowen Basin be avoided in the Surat Basin via strategic planning that is Local
Government rather than State Government led (Queensland Department of Local Government, 2006:2). Specifically, the paper advocates that:

- Local Government establish a mining company/community stakeholder/local government stakeholder leadership group;
- Community capacity be increased via the above participation;
- The EIS process be extended to anticipate cumulative social and economic impacts;
- That stakeholder collaboration (including State Government) lead to alliances and resource sharing;
- Formal agreements record funding commitments;
- Clear and effective communication between stakeholders be developed; and
- Community engagement is used (Queensland Department of Local Government, 2006: 10-11)

The chronological process specified in the discussion paper is:

- Initiate planning – define purpose, scope and management of process;
- Define current and desired future states;
- Engage stakeholders and determine a response model;
- Prioritise the issues identified;
- Identify and assess options to address prioritised issues;
- Develop a strategy;
- Stakeholder engagement to achieve agreement and endorsement;
- Formulate a delivery plan and procure resources;
- Implement and evaluate implementation progress;

Monitor and review outcomes and report back to funding bodies and the community (Queensland Department of Local Government, 2006:12)

BHP Billiton’s establishment of a nickel mine in Western Australia is being “treated as a unique opportunity to advance regional development on the south-east coast of WA”, where a residential workforce is planned to be integrated into the Ravensthorpe, Hopetoun and Esperance communities. This exercise has relied upon whole of government approach to community infrastructure provision (BHP Billiton, 2004:4). A research team evaluating this regional planning endeavour is in the process of publishing their findings. These findings are well worth capturing as they
become available because of their relevance to regional planning in the Surat Basin (personal communication).

### A2.6. Economic Diversification

McMahon and Strongman of the World Bank note that “although the old enclave model of mining development is a caricature of the real current situation, the mining sector in developing countries is still rarely found to be an important engine of sustained economic growth” (McMahon and Strongman, 1999). In the Australian context, the failure of mining to generate long term economic benefits has been referred to by notions such as ‘quarry economy, resource curse and Dutch disease’ (Mercer and Marden, 2006; Rolfe, Miles et al., 2007). However, the fact that the Surat Basin enjoys an existing economic base bodes well for its prospects of economic diversification as it is starting from a higher base than a remote indigenous community.

It should be noted that post hoc efforts to address economic diversification (following mine closure) typically fail as they face a formidable pattern of social and economic dependency upon mine operations. The South African government’s attempt to address the decline of the ‘coal rim cluster’ of towns through a Local Economic Development Fund has failed to generate substantial entrepreneurial activity or widespread employment (Nel, Hill et al., 2003).

Ritter, writing in the Canadian context, provides a list of services communities can provide mines in the short, medium and long term that can ultimately deliver a wide variety of linked economic activities:

#### TABLE A2.2: RITTER’S SCHEME OF POTENTIAL LOCAL SERVICES TO MINING COMPANIES

<table>
<thead>
<tr>
<th>Short term</th>
<th>Medium term</th>
<th>Long term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing, maintenance services,</td>
<td>Vehicle repair, machine shop services, welding, sheet metal work,</td>
<td>Public goods and social services</td>
</tr>
<tr>
<td>roadways, construction of sheds</td>
<td>plumbing, electrical services, repair and assembly of basic steel-work,</td>
<td>(education, health, infrastructural services, water and electrical systems,</td>
</tr>
<tr>
<td>and simple mine buildings,</td>
<td>underground equipment such as shaft furniture and roofing bolts,</td>
<td>recreational facilities and the local bureaucracy to administer them</td>
</tr>
<tr>
<td>inputs such as sand and gravel,</td>
<td>infrastructural equipment such as steel pipe, wire and hose products,</td>
<td></td>
</tr>
<tr>
<td>food for mine personnel</td>
<td>ventilation ducting, metal structural products, drill steel and bits,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>explosives and chemical products, legal and financial services</td>
<td></td>
</tr>
</tbody>
</table>

Ritter admits that achieving economic diversification around mining is difficult but suggests the following public policies are relevant to developing a cluster of mining related activities:
- Promoting and elaborating a cluster culture by supporting relevant professional organisations, publications and communications;
- Encouraging regional procurement and export;
- Promoting the development of specialised human resources through education;
- Supporting a cluster with public goods such as knowledge, infrastructure and geological mapping;
- A fair inter-sectoral tax system that does not provide subsidies or treat mines as State cash cows (Ritter, 2001).

McMahon and Strongman suggest that the features of a reformed mining sector that generates broad-based and sustainable community benefits will include:
- Training and social services focused on the community as a whole;
- Use of local community to fill most employment positions;
- Spin-off employment opportunities equally or more important than mining jobs;
- Mine services outsourced to community rather than in-house;
- Local community will have significant and increasing input into the mining operation;
- Negotiation and agreements with central and local governments, indigenous people and NGO’s;
- Significant part of taxes and royalties go to the local community;
- Mining company contributions to help build the community asset base (McMahon and Strongman, 1999:18)

Although it is poorly integrated into the social impacts of mining literature, it is also worth mentioning the economic opportunities arising out of environmental management, progressive environmental rehabilitation, and return of mined land to other uses. Mine development can be treated as an opportunity to address existing environmental degradation in such a way as to develop local skills and businesses. Carefully planned decommissioning of mine sites can facilitate their use for recreational, tourism and aquaculture purposes (Read, 2003; Richards, 2004; Newmont, 2005; Miles, Undated)

The provision of training, direct employment and indirect employment via outsourcing of mining services to local and indigenous community members are important subjects for tri-lateral negotiations, they need to be supplemented by indicators so as to be able to monitor and evaluate company performance. Such indicators are highly relevant to coherent and convincing corporate social responsibility reporting.
A2.7. Examples of different mining town types

It is necessary to be cautious when generalising from other examples of mining-community relations. McMahan and Remy stress that “it is important that the policies and strategies followed are adapted to the realities of the given operation, including its size, geographic location, climate, and socio-economic and cultural conditions” (McMahon and Remy, 2001:4). That said, clearly the Bowen basin experience of larger centres attracting benefits at the expense of smaller communities is highly relevant to the Surat Basin. For the Surat, the urban coastal conurbation of SEQ and inland regional service centre of Toowoomba can be expected to monopolise benefits as the coastal regional service centres of Mackay and Townsville/Yeppoon have in the Bowen if no interventions are undertaken.

McMahon and Remy (McMahon and Remy, 2001:18) provide a typology of mining communities in the Canadian context which assist clarifying considerations of the degree of relevance of other mining community experiences:

1. Long established communities dependent on the mine for e.g. the Almaden mercury mining community in Spain, a mine that has been in operation for over 2,000 years, or the city of Potosi in Bolivia, a silver mining city since its establishment 500 years ago;

2. Company towns for e.g. Mount Isa, Roxby Downs or the Pilbara Iron townships of Dampier, Tom Price, Paraburdoo, Wickham and Pannawonica;

3. Long established communities with diversified economic bases that have become home to new mines which is the case in the Bowen and Surat Basins;

4. Fly-in, fly-out operations (a new operational paradigm most relevant to the USA, Canada and Australia)

5. Temporary encampments; and

6. Major, long term mining cities (for example, Sudbury).

Type 1 ‘long established communities’ are something to avoid because they are characterised by extreme social dependence on a narrow economic base as well as severe environmental degradation. For example, the state owned mercury mine worked by the Almaden community in Spain has furnished the State coffers for centuries and was twice used to guarantee large sovereign loans. No attempt at economic diversification was made until 1978, an attempt which suffered comprehensive failure attributable to a poor methodology (McMahon and Remy, 2001:16-17).

Types 3 ‘long established communities’ and 4 ‘fly-in, fly-out operations’, most relevant to the Surat Basin today, have replaced the old labour intensive mining development paradigm of type 2 ‘company towns’. An example is afforded by the Hunter Valley, a long established agricultural region that also accommodates coal mining. University of Queensland’s Centre for Social Responsibility in Mining
undertook a monitoring study for the mid-sized Drayton Mine, located 13 km south of Muswellbrook, which began operations in 1983 and is due to close by 2015. Community complaints regarding the mine persisted despite the establishment of a Community Consultative Committee in 1994. Although acknowledging the contribution of the mine to the regional and local economy, community concerns were that:

- The coal industry had not provided adequate employment and training opportunities for indigenous people and youth;
- The industry did not support local businesses enough;
- It needed to be more responsive to near neighbour impacts;
- Continuous rosters and 12 hour shifts impacted negatively on families and communities;
- Cumulative environmental impacts were not being addressed; and
- Communication and engagement with the community needed to be improved.

The development of an impact monitoring and management strategy for the site was recommended (Brereton and Forbes, 2004).

The most successful example of a type 4 'fly-in/fly-out' operation is uranium mining in Northern Saskatchewan, Western Canada. The region’s population of 40,000 is 87% indigenous and suffers low education participation rates, serious levels of poverty and high unemployment. The State initiated uranium mining in the late 1940s which resulted in disastrous social impacts (shanty towns, alcoholism and criminality and ultimately the ghost town of Uranium City). Local and NGO opposition to subsequent mining was stiff. Five public inquiries into the environmental, social, economic and indigenous impacts of uranium mining between 1974 and 1997 and the transfer of mining to Canadian and international companies resulted in a tripartite arrangement by the 1990s. The largest company, Cameco, has achieved an 85% indigenous workforce as a result of sustained training and re-training programs. Fly-in/fly-out on a 7day on/7day off roster has minimised social impacts and allowed workers to sustain traditional lifestyles. The advantages of this arrangement are listed by Parsons and Barsi as:

The existing community structure was strengthened and local resources employed;

- The threat of competition from single industry towns and the disruption of in-migration was removed preventing the development of large internal social and economic disparities;
- Companies had to develop positive relations with communities in order to obtain a labour force;
- Communities received real income and employment benefits’
- Transferable skills were created;
- Smaller communities obtained a new entrepreneurial class;

Substantial corporate resources were applied to the problems of small communities (Parsons and Barsi, 2001)

Type 6 ‘major, long term mining cities or mining metropolis’ is a possible ambition for the adjacent Surat and Bowen energy regions although consideration needs to be given to how compatible this ambition would be with the preservation of the Surat Basin’s agricultural heritage and industries. The prime example here is Sudbury in the Canadian province of Ontario, 300km north of the provincial capital Toronto. Following four boom decades, Sudbury faced economic disaster due to falling nickel prices in the late 1970s to early 1980’s. Unemployment rose to 17%. Sudbury’s local leadership rallied to unite the community to rebuild and diversify the regional economy by exploiting all opportunities for regional and national government assistance (grant stacking). The formation of a regional municipality (federation of local governments) in 1973 established a single, regional planning agency. This agency extended its sphere from land-use and physical development to comprehensive economic planning by 1977. The economic plan foresaw the downturn and proposed diversification through tourism, agriculture, service and white collar employment. An urban renewal program dealt with blighted buildings, improved air transport, and established a science museum and convention centre. The town’s University developed new revegetation techniques that the regional municipal government used to provide work to the unemployed to replant hundreds of hectares of land made barren by sulphur discharges. Public sector employment was expanded with the establishment of regional departmental service offices in the city. A machinery manufacturing industry was established using public grants and loans. In short, a diverse array of tactics was used within a coherent overall strategy (Richardson, 1991).

The Kalgoorlie/Boulder experience provides some pointers as to replicating the Sudbury success. The Western Australian mining towns of Kalgoorlie/Boulder 600 km inland of Perth were established in 1893 and now face the exhaustion of nickel reserves. The towns have used their high quality infrastructure (rail, airport, water, electricity, education, health and recreation) to establish a successful mining services sector over the last two decades. This had been made possible by being within an active mining region despite local resource exhaustion. Many mining companies began in Kalgoorlie/Boulder and have expanded operations by moving their head offices to Perth but maintain regional offices in Kalgoorlie/Boulder (Maxwell, 2001). In both the Sudbury and Kalgoorlie/Boulder cases, researchers note a strong tradition of self-sufficiency, entrepreneurialism, mutual support and individual initiative (Maxwell, 2001, Richardson, 1991:61).