“Non-resident worker accommodation in the mining and petroleum Industry”

Adaptive communities the third party advice program for the most challenging task in the resources sector for regional Australia.

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Abstract: The 21st Century challenge of non-resident workers in a rapidly expanding resource or petroleum sector is the most significant challenge for Regional Queensland today. The adaptive communities 3rd party advice program is a solution to the often intractable problem of non-resident workers camps appearing in the rural landscape.

Isaac regional council in Central Queensland has been faced with one of the most unique and historic situations in the last 40 years.

In the early 1970’s the Central Queensland region of Queensland was opened up for extensive open cut and underground mining of high quality coal reserves. This led to the formation of several towns and thriving communities by Utah developments being Dysart and Moranbah.

Since that time with industry changes, industrial re-structuring, boom & growth, the future of the communities has recently been challenged by the prevalence of non-resident worker camps which have caused considerable community angst and challenged long term economic growth and sustainability. The fundamentals of non-resident workers and what they can bring to a region both good and bad has been a serious lesson in problem solving for all concerned at the local level.

Not only has the region seen unprecedented employment growth but also mass transit of inter-regional and inter-state workforces impacting on the local services and undermining the local community growth and economic resilience.
Adaptive communities was born out of the need to find a workable solution to inform the long term sustainable development of Moranbah and the wider regional area on what opportunities may be available to the local community to integrate the non-resident workforce into the established community to maximise growth and development opportunities.

**Key words:** community consultation, Non-resident worker, stakeholder consultation, mining and resource boom, major projects, change management, sustainable community planning outcomes.

**Introduction**

Non-resident worker accommodation in the rapidly expanding resource and petroleum exploration and development sectors of the Central Queensland region is a serious intractable challenge. All project workers and ongoing operational workforces require accommodation and limited commitment to the ongoing permanent development of sustainable communities in the days of the commodity down turns a decade ago has not matched supply with demands. This is fundamental limiting choice for new industry employees and challenging the sustainability of communities.

The Isaac Regional Council contains several purpose built urban communities designed to originally meet the needs of the coal sector workforces for Utah developments. The two communities include Moranbah and Dysart. With the resurgence of the coal export industry from 2005 to the present day accommodation shortages has been the norm and has seen the emergence of alternative accommodation models based around non-resident workers who forced to consider limited supply of housing could not find an affordable solution locally.

Whilst the traditional “donga camp” was the genesis of many mining and resource communities it is not a sustainable long term option for vibrant and interactive socially cohesive and diversified modern communities. The notion of temporary uses for 30 years is clearly nonsense for any serious community life cycle planning. Especially when resource reserves exceed 250 years at present production rates in the locality.

Socially the emergence of expansive non-resident worker facilities has seen the opportunities for sustained urban development frustrated and cause considerable social dysfunction occur for many workers and their families.

Adaptive communities is a comprehensive and integrated 3rd party community advice model that has enable the silent majority to voice their concerns over the future development of Moranbah in a constructive way. The model seeks to engage the whole community in informed decision making using factual and workable solutions in contrast to the ongoing proliferation of industry engineering solutions to accommodation as out of centre transient non-resident worker villages in the rural zone across the Isaac region.

Adaptive communities exposes the 6 concepts of possible urban development in a pre DA scenario of the impending delivery of 2500 non resident workers for an new open cut coal mine workforce being the Caval Ridge Mine development near Moranbah.

**Background**

Adaptive communities was born of the frustration experienced by the former Belyando Shire Council (Now Isaac Regional Council) through the call in and refusal of an urban expansion into a the Belyando Shire transitional planning scheme strategic urban area. The call in by the minister of local government in 2005-2006 caused a considerable interruption to the housing supply in Moranbah. This state intervention in local planning has clearly protected the mineral resources of the state but fundamentally changed the opportunities for the capture of sustained permanent community growth and long term social and economic stability.
The delay in market supply of housing stocks from the Ministers refusal of the 350 lot NevTan development saw housing rental markets respond with peak prices ranging from 1,800 to 2,000 per week in 2009. This was a social and economic disaster for the diversity and social cohesion and connectedness of the community as non-resource sector workers and their families bore the brunt of the pressure.

The economic pressure to supply workers and accommodation to the ravenous industry saw alternative temporary non-resident accommodation models become the flavour of the day in the Isaac Region and challenge all the fundamentals of planning for the type of long term community we would all like to live in.

These new types of accommodation saw the advancement of second generation dongas (type 2) as we call them locally where the addition of an ensuite to each room has created a positive improvement in personal living conditions for many workers but is nothing like what it could be if we choose to think outside the box and challenge the norm of built form, human interaction, design utilisation and purpose.

Non-resident worker accommodation typically undermines the sustainable development of an urban footprint as it creates development of a temporary less resilient to wear and tear construction. This is typically the portable modular accommodation block which arrives on heavy transport, generally 3 rooms at a time. There is no long term commitment of the urban form as a result of the temporary nature of the construction and the underlying economic philosophy of ensuring the model can respond to a down turn by maximising returns today and ignoring tomorrow. As described many times in the adaptive communities program the “boxes in the paddock” must change if we are to see long term benefits to the urban communities and the development of strong sense of place and connection to community in the resource regions.

As part of the comprehensive community plan consultation undertaken by Isaac regional Council under the new Local Government Act requirements the overwhelmingly strong response was that it is a fundamental desire to have strong and resilient communities within the region. This was supported by the ongoing responses being reviewed by Isaac regional Council to any number of resource and petroleum projects being assessed through the coordinator general and standard EIS assessment pathways. Where is the long term growth for the community.

Therefore the model of development of non-resident worker accommodation needed to undergo change to match this community desire. This was a strategic challenge delivered to the Planning and Environmental Services Directorate.

In his space the experiences of the past and the lessons of the whole council were brought to the forefront in seeking solutions to a more sustainable and adaptive model of development, meeting present critical needs and long term options for a young community to continue the journey to developing clear sustainability through social, economic, environmental solutions.

Adaptive communities is a comprehensive and integrated 3rd party community advice model that developed some core concepts through targeted conversations and workshops with All Elected representatives of Council and planning staff, that has enabled a quantum shift in the engagement strategy by targeting the silent majority in a community to voice their concerns over the future development of Moranbah in a constructive way. The model engaged the whole community in informed decision making using factual and workable solutions in contrast to the ongoing proliferation of industry engineering solutions to accommodation as out of centre transient non-resident worker villages in the rural zone across the Isaac Region.

The Adaptive communities program exposes the 6 concepts of possible urban development in a pre DA scenario of the impending delivery of 2500 non-resident workers for an new open cut coal mine workforce being the Caval Ridge Mine development near Moranbah.

The pre DA scenario model allowed the community to seek informed choice and model the community into the future to match their own desires. The additional considerations of positive alternatives changed the community debate and focused outcomes on real tangible benefits.
The new action of scenario development took the consideration of a real live development application to the new level of saying “how would you like to see the workers accommodated and how does this meet your community expectations for the future” for your family.

The program was designed to be dynamic and highly interactive with the community across many fronts. The long term success of the community is predisposed upon having a vibrant engagement with future decision making. Adaptive communities was designed and actioned to light the fire of the community to determine their own future through clear communications to Isaac regional Council.

To this end a highly skilled, high performance team was collected and assembled to implement the program. The team included;

- **Jan Anfruns** – JCA solutions - Project and team facilitator
- **Laurie Ward** – Click connect web design and on line information presentation & voting tools
- **Tristan Gautrey** – IML on line presentation net book voting, key pad voting and face to face vote capture at shopping centre
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This team was ably supported by in excess of 50 additional skilled personnel working in the various disciplines supporting the program components.

### Adaptive Communities Goals

The 3rd party consultation project aimed to provide an answer to the question of whether the Moranbah community could identify alternatives for the accommodation of non-resident workers outside the present model that would lead to more sustainable planning outcomes over the longer term. It also set to establish an updated community point of view given the delay since the earlier formal statutory consultation around the accommodation proposals for the Caval Ridge Mine under the coordinator Generals program of industry growth projects.

### Consultation Brief

ThomsonAdsett was appointed by Isaac Regional Council to prepare a series of design concept boards to illustrate consideration of different transient mining accommodation densities and typologies and their associated amenities where applicable.

The approach recognises the importance of creating sustainable communities whether they are integrated within an existing urban context, are sited on the fringe on existing urban areas or within new out of town communities. In all instances, future proofing and adaptive re-use of the accommodation is considered in order to create opportunities for sustainable conversions and adaptations at the end of mine life. A further overriding objective is to create quality environments
which complement and enhance their settings and in doing so attract personnel to workplace opportunities.

The design concepts consider the importance of the micro to macro scale. In terms of the micro scale, we have developed a typical room which can be clustered to form varying densities of accommodation. The layout balances the requirements for affordability, adaptability, prefabrication, efficiency, user comfort, light, ventilation, delineation between wet and dry and clean and dirty areas, storage, landscape, amenity, social interaction and rest.

At a more macro scale, through the application of good urban design and masterplanning principles we believe these communities can be far more inviting and cohesive, challenging the notion of isolated rooms which lack identity, safety, legibility and the essential sense of sustainability. Appropriate planning of buildings, landscape and amenity can offer environments which are far more conducive to the needs of the users shift patterns, that are complementary to the local community and capable of being converted into a multitude of different functions in the future.

The responses consider ways of clustering different densities of accommodation to form cohesive buildings. This will promote a sense of community, assist wayfinding, offer efficiencies in construction and greater utilisation of the available site areas for recreational activity and other associated functions. Indeed at a more micro scale, more cohesive planning will assist preservation existing site features and landscapes. In addition, this creates greater opportunities for re-use of the permanent core accommodation for functionalities such as affordable housing, small businesses, retail, schools and offices on a larger scale, gaining greater life from investments in infrastructure and buildings where applicable.

The concepts are not related to any specific place. Theoretical locations have been identified such as a town square, streetscape, fringe community or out of town highway setting to illustrate the potential variable density of transient mining accommodation and future adaptive re-use. Six densities and localities are illustrated and we would welcome feedback on these conceptual ideas.

Transient accommodation design considerations

**Challenges facing mining camp designs**

- Lack of wayfinding and legibility created by isolated repetitive accommodation units
- Perception of a camp and temporary status due to single storey demountables
- Lack of permanency
- Lack of adaptive re-use
- Infrastructure demands
- Quality of accommodation in a competitive resource environment

**Opportunities for transient mining accommodation**

- Offer permanent design solutions with flexibility and reuse capability, engendering a sense of permanence
- Support local businesses
- Create a sense of community in lieu of isolation
- Provide appropriate accommodation to support a transient workforce and shift patterns
Micro design considerations:

- Contamination / dirt transfer to the rooms
- Reducing the institutional feel of the chamfered en-suite
- Potential for prefabrication
- Provision of natural light
- Black out for sleeping
- Passive ventilation
- Air conditioning
- Noise and potential disruption to sleep
- Immediately adjacent seating and landscape
- Ease of wayfinding
- Quality and longevity of furnishings
- Safety

Macro design considerations:

- Shift patterns
- Locality
- Typology
- Permanency
- Sustainability
- Urban design
- Future proofing beyond mine life
- Prefabrication
- Landscape
- Reducing the visual impact of the car
- Infrastructure demands
- Environmental
- Social areas, mess and the siting of recreational facilities
- Impact on associated towns social, economic and political structure
- ULDA guidelines
- Car parking
- Drop off
- Number of storeys

Models

1A - Full integration

- Permanent structures
- Motel style
- 2 storey?
- throughout the community on a salt and pepper basis
- 200 maximum unit density
- 150m between facilities
- Utilising existing services if possible
- Adaptive re-use for long term community retention
- Knowledge based economy jobs at the end of the mine life

1B Relocatable developments on the fringe of existing urban areas

- Village, motel style
- 200 maximum unit density
- 150m between facilities
- Core infrastructure that is designed to be retained as part of an adaptive re-use at end of mine life

Main differences between 1A and 1B are location and permanency

2 Large Fringe Transient Villages

- Full service facility around an existing urban area
- Wet mess and retail services
- Maximum of 1200 rooms

3 Small villages in the centre of town

- 50 rooms
- Self contained
- No mess facilities

4. Multi faceted combination

- 1, 2 and 3 across the community
- No clearly defined preference
- May offer greater integration and a sense of variable density applicable to each location

5. Ex large Rural Highway Interface Facilities

- Macro scale
- 5 or 6 facilities at a scale of 2000-2500 rooms
- Full FIFO, BIBO, DIDO model
- Highway location

5. Ex large on the fringe of an existing Urban area

- Macro scale
• -5 or 6 facilities at a scale of 2000-2500 rooms
• -Full FIFO, BIBO, DIDO model
• -Existing Urban Area

Future proofing

• -More affordable housing product, high housing stress
• -Wider choice in housing style, currently predominantly 3 or 4 bedroom homes on large blocks
• -Home ownership and rental options

Consultation framework

The Adaptive communities 3rd part advice program utilised an extensive suite of the following community engagement tools:

• Focus group sessions with key community influence groups
• Detailed interviews with key community service stakeholders
• Face to face interviews in the local shopping centre with residents
• Face to face social research with residents at markets and shopping centre
• On line voting and resource information tools
• Postal voting
• Detailed architectural multi use plans
• Media promotion and DVD presentation
• Detailed information sessions for interested community members
• Detailed political representations at State and Federal levels

The consultation program focused detailed attention on the issue of non-resident worker accommodation as part of the 3rd party consultation for a period of 13 weeks from early January to early April 2011.

The nexus of the program was to link the assessment of a real live application was built under the Sustainable planning Act consideration of a development application for a 2500 person accommodation village located in the rural zone outside Moranbah. This application was a impact assessable application before Isaac Regional Council

Program Results and feedback

There is very clear evidence in the outcomes of the program of a link between successful stakeholder consultation processes and sustainable community planning outcomes.

The primary feedback saw the following clear advice to Isaac Regional Council from the community.

Over the consultation period 393 votes were counted with the following results.
Concept A - 44
Concept B - 5
Concept C - 21
Concept D - 150
Concept E - 42
Concept F - 131

Concept D - a combination of concepts A, B and C - received the highest number of votes, (38%) with concept F the next highest (33%).

Concept B received the least number of votes (1.2%).

262 (67%) of the 393 participants voted for some form of integration with the existing town, from full integration into the township to a new town integrated onto the urban fringe of the existing town. (Concepts A – E)

131 (33%) voted for a complete new township located away from the existing town. (Concept F)

The full extent of the results is represented graphically as detailed in attachment 1

An important result of the program identified women participants as preferring integration contrary to the common held perceptions of a lack of safety from non resident work forces.

Of significant note is that of the eligible persons to vote in Moranbah a total of 393 votes out of the population is in excess of 8% participation. This is statistically very high and represents a tremendous result for the program.

Clear actions have been reinforced through the confirmation of preferred community outcomes including:

_Council requires urgent action from all levels of Government and industry on ensuring the community balance of non resident worker accommodation is to be built around a community design outcome of:

\[a]\) Up to 30 \% \quad \text{Camp style rooms}
\[b]\) Up to 30 \% \quad \text{Medium to high density unit development}
\[c]\) Not less than 40\% \quad \text{Detached residential housing development}

The development ratio in items above is to be undertaken in line with Council’s goal for a significant majority of permanent residential population in the community, in line with the adopted policy statement of the 6th June 2010 below;

“Isaac Regional Council is opposed to any development within the Isaac Regional area that does not support the fundamentals of growing vibrant sustainable communities and the provision of accommodation choice for the families and the workers that wish to seek employment in the area.”

Further Isaac Regional Council has proposed solutions to secure long term growth for the Moranbah community through further dialogue and actions to focus operational work forces in existing comminutes with suitable accommodation choices being made available. Isaac Regional Council is also acting on long term solutions for support industry housing by supporting positive market supply.

The delivery of future housing will also need to consider the elements identified in the social research which showed the following clear indicators;

- For community members to fully embrace an increase in NRW living within their community, there needs to be a greater understanding of the true economic benefits and opportunities for the community and local business.

- The realisation that NRW are not included in Census data and therefore do not bring about improved infrastructure, facilities and services to the community also needs to be addressed.
Collective lobbying with other local governments and communities who also have large temporary populations needs to be undertaken to change the current Census data collection measure, so that a fairer distribution of regional funding can be gained for these communities. The recent Bowen Basin Population Report 2010, which provides population measures for both the resident and non-resident population may assist in this process.

- An analysis of local data from existing community, social and health services could provide an assessment of the actual use of these services by both permanent and non-permanent residents. This would present a „real” rather than perceived representation of usage of these services by NRW.

- The community’s expressed need to encourage more permanent workers and families into their community could be assisted through a „family exchange” program, where a local Moranbah family hosts a NRW for a family meal and/or hosts a NRW and his/her family for the weekend. This could be in conjunction with a „family fun day”, celebrating and showcasing Moranbah as a liveable community. This would enable positive social interactions to take place, where Moranbah residents are given the opportunity to promote the positive benefits of living in their community, and NRW are provided the opportunity to consider this as an option.

- The community’s concerns about the increases in crime and anti-social behaviour among NRW need to be better understood. Whether these increases have occurred within Moranbah, or whether they are relative to other towns or mining camps within the region needs further clarification. Such information may help to address the social fears that already exist in this community and provide the information required to address this critical social issue.

- Local government and mining companies may need to work together to develop strategies to create greater social cohesion in this mining town. Community capacity building efforts to increase social and communal responsibility among both non-permanent and permanent residents could be considered. For example, community events that are inclusive of NRW which celebrate the community’s diversity and what it means to be a mining town; organised community sporting events for non-permanent and permanent residents; and other strategies which invite NRW to contribute to, or be a part of this community.

- While NRW had the opportunity to participate in this social research, they were not specifically targeted. It is therefore recommended that further research and/or consultations are undertaken specifically target NRW to gain an understanding of their opinions and views on these accommodation choices that affect them, as well as their perceptions and experiences of being a non-permanent, „transient” worker.

**Recommendations**

Future proofing growth for the Isaac Region will be based on a clear implementation of integrated strategies to support choices of accommodation types and meet the transition of families and workers needs throughout their employment time in the region. No single recommendation can be suggested except that their needs to be sincere commitment by all levels of government to the notion of community permanency for Moranbah as the community has a future long term. This in turn can directly influence accommodation design and long term future uses.

**Conclusion**

The answer to the question whether the adaptive communities program has achieved some shift in community perceptions and long term outcomes remains to be seen.
The program extensively supported the integrity of the Belyando Shire Planning scheme confirming integration of urban settlement patterns. This resulted in the formal refusal of the non resident workers accommodation village application by Isaac Regional Council.

The program clearly empowered the community to choose a solution and design their own future not being constrained by what the applicant or industry serves up as a preferred option.

The community clearly spoke about what they wanted to see especially for their long term connection to the community.

Several of the industry participants in the region have actively acknowledged the benefits of the design concepts and in the not to distant future is likely to see the incorporation of the design concepts into a working model for development in the region.