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# **Resource Development, Local Adjustment, and Regional Policy: Resolving the Problem of Rapid Growth in the Pilbara, Western Australia**

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## **Abstract**

This paper examines the implications of rapid resource-led development for the small, remote town of Onslow, Western Australia. Over the next five years, Onslow is set to become host to one of Australia's largest energy investments – the Wheatstone Liquefied Natural Gas project. The town is already feeling the effects of this project, with numerous impact studies indicating that significant economic, social, and demographic transformation can be expected as the project unfolds. Yet, despite considerable effort being invested in 'problem identification', both policy and 'on the ground' responses have been minimal, thereby hindering local adjustment and adaptation. In addition to examining the impacts of the Wheatstone project on Onslow, the paper considers the reasons for this lag in policy response and the extent to which this may exacerbate the problems facing the local community.

Keywords: resource towns, regional policy, housing, infrastructure, community adjustment

## **1.0 Introduction**

Resource industries are dramatically changing both the physical and cultural landscapes of Western Australia. The past decade has witnessed a rapid increase in investment in both minerals and petroleum industries, with the vast majority of new projects located in remote regions (Tonts et al., 2012). Indeed, investment in new projects is particularly strong, and at the end of 2012 more than A\$100 billion had been committed to a range of resource ventures (Department of Mines and Petroleum, 2012a). Of this, more than A\$78.5 billion was invested in the oil and gas industry, virtually all of which was concentrated in remote areas. While many of these projects are operated as temporary camps on a fly-in/fly-out basis, a number are co-located with existing towns. The scale of major resource projects is leading to rapid economic, social, and political changes in these communities, and is contributing to significant challenges

for regional planning and governance (Rolfe et al., 2007; Cheshire, 2010; Lawrie et al., 2011).

One of the major problems facing policymakers is that once a project is approved, development often proceeds at a pace that exceeds the ability of governments to keep up with necessary service and infrastructure needs. There is a considerable body of evidence to suggest that this contributes to social dislocation and, at least in the short term, a decrease in the local standard of living (e.g., Petkova-Timmer et al., 2009; Haslam-McKenzie et al., 2009). While large investments are made by resource companies in an attempt to minimise the negative impact of their presence within the community and to bolster their acceptance amongst local residents (e.g. Cheshire et al., 2011; Morrison et al., 2012), they do not necessarily mitigate against the problem of 'policy lag' in addressing service and infrastructure shortfalls.

This paper aims to contribute to contemporary debates about the impacts of rapid resource-led development on small remote towns through an examination of a major new gas development located near Onslow in the north west of Western Australia. More specifically, it seeks to better understand governmental responses to rapid development, and the extent to which the problem of 'policy lag' might exacerbate the transitional challenges experienced by small towns in the face of rapid resource development. This paper is based on 28 semi-structured interviews with long-term residents, local government officials and business owners in Onslow. Information gained from those interviews was then corroborated with a review of statistical data from various sources and a qualitative review of relevant policies. The next section of the paper provides a brief review of relevant literature, before offering an overview of the local and regional context. It then turns to an analysis of selected impacts, before considering policy responses.

## **2.0 Rapid Resource Development and Policy Response**

The impact of rapid resource-led growth on small towns has been the subject of extensive academic inquiry, both in Australia and elsewhere (e.g. Little, 1977; Brown et al., 1989; Halseth, 1999; Wilson, 2004; Hajkowicz et al., 2011; Lawrie et al., 2011). One of the consistent themes in this body of work is the social, economic, and political upheaval experienced in the initial stages of a major new resource project. The pioneering studies on the impact of resource boomtowns were conducted in the United States in the 1970s, and drew attention to the social dislocation that was associated with rapid population growth, a highly mobile and male dominated workforce, and, in particular, the inability of services and infrastructure to cope with this population influx (e.g., Gilmore & Duff, 1975; Gilmore, 1976; Little, 1977; Weber & Howell, 1982). One of the most influential of these studies (Gilmore, 1976) was suggestive of a 'stages of development' model in which communities would transition between: (i) enthusiasm about the potential economic benefits of resource development (see also Freudenburg, 1992; Gulliford 1989); (ii) uncertainty of what the community's needs will be and how to meet them; (iii) panic, as the enormity of the imminent changes become apparent; and (iv) problem-solving, as they gain a better understanding of the adaptations needed within the community (Gilmore, 1976). Thus, there was a sense that communities eventually adapt as a project progresses. Indeed, a number of longitudinal studies have found that many of the negative consequences of rapid growth become less evident or disappear over time (e.g., Smith et al., 2001).

While the problems associated with rapid resource-led development may well dissipate with time, there is nevertheless a period of significant transition that

communities must negotiate in the early stages of a resource project's 'life cycle' (Halseth, 1999; Haslam-McKenzie et al., 2009; Tonts, 2010). Some of the most significant issues associated with the rapid in-migration of a construction and mining workforce include the rising cost of housing and land; a sharp increase in the cost of living more generally; the inability of key services such as schools and hospitals to meet demand; poor levels of infrastructure support; income inequality between mining and non-mining residents; and rising levels of social and political conflict (Gilmore & Duff, 1975; England & Albrecht, 1984; Brown et al., 1989; Rolf et al., 2007; Haslam-McKenzie et al., 2009). The resulting degradation in quality of life and community satisfaction can lead to difficulties in attracting and retaining workers, many of whom can earn comparable salaries in towns with higher levels of social and environmental amenity (Brown et al., 1989; Smith et al., 2001). This, in turn, has the potential to contribute to labour shortages, particularly in some of the lower paid non-mining service occupations, which further exacerbates service delivery problems and, therefore, quality of life (Gilmore & Duff, 1975; Little, 1977; Wilson, 2004; Tonts, 2010).

Much of the boomtown literature of the 1970s and 1980s emphasised crisis and social dislocation during the initial phases of major projects. The past decade has seen much of this work subjected to considerable critique, suggesting that many were alarmist accounts that overlooked the diversity of experiences across resources communities (Wilkinson et al., 1982; Greider & Krannich, 1985; Brown et al., 1989; Smith et al., 2001). Indeed, a growing number of studies have pointed to considerable heterogeneity amongst towns, arguing that a number of factors shape the patterns of development, including the pre-existing socio-economic and demographic structures of towns, the political economy of the resource itself, the role and behaviour of companies, and regulatory and institutional structures (Nord & Luloff, 1993; Randall & Ironside, 1996; Reeson et al., 2012; Tonts et al., 2012). Thus, planning and policy responses to rapid resource-led growth need to be adapted to local context.

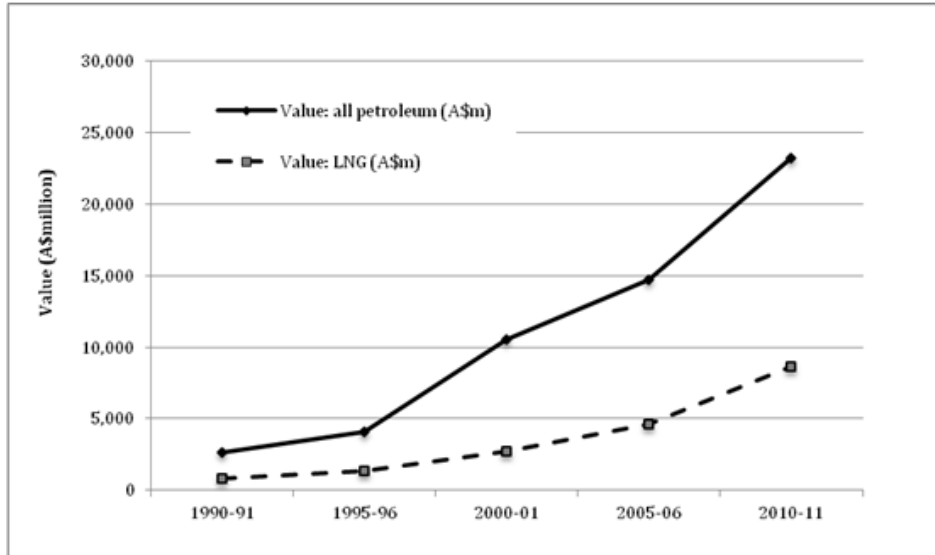
The literature on planning for resource communities has traditionally argued that the focus needs to be on a rapid transition from initial project design and construction to 'maturity' (Halseth, 1999). The central objective was to ensure that towns not only had adequate service and infrastructure provision, but also housing diversity and availability, diversified economies, and a dynamic civil society (Veit, 1978; Gill, 1990; 1991). However, a key ingredient for success is the ability of planners and policy-makers to initiate responses ahead of the scaling up of construction and production. Yet, the evidence suggests that governments are often slow to react to new developments, with policy-making often following a quite different temporal rhythm to the commercial decision-making of mining companies. At its worst this policy lag has the potential to exacerbate the difficulties facing rapidly growing communities, or at the least slow the adjustment and adaptation process.

### **3.0 The Regional and Industry Context**

The past decade has been one of extraordinary economic growth in Western Australia, almost exclusively on the back of minerals and energy resources. The State produced 56 per cent of Australia's A\$188 billion mining and petroleum outputs in 2010-2011 (Department of Mines and Petroleum, 2012b). This represents a 49 per cent increase in value of the State's mineral and petroleum industry in 2009-2010 and a further 39 per cent increase in 2010-2011, with iron ore and liquefied natural gas (LNG) as the two dominant commodities (Department of Mines and Petroleum 2012b). Much of this growth has been driven by the exports from the Pilbara region in the north of Western Australia.

While iron ore currently dominates the Pilbara economy, LNG is an increasingly significant component of the region's economic output. Shipment of LNG from the Pilbara region began in 1989, and by 2011 the value of output had reached A\$9.3 billion (Department of Mines and Petroleum 2012b) (see Figure 1).

*Figure 1: Value of Production of Petroleum Products and LNG in Western Australia, 1990/91-2010/11.*

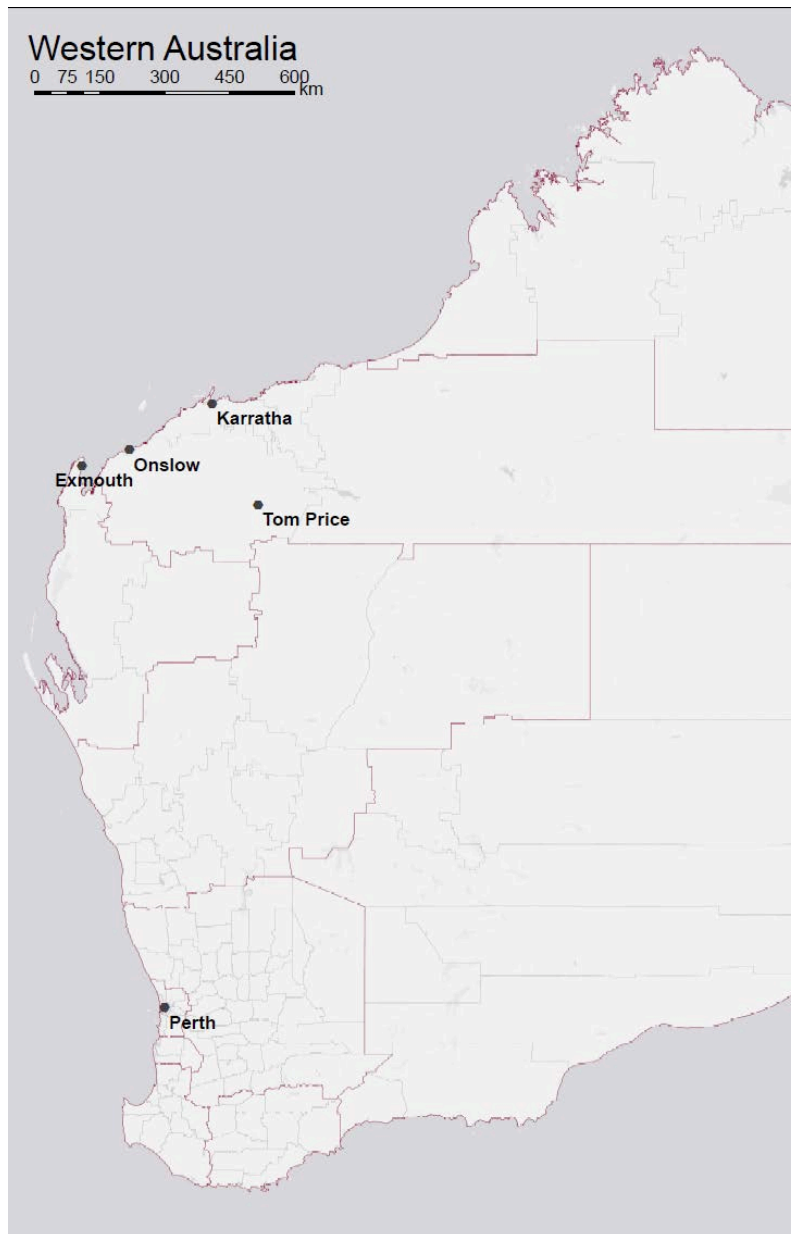


Source: Department of Mines and Petroleum, *Statistics Digest*, various issues.

The majority of LNG gas processing and handling is concentrated around the town of Karratha, which is the largest settlement in the region with a population of 16,500 (Australian Bureau of Statistics, 2012). Recently, new projects have been under consideration that will see processing and handling occur in other parts of the region. One of the most notable of these is Chevron's Wheatstone development. The project is one of Australia's largest energy ventures, costing A\$29 billion and processing 8.9 million tonnes of LNG per annum, with the capacity to expand production to 25 million tonnes per annum (Chevron, 2012). The gas fields for this project are located some 220 kilometres offshore, and gas will be processed onshore, 12 kilometres north of the small town of Onslow (see Figure 2). The construction workforce is estimated to be around 6,500, with the operational employment of about 400 (Chevron, 2012). In addition to Wheatstone, Onslow also hosts the smaller BHP-Billiton led Macedon gas project, which is valued at A\$1.5 billion, and commenced production in September 2013.

The scale of new energy projects near Onslow is discordant with the town's small population. At the 2011 Census, the town's population (based on place of enumeration data) was 1,103, which represents an increase of 308 people (38.7 per cent) on its 2001 population of 795 (see Table 1). Prior to 2001, the population had been largely stable, ranging between 594 in 1981 and peaking at 881 in 1991 (Shire of Ashburton, 2010). Over this period, the economy was dominated by salt mining, some fishing activities, and a modest oil and gas industry. More recent changes to the local economy are reflected in Table 1, with the total labour force increasing from 274 to 460 (Australia Bureau of Statistics, 2012). The strongest growth was recorded in construction, reflecting some of the initial work on Wheatstone, and not surprisingly, mining. The data on retail trade, which remained steady, suggest that the significant benefits from new projects are yet to flow through all sectors of the local economy.

Figure 2: Location of Onslow, Western Australia.



Source: Authors.

#### 4.0 Projections of Change in Onslow

The Wheatstone gas field was discovered in 2004 and in 2008 Chevron announced its intention to develop the field and base an onshore processing plant near Onslow. The engineering and design feasibility studies commenced in 2009, with final environmental approvals for the project being granted in 2011. Initial construction activity commenced at the end of 2011. Thus, the period between Chevron signalling the intent to develop and the commencement of construction was around four years. Over this period, considerable work was done by both government agencies and Chevron on the likely demographic, social and economic implications of this project and what might constitute the necessary responses (e.g., Western Australian Planning Commission, 2011; Pilbara Cities, 2012).

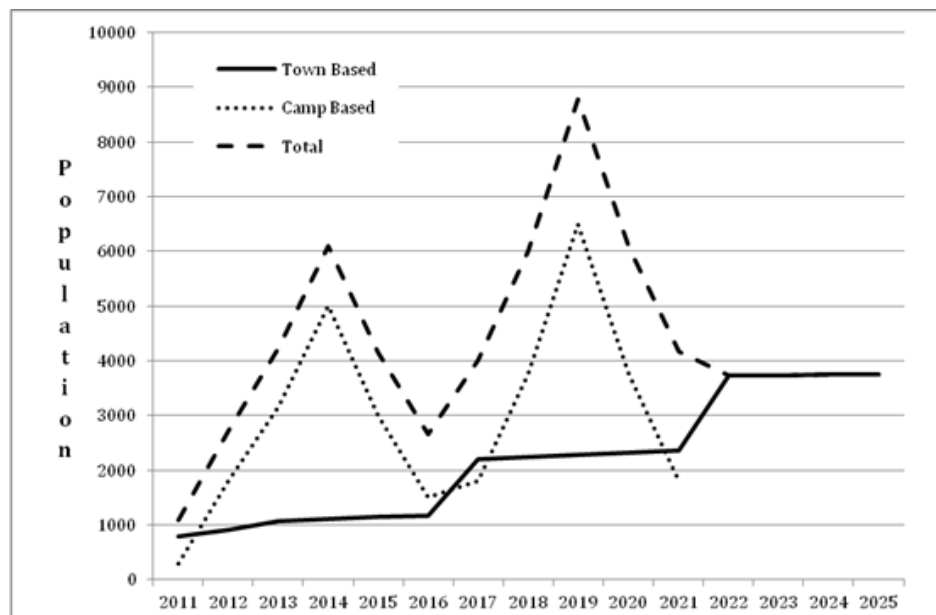
Table 1. *Selected Demographic and Employment Characteristics of Onslow, 2001-2011*

	2001	2011	Absolute Change	Percentage Change
Population	795	1,103	308	38.7
<b><i>Employment in Selected Industry Sectors</i></b>				
Mining	21	79	58	276.2
Manufacturing	9	31	22	550.0
Construction	29	100	71	244.8
Retail Trade	20	17	-3	-15.0
Other	195	233	38	26.2
<b>Total</b>	274	460	186	67.9

Source: Australian Bureau of Statistics, 2012.

Some of the most telling indicators of change are in the demographic projections. Figure 3 shows that between 2011 and 2025, the population living in the town is expected to increase from 796 to around 3,800; a rise of more than 377 per cent (Western Australia Planning Commission, 2011). However, this only presents part of the picture. In addition to the population living in the town, worker camps nearby will accommodate those involved in the construction of the Wheatstone and other resource projects. The number of people housed here will vary between 300 and a peak of 6,500 in 2019, when the second phase of the LNG processing facility will be constructed. The camp is expected to be wound up by the end of 2021.

Figure 3: Population Projections for Onslow, 2011-2025.



Source: Calculated from Western Australian Planning Commission, 2011.

These data point to the complexity facing planners and policymakers in dealing with rapid resource-led growth. They indicate the different phases of development, including construction, operation and expansion (see Halseth, 1999; Tonts, 2010), and the need for both a temporary, out of town workforce and a residential workforce based in Onslow itself. All of this is further complicated by the fly-in/fly-out (FIFO) nature of some of the workforce. Once the gas processing facility becomes operational, it is estimated that the operational workforce will continue to use between 240 and 600 FIFO workers at any given time (Western Australian Planning Commission, 2011).

The rates of projected growth are consistent with those that Little (1977) argued represented a critical threshold in the United States energy boomtowns of the 1970s. Little found that most communities were able to cope with annual population growth rates as high as five per cent while maintaining reasonable levels of service provision, cost of living and social cohesion. Once annual population growth rates exceed about 10 per cent, the ability of the community to provide the same quality and quantity of infrastructure and services was often overwhelmed (Gilmore, 1976; Little, 1977; Bender & Stinson, 1984). Social cohesion and stability were also claimed to become problematic at around this point. Growth rates of more than about 15 per cent per annum were found to trigger institutional breakdown, often leading to services such as education and health care to fall well behind demand (Gilmore, 1976; Bender & Stinson 1984). Moreover, social dysfunction and political tension often became serious problems when annual growth rates were very high.

In anticipating some of these potential impacts, the Western Australian Planning Commission (2011) has considered how projected population change is likely to affect demand for land, housing, basic services (e.g., education, health care, social welfare, etc.), and infrastructure. While some attention has been given by the Planning Commission and other agencies to the implementation of strategies to mitigate impacts, in general efforts have been focused on 'problem identification'. Thus, over the four years that the project has been in the planning and development phase, relatively little has happened 'on the ground' to prepare the community for imminent change. This is despite the considerable lessons that can be learned from other boomtowns in Australia and elsewhere, and notwithstanding the extensive body of 'impact studies' that have been undertaken on Onslow by both the government and companies. Evidence is now emerging that Onslow is beginning to experience some of the symptoms typical of Gilmore's second and third phases of boomtown development during which the community remains unprepared for rapid growth and is characterised by a sense of 'loss of control'.

## **5.0 The Changing Face of Onslow**

In the latter half of 2012, semi-structured interviews were carried out in Onslow with community members perceived to have a vested interest in the long-term wellbeing of the town. Specifically, this included local government officials, local business owners and long-term residents. Residents had mixed feelings about the development, with many recognising the potential benefits, but lamenting the loss of Onslow's 'small town feel'. One local business owner summed up residents' sentiments, saying that "Everyone wants a fancy new town, but they put the camp outside the town because they don't want more people here." From these interviews, it became apparent that there was a sense amongst local residents that the town was on the precipice of a major transformation over which they would have little control. As one participant stated, "It's going to happen, so we should make it happen in the best possible



way.” This issue, also identified by Gilmore (1976), is a consistent theme in boomtown research (Freudenberg & Wilson, 2002; Wilson, 2004; Haslam-McKenzie et al., 2009), and is now given increasing attention by planners, policymakers and companies. For example, the establishment of the Onslow Community Reference Group in 2011, with membership including the local government, Chevron, BHP-Billiton, some contracting firms, community members, and a number of State government agencies was a deliberate effort to encourage sharing of information about the nature of development and community concerns. Moreover, the large companies have established quite extensive community consultation and development procedures that are aimed at ensuring residents do not feel disengaged and powerless.

For Cheshire et. al. (2011), this represents a complex shift in the governance of resource projects, with companies more actively engaging with governments and communities to tackle social and economic issues, and to promote ‘buy in’ from local residents (see also Labonne, 1999). Importantly, Cheshire et al. (2011) also indicate that companies are often left to ‘fill the gaps’ as a result of government inaction, particularly in the areas of service and infrastructure provision. While this is often now wrapped up in a logic of ‘corporate social responsibility’, it nevertheless represents a particular view on how resource towns ought to be both governed and serviced. In Onslow, for example, Chevron alone have committed nearly A\$250 million towards local infrastructure, community facilities and services on the basis that this would be supplemented with funding from other sources (Department of State Development, 2012). Despite this committed investment, many of these projects have not progressed, largely as a result of governments’ inability to respond quickly to the emerging needs. Thus, despite the considerable efforts that have gone into problem identification and anticipation, community engagement, and the provision of company funding, there remains a view amongst residents that the community was “playing catch up” or “behind the eight ball”.

One of the central problems here appears to be the unwillingness of government agencies to commit to the upgrade or provision of new infrastructure and services until the company involved has full regulatory approval and financial surety. This is apparent even to local residents, with one business owner stating “[the government] knew the project was coming, but didn’t do anything until the final investment decision went through.” Thus, while large multinational companies or joint venture projects tend to proceed on the basis that “all will be well” and that regulatory and financial approvals are largely a formality, governments tend to adopt a more cautious approach. Much of this is associated with prudence regarding the use of public funds and, of course, political sensitivities. Moreover, there is a tendency to wait until there is ‘proven demand’ before investing. Thus, there tends to be a temporal mismatch between commercial and public sector decision-making and action. When a company does get final regulatory and financial approval, the development proceeds very rapidly, whereas government agencies operate on a slower timeframe. Local residents also perceived this lag to be due to “the government trying to get everything they can from the company before they’re willing to put their hands in their own pockets.” In the case of Onslow, the impacts of this are now being felt in a number of areas, two of which are considered in more detail here: (i) housing, and (ii) essential services and infrastructure.

### **5.1 Housing**

Numerous Australian and other studies have pointed to the significant problems that confront housing markets in rapid growth resource communities (Haslam-

McKenzie et al., 2009; Lawrie et al., 2011). The very rapid influx of new workers drives up demand for accommodation, leading to sharp increases in prices for both the rent and purchase of housing. Because the release of land and the construction time for housing is often slow, adjustments in housing markets tend to be rather protracted.

There is evidence that in Onslow the cost of housing has risen sharply since the Wheatstone project was announced. According to the Real Estate Institute of Western Australia (REIWA, 2012), in 2008 the median price of a house was just over A\$300,000. By 2012, it had increased to A\$830,000; a rise of more than 176 per cent. Indeed, the median cost of a house in Onslow exceeded that of the Perth metropolitan area (A\$480,000). When compared to other major resource towns in the same region, in 2012 Onslow was more expensive than Karratha (A\$797,000) and Port Hedland (A\$825,000), both of which provide more extensive infrastructure and services. The median cost of rental accommodation has also increased rapidly, rising from A\$450 per week in 2010 to \$2,500 per week in 2012 (REIWA, 2012). The quality of housing in Onslow is also problematic. In a recent study conducted by the local government, it was noted that housing is generally old and in poor condition. The average age of a house is 39 years, with very little new housing construction in the town between 1993 and 2010 (Shire of Ashburton, 2010).

The combination of the availability, cost, and quality of housing is forcing people to use alternative accommodation options. During interviews it was suggested that as a result of rising housing costs the local caravan park is not only home to a growing number of new workers, but also long term residents. In some cases, these appear to be people 'displaced' from the traditional housing market as a result of cost. One participant stated that they were "Choosing to live in the caravan park, and not contribute to the over-priced rents in town." However, even in the caravan park costs are high, with weekly rates for long-term residents at \$400 per site, plus an additional \$35 for electricity. While this is lower than rental costs, it is still higher than other caravan parks in the north west of the State. A survey of other caravan parks throughout the Kimberley and Pilbara found rates for long-term residents ranging from \$130 per week in Kununurra to \$273 per week in Broome.

A number of interviewees indicated that the cost of both the caravan park and more traditional housing markets were too expensive for some workers. This has created difficulties for some business owners in the non-resource sectors where wages are typically low and constrained by the nature of the enterprise. A number of innovative responses were reported as a means of retaining employees, including setting up caravans in back yards to accommodate workers and thereby avoid paying the high wages necessary to cover the cost of housing. In another case, three large tourist boats from the Great Barrier Reef are moored at the town with beds for some 100 or so workers.

While the spike in housing costs is essentially the result of supply and demand issues, residents repeatedly pointed to the role of government inaction in leading to the local housing 'bubble'. Most pointed to the role of the State government's land development agency Landcorp, which is responsible for the subdivision and release of publically owned land. The general sentiment was that the Landcorp was too slow to release developable land, which then delayed housing construction and contributed to the inability of the local housing market to meet demand. However, it is clear that Landcorp has a serious dilemma here. If they release large areas of land prior to the project being approved they could over-supply the market and contribute to a crash in local property prices. Should the project not proceed, then the longer term implications of excessive supply could

be quite considerable for existing landowners in the town. In contrast, by delaying the release of land they can contribute to the sorts of supply constraints that are now affecting Onslow. While these may be resolved over time as Landcorp releases land and new housing eventually comes on stream, the short term impacts are severe. One potential solution here is for Landcorp to subdivide land and prepare it for sale through the provision of power, water, etc. to the sites but not release blocks onto the market. In anticipation of a project being approved, optional purchase arrangements may be put in place with potential buyers. As it stands, Onslow is struggling with such a severe housing bubble, leading one resident and landowner to comment that at least now "People can afford to leave before the town is ruined."

## **5.2 Essential Services and Infrastructure**

The growth of population is now showing signs of placing significant strain on essential services, particularly healthcare. The local hospital has not seen any significant improvement or expansion since opening in 1965. Although it is still in use, it is no longer fit to serve its purpose (Western Australian Planning Commission, 2011). Major redevelopment has been planned through the *Western Australia Clinical Services Framework 2010-2020* (Department of Health, 2010), yet, surprisingly, this plan did not account for the population influx associated with the major resource projects. This is despite the fact that the study was conducted after Chevron had announced its intention to develop Wheatstone and the extensive body of impact studies that were being prepared as the health plan was developed. As a result, the plan has not been put into practice and will need to be reviewed, delaying the implementation of upgrades and expansion. As part of an agreement with the State government, Chevron has committed to donating funds to the re-development of the hospital, but this has not yet resulted in any material differences in health care service provision.

Other significant regional planning problems associated with rapid growth relate to basic infrastructure. A problem reported repeatedly during interviews was the unreliability of the local electricity supply. Residents mentioned how power outages had noticeably increased since construction on the major gas projects commenced. This affects not only local home life, but also businesses, as it leaves many temporarily unable to operate. A report prepared by the Western Australian Planning Commission (2011) validated these accounts, identifying power supply as one of the biggest areas of need in the community. Not only does the declining quality of service add to community dissatisfaction among residents, but also contributes to the cost of living problem as the inability to provide new developments with reliable power is one of the factors hindering the release of new lots in the Onslow townsite (Western Australian Planning Commission, 2011).

There are plans to improve power generation for the community and industrial sites. Chevron intends to provide its own power for the camps and facilities, and will contribute to the construction of a new power station in the community (Department of State Development, 2012). Despite this funding being available, and notwithstanding the known lead-time for the new projects, a power planning study was only carried out in early 2012. The utility infrastructure upgrades for the community are planned to commence in 2015, meaning that residents will have to continue with the current supply until that time.

## **6.0 Regional Policy and Planning Responses**

The two examples of housing and essential services and infrastructure help to illustrate the nature of the challenges facing Onslow. In many respects, the trends

reported here are not unique. They are familiar to many rapid growth resource towns and have often been reported in the literature (e.g., Gilmore, 1976; Brown et al., 1989; Haslam-McKenzie, 2009). Perhaps what is surprising though is that the lessons of these previous experiences have not been learned, and policy and planning systems still seem unable to cope with rapid development. The most significant gains seem to have been made in the area of impact assessment and problem identification (e.g., Western Australian Planning Commission, 2011; Department of State Development, 2012). While 2012 saw the release of the *Onslow Expansion Plan* (Pilbara Cities, 2012), detailing how some of the local strategic planning needs would be addressed, this comes on the cusp of the first phase of construction – nearly four years after Chevron signalled its intent to develop.

Under the formal State Development Agreement to establish the project, Chevron's commitment to provide financial support for community and infrastructure development ought to have contributed to a more rapid response to the future growth challenges. The fact that construction of the plant is underway and many of these community infrastructure projects have yet to begin points to the temporal mismatch between commercial decision-making and government action. Traditionally, this mismatch is attributed to the availability and use of public funding. But is this actually the case in Onslow, and contemporary Western Australia more generally?

One policy that has greatly emphasized the integration of increased economic activity and investment into communities is the 2008 *Royalties for Regions Act*. In essence, this policy is about countering the concentration of capital generated by resource industries in Perth through spatial redistribution (McLure, 2008; Tonts et al., 2013). The State government has committed to re-invest 25 per cent of the income from mining royalties (over and above current public funding) in non-metropolitan areas (Department of Regional Development and Lands, 2012). The scheme explicitly takes the financial benefits of increased resource related activity and invests it to meet the communities' service, infrastructure and other needs. The amount of funding directed into non-metropolitan areas from the scheme is substantial. In the 2011/12 financial year, nearly A\$1.5 billion was allocated, of which A\$422 million was for 'cross regional' projects, while the remainder went to individual regions (Government of Western Australia, 2012). For Onslow this includes a A\$10 million investment in a community development fund to cover key infrastructure and service upgrades.

Thus, despite the financial resources available to Onslow through both government and industry initiatives, the needs of the community are still outpacing the implementation of new infrastructure and services. While multiple schemes, goals and initiatives do provide some direction and aim for local development, interviews conducted locally suggest that it can also hinder the efficiency of meeting the immediate needs within the community. Perhaps most evident in the case of Onslow is that both overlapping and disjointed distribution of responsibilities between interdependent government organizations and agencies limits the efficiency and efficacy of meeting the objectives set out.

It is, of course, easy to take aim at government agencies for the slow delivery of services and infrastructure in rapid growth communities. The reality is that the provision of social, economic and cultural services and infrastructure is complex, and often hindered by governmental agency structures, project complexity, competing demands and priorities, and remoteness. One suggestion that appears to have some merit is the notion of implementing a 'development authority' similar to those used in Western Australian urban redevelopment projects. These statutory bodies have responsibilities cutting across portfolios in

order to ensure projects move quickly and in an integrated way. In remote resource towns, this approach has the potential to manage the entire development/expansion phase, cutting across portfolios such as planning, land administration, regional development, environment, and even some of the essential service providers. Similar moves have already been made further north in the larger resource towns of Port Hedland and Karratha. Here, the Pilbara Cities office is charged with providing cross-agency direction to development with the aim of increasing the population and enhancing liveability (Pilbara Cities, 2012). When coupled with the emerging governance arrangements that incorporate mining companies (see Cheshire, 2010; Cheshire et al., 2011), such a structure may offer a means of helping towns transition quickly from the project inception stage to the maturity stage described by Gill (1990; 1991) and help avoid Gilmore's (1976) colourful description of 'near panic' during the development phase.

## 7.0 Conclusions

In many respects, Onslow is typical of the challenges facing rapidly growing resource communities. It is a small, remote community being drawn rapidly into global circuits of capital through enormous investment in new resources projects, and finds itself struggling to cope with the implications of this. It is clear, however, that policymakers and planners have much better insights into the implications of rapid growth than might have been the case in the past. Indeed, there is now a detailed body of work on the impacts of development, ranging across population growth, land release, housing, infrastructure, and service provision. There is also a closer relationship between companies, government and community than has often been the case, with Chevron investing considerably in community assets as well as in the project itself. Yet, despite the advances made on these fronts, we again find a community that is rapidly being overwhelmed by the speed of development, largely as a result of government investment being unable to keep pace with the development of the resource project. For residents of Onslow this is having a material impact on their quality of life. While it is evident that towns do eventually adjust and adapt following rapid growth (e.g., Smith et al., 2001; Rolfe et al., 2007; Tonts et al., 2012), there remains a pressing need for planning and policy responses that better deal with the immediate start up and developmental phases of new projects.

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