

Chapter 15 Fly-in fly-out: the challenges of transient populations in rural landscapes

Fiona Haslam McKenzie, Curtin University of Technology

Abstract

Australia has experienced a prolonged economic boom and Western Australia in particular has benefited from the growing Indian and Chinese economies and their demand for mineral resources. The renewed mining fervour in Western Australia has had far reaching impacts in rural regions. Some communities are overwhelmed by a new population connected with mining, bringing with it a range of social and economic stresses and strains that small communities, in particular, are struggling to cope with. In other communities, particularly those in remote areas where housing and infrastructure are not able to meet the demands of burgeoning industry, fly-in fly-out (FIFO) labour forces increasingly underpin a wide variety of industry sectors. The scale of the FIFO work force is not easy to ascertain as the Australian Census does not specifically capture this information and the fluidity of the workforce makes it difficult for local authorities to calculate the working population and its demands. With such peripatetic populations, regional authorities struggle to maintain a sense of community and infrastructure without a rate-paying resident population, while local resources are stretched and often unable to cope with the increased FIFO population using them. This Chapter will discuss the population changes that are occurring in rural, regional and remote Western Australia and the opportunities and challenges these changes present.

15.1 Introduction

The Western Australian economy has experienced phenomenal growth on the back of unprecedented demand for resources by the developing Chinese and Indian economies. The Australian mining and energy sector has been important to the Australian economy since colonial times and has been particularly important for the development of the Western Australian economy since the 1960s. Gold and tin discoveries were responsible for significant Western Australian colonial regional economic development with many towns and communities established around mining activity. By the end of the twentieth century, Western Australia was one of the most productive and diversified mineral regions in the world with about 50 different minerals in commercial production (Storey 2001). Since the 1970s, mining has consolidated its position as the major generator of export income for Western Australia, currently comprising approximately 70% of total ex-

ports revenue (Department of Local Government and Regional Development 2007a, Department of Treasury and Finance 2009).

The majority of mining activities are significant distances from the State's capital city, Perth. Figure 15.1 shows the population distribution of Western Australia and the major mineral and petroleum activity centres in the State. This figure shows that most mining activity occurs long distances from established communities.

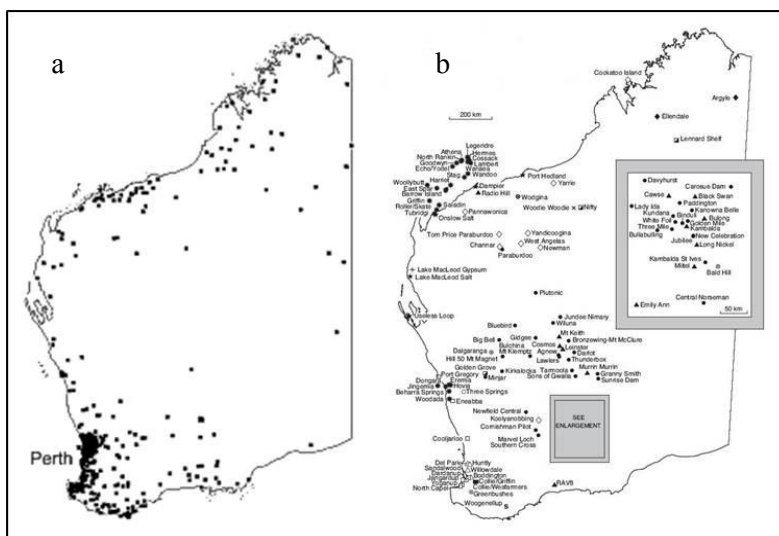


Fig. 15.1 (a) Population densities in Western Australian. (b) Location of active resource developments. Source: Australian Bureau of Statistics (a) and Western Australian Department of Mines and Petroleum (b). (Reproduced with permission)

As noted by Maxwell (2001b), the geographical dispersion of new mineral discoveries has been widespread with major mining activity occurring in the far northern regions of the Pilbara and Kimberley, the Goldfields-Esperance region in the south and east, increasing exploration and mining operations in the Central Midwest regions and moderate mining activity in the South West of Western Australia (Fig. 15.2).

REGIONAL DEVELOPMENT REGIONS OF WESTERN AUSTRALIA



Fig 15.2 Western Australian regional development regions Reproduced with permission from Landgate, Government of Western Australia

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Until very recently, mining was not a dominant industry in the Midwest and South West regions where agricultural production has always predominated. However, with increased returns from mining and diminishing profit margins from agriculture, traditional agricultural communities have been challenged by land-use changes which, as will be discussed further in this Chapter, have confronted long-term residents and the governance structures of some communities as mining has overtaken agriculture. Equally diverse is the range of minerals and resources being mined in large quantities, including gold and iron ore, lead, nickel, diamonds, oil and gas.

Since the 1970s, the Western Australian economy has traditionally had a strong and growing minerals sector, solid property and business services, construction and manufacturing sectors, and an ongoing dependence on agricultural production. Until the global downturn in late 2008, the mining and energy sector had experienced sustained growth since 2003 and as a result Western Australia, the nation's most productive and diversified mineral region, experienced boom economic conditions. According to the Australian Bureau of Statistics (2007b, 2007d, 2008c) the Western Australian economy has doubled in size over the past sixteen years, with Gross State Product (GSP) in chain volume terms rising 107% between 1990 and 2006. The contribution of mining to GSP has doubled (15% to 30%) to \$53.4 billion (Au) in production value, while the sectors of property and business services (9% to 11%) and construction (8%) have remained fairly steady contributors.

The heightened economic activity in the State has impacted on Western Australia's population and local communities (Australian Bureau of Statistics 2007a, Australian Bureau of Statistics 2008a). There have been changes to patterns of migration and internal mobility, (the rate of interstate immigration is currently higher than it has been for more than one hundred years (Australian Bureau of Statistics 2008a)), as well as family and household composition. For the year to March 2008, Western Australia experienced the highest population growth in the nation; 2.6% which equates to 48,600 people in a one-year period compared a national growth rate of 1.6%. The majority of the State's population (74%) resides in the capital city, Perth, and the substantial population increases in recent years have created challenges for State and local governments in the areas of planning, service delivery and infrastructure needs. With the resources boom, not surprisingly, the Western Australian unemployment rate dropped and there has been a high demand for labour at all skill and experience levels. The Australian Bureau of Statistics (2007d: 3) reports that "many of the new jobs created by the resources boom are full-time, male positions, in regional mining areas and Perth". While the mining industry has been at the forefront of the resources boom and has seen job creation soar, most of the new positions created have been Perth based as administrative and fly-in fly-out (FIFO) positions have increased. Over the decade 1996 to 2006, direct employment in the mining industry grew 105% in Perth, but only 29% in regional Western Australia (Australian Bureau of Statistics 2007d).

This Chapter will examine the impact of long distance work commuting and FIFO workstyles on Western Australian regional economies and the social fabric of non-metropolitan communities in particular. Until now, this type of demographic change and its effect, particularly on small communities such as rural areas, has been overlooked. The impact has been no less marked than other types of demographic change in rural places such as counter-urbanisation and population decline, but as explained in this Chapter, the changes bring a different set of challenges to those encountered before. The next section will describe the nature of FIFO work followed by a discussion of the economic and social drivers for its proliferation in Western Australia. Inevitably, such fundamental changes to the way people live and work will present both opportunities and challenges to individuals, their families and to local communities. These changes have been particularly significant in small rural communities with small populations. The provision of infrastructure and the management of people and resources in frenetic economic boom conditions have tested policy makers and local governance structures. These challenges will be discussed and the inevitable opportunities that arise from such circumstances will also be considered.

15.2 Fly-in Fly-out and Long Distance Work Commuters

Fly-in fly-out (FIFO) work practices developed “in the Gulf of Mexico’s offshore oil sector where the establishment of permanent communities was not possible”, according to Storey (2001: 135). The practice has been widely adopted throughout the world, particularly in mining areas which are fairly remote such as the Scottish and Norwegian oil fields, the Canadian mineral sands region, Africa and remote and regional areas of Australia. Price (2008b: 5) defines the FIFO workstyle as “encompassing all those who travel to work, stay a pre-determined number of days (‘roster’) then return to a home location for a set break time”. Storey (2001) adds that FIFO is also referred to as Long Distance Commuting (LDC) and that the commute distance often varies and is not necessarily restricted to flying, but can also be vehicle based, or in some cases, vessel based. Critically, work commuters live separately from their home communities while at work and are usually separate from their family and friends unless they too work in the same location. The employer provides food and accommodation close to the mine site and the work rosters are usually compressed work weeks (where workers work longer shifts, compressing their standard work week into fewer days, enabling them to have more leisure time off). Accommodation and site facilities have seen a dramatic improvement over the last 10 years with the focus now on comfort and amenity to enhance physical and emotional wellbeing of workers. Standard facilities on site include en suite rooms, extensive recreation amenities, landscaping and high quality and healthy food offerings (Chamber of Minerals and Energy of W.A. 2008). In addition, wet and dry messes are common, thus making socializing and general living standards as amenable as possible in a work environment.

By the 1980s, FIFO and compressed work rosters were well-established in Western Australia although not the norm. A 1991 survey (Department of Mines

1991 cited in Storey, 2001) established that there were 26 commute-based mine sites in the State, employing approximately 7,000 employees. The majority of FIFO mining industry employees were accommodated in established or purpose built mining towns and communities. By 2007, about 45% of the Western Australian directly employed mining workforce (28,000 employees) were FIFO workers (Parker 2008). In Western Australia, Perth is the major FIFO exit hub with about 2,000 regional flights departing Perth Airport every month and as the resource boom ramped up, there were flights from regional centres including Geraldton, Busselton, Broome, Bunbury and Albany and other capital cities, Sydney, Melbourne and Brisbane direct to mining towns (Fig. 15.3). In addition, but to a lesser extent, FIFO workers commute from some centrally based regional centres in a mining area (such as Port Hedland or Karratha in the Pilbara region), and fly to remote mining camps further out. During 2006 and 2007, aviation within the State of Western Australia increased by 47% (Chamber of Minerals and Energy of W.A. 2008).



Source: Westralia Airports Corporation, 2009, reproduced with permission.

Figure 15.3: FIFO flight paths

Importantly, FIFO workstyles are not limited to the mining and resource industries. As the Western Australian resources boom developed in scale, and labour with particular skills or experience in a variety of trades and professions became

more and more difficult to secure in fulltime positions, FIFO became increasingly common in a variety of areas including the construction, home maintenance trades, medical, ancillary and management sectors.

Economic Reasons for FIFO

Until the 1970s, mining companies had considerable involvement in mining communities when entire towns were built and maintained by companies. For a variety of economic reasons, company towns have either disappeared as the resource has run out (towns such as Goldsworthy and Mt Whaleback no longer exist in Western Australia), or been 'normalised', meaning they are no longer 'company towns' and there are no restrictions on who lives there, with the local government taking over governance. In the traditional mining town, the company was usually the main provider of infrastructure, including housing, roads and community facilities. This is still the case in some remote communities (for example, Weipa, Jabiru and Roxby Downs elsewhere in Australia, and some Pilbara communities such as Pannawonica in Western Australia), but the traditional 'closed' mining town is largely a thing of the past in Australia. Companies are no longer willing to construct entire purpose-built towns, because experience has shown that they are expensive to build and maintain and even more expensive to decommission. In addition, the philosophies of neo-liberalism and free market mechanisms have guided the governments since the late-1970s, with a central aim being the efficient allocation of resources, including government services and infrastructure. Government investment in small towns and communities has consequently been significantly curtailed with almost no government financial support for new town development (Storey 2001). The exceptions to this rule are the communities of Ravensthorpe and Hopetoun on the southern coast of Western Australia, which will be discussed in more detail later in this Chapter. State governments have been reluctant to invest in resource towns and mine camps, presuming that to do so, is to meet the needs of an industry sector that can, seemingly, afford to provide its own resources including housing. Arguing that they are paying substantial royalties to government, companies publicly resist calls to provide infrastructure and services that they see as being the responsibility of government or other sectors of society. Essentially then, a company will now only establish a residentially based operation where there is already a pre-existing community nearby with at least basic services, and the location is considered 'liveable', a notion that will be discussed more fully later in this Chapter. FIFO is the preferred means of managing the construction phase of projects because of the scale and temporary nature of the workforce and the difficulty of sourcing skilled construction workers locally, especially in remote communities.

In the current economic environment, there is a willingness to develop mineral deposits with a shorter mine life, but the short life of the mine makes it difficult to justify the capital outlays required to build anything more than a temporary mine camp (Storey and Shrimpton 1991). In addition, the regulatory environmental and

planning requirements for a new townsite are extremely expensive and frustratingly time consuming.

There are considerable costs associated with fringe benefits tax (FBT), a Commonwealth tax introduced in 1986, which is levied on non-salary type benefits provided to employees such as low-cost on-site accommodation, subsidised power and other similar incentives. Further, the tax, paid by the employer, not the employee, is only applied to 'permanent' residents at a mine site, not commuting employees. Now with FBT, new development prospects with shorter mine lives in remote locations means that it makes even less financial sense to invest in permanent infrastructure. The relative efficiencies, flexibility and low costs of air travel and enhanced communications make FIFO a more attractive business option. In effect, as noted by Houghton (1993: 282), "large scale capital outlays on urban infrastructure are replaced by transport costs" which are distributed across the life and productivity levels of the project.

As identified earlier, the resources boom sparked an overall labour shortage and the demand for labour with specific resource industry skills is not restricted to Australia; it is a global shortage (Lowry et al. 2006, Penney and Copeland 2008). Price (2008b) has also suggested that the growth in FIFO may be partly attributable to an overall trend in changing workstyles; away from the standard office-based 9 to 5 job to more casualised work arrangements. This trend coincides with a significant decrease in union representation and a shift, during the Howard Liberal Party governments, to individualised employee work agreements, thus enabling employers and employees optimum flexibility (Heiler and Pickersgill 2001). There are significant productivity benefits for the companies too. The Western Australian Chamber of Minerals and Energy (2007) reported that about 80% of the industry utilised twelve hour shifts in 2006 and about 48% of the resource workforce work 84 hours or more per week. Certainly, long distance commuting is a viable operating system and there is a large workforce for whom FIFO is an acceptable work practice.

A further reason for the proliferation of FIFO work arrangements is the relatively cheap and flexible transport options provided by airlines and air charter companies (Storey 2001). As demand has escalated for FIFO work arrangements, there have been increased air travel efficiencies from economies of scale and some of these efficiencies and airline operations are extended to the broader community.

15.3 Social Reasons for FIFO

As discussed earlier, the growth in the FIFO workstyle has been exponential over the last decade. While for some mine sites there is no option but a FIFO work arrangement, not all Western Australian mine sites are isolated from a town (albeit some are very small settlements), but when given the choice, a large proportion of employees choose the FIFO option over the residential. The reasons for this are numerous.

Over the past two decades, in line with neoliberal public policy principles, Australian Commonwealth and State government policies have centralised and re-

gionalised many services and remote communities and discouraged the dependence of individuals and communities on State support. There has been minimal government investment in critical components of social and economic infrastructure such as hospitals, schools, roads, railways, ports, and essential service utilities and this has been particularly evident in small and remote communities (Tonts and Haslam McKenzie 2005). Consequently, employees and their families are less keen to relocate to remote locations where meaningful jobs for both adult partners and comprehensive health, education and child care facilities are not available (Pattenden 2005, Price 2008a, Haslam McKenzie et al. 2009). Increasingly, resource and mining industry workers choose FIFO commute arrangements and their families locate where the infrastructure and services are better supported.

Further, as the resources boom increased in scale, demand for housing and accommodation intensified and was exacerbated by a shortage of available land suitable for housing driving house and land prices to unprecedented levels (Australian Bureau of Statistics 2008b). In addition, housing in many mining communities, especially that which was purpose built in the 1970s, is ageing and very dated in design. Since the 1970s and early 1980s, there has been limited subsequent capital expenditure by mining companies on their housing stock; generally only care and maintenance has been expended. The problem of affordability has been a function of strong demand and limited supply, aggravated by planning and bureaucratic decision-making delays (Haslam McKenzie et al. 2009). The lack of affordable accommodation for those on low to middle incomes meant that this sector of the labour force was usually squeezed out and the public and private sectors struggled to attract and retain staff. Consequently, essential and ancillary services suffered. The Census (Australian Bureau of Statistics 2007c) also shows that in those rural, regional and remote communities where housing prices have rivalled capital city prices such as is the case in the Pilbara, there is a dearth of people past retirement age because the cost of living is prohibitive without a high paying income. Long standing residents leave, taking with them considerable commitment to community (Senate Select Committee on Housing Affordability in Australia 2008), and the gap is often filled by FIFO workers. Turnover of FIFO staff is highly variable (Beach et al. 2003) and the high rate of labour force churn is linked, in part, to the strength of the local economy and labour shortages, resulting in competition for labour amongst minesites/companies (Tonts 2009). Because of their compressed work schedules and where they live while on site, many FIFO workers do not develop a sense of place and have limited sense of connection to the mining community. The liveability of the affected communities is compromised as people move elsewhere where they have access to more affordable housing and a wider array of services. Since housing has such a significant impact on the distribution of wealth, housing characteristics and tenure types also affect the welfare of occupants (Haslam McKenzie et al. 2009). New development is stymied by the lack of a locally resident workforce and insufficient accommodation for construction and other workers from outside the community (Johnson 2009). Cumulatively, the increased costs, particularly in communities where there is

heightened mining activity, has caused the cost of living to escalate (Department of Local Government and Regional Development 2007b). The Regional Prices Index (Department of Local Government and Regional Development 2007b) has clearly shown that the cost of living in the Pilbara region is the highest in the State and far exceeds that of the capital city, Perth (by 120%). While there are housing, general affordability and infrastructure issues in the mining and surrounding towns which are not being addressed, the potential to facilitate long term economic diversification is limited and thus, the opportunity to commute long distances from established, better resourced communities to mine sites is appealing.

Twelve hour shifts in the mining and resources industries are the norm and there is almost no time for leisure when workers are on site. Long travelling times to work and domestic obligations eat into recovery time. FIFO arrangements are no less intense, but workers stay in employer-provided or subsidised accommodation with close proximity to the mine site with meals and recreational services provided. The concentrated work schedules on extended shifts puts considerable physical and mental strain on workers and the furlough (or scheduled time off) is important recovery time.

Finally, due to the intensity of the boom and the general shortage of skilled labour, salaries and wages in the mining and resource industries are generous. FIFO work and living arrangements mean that employees have minimal living costs and the opportunity to save. From a regional economic development perspective, the “marginal propensity to consume within the region” (Maxwell 2001b: 9) means that there are considerable income leakages (Johnson 2009) which will be dealt with in the next section.

FIFO workers based in rural areas choose to take the work for a variety of reasons. A common reason is that mining sector wages are much higher than rural-based work, but a permanent move away from the rural community is usually not countenanced. FIFO is viewed as a compromise; ‘home’ is still in the rural community, but work is where the money is, and over the last five years that has, increasingly, been in the mining sector, often located far away from rural areas.

15.4 Impacts of an increased FIFO workforce

The mining and resource industries’ increasing reliance on FIFO is controversial, particularly in Western Australia, where one politician described it as ‘the cancer of the bush’ (Bowler 2003), inferring that it destroyed the functionality of communities. A major criticism is that as more mining employees choose FIFO over residential options, the populations of the towns diminish, reducing local area impacts (Maxwell 2001a) and potentially compromising government support and threatening community sustainability (Maxwell 2001b, Storey 2001). In addition, there is evidence that FIFO results in rural regions missing out on the economic benefits of mining: the so-called ‘fly-over’ effect (Houghton 1993, Maxwell 2001b, Storey 2001). Few, if any, mining companies source large scale supplies in the region, or have local procurement policies of any kind. Even where companies have a local procurement policy, many regional economies simply do not

have the capacity or a sufficiently diversified economy to supply large scale mining operations, except for minor supply goods. All resource companies have head offices outside of the region and the skilled workforce is usually recruited elsewhere so there is minimum investment by the large companies locally (Storey 2001). So, while support businesses perform services in the region, payment is made to an office elsewhere such as in the Perth Metropolitan Area with the commensurate flow-on benefits. The Pilbara region for example is often described as a 'hollow economy' meaning that while there is significant economic activity in the region, these funds, most particularly when there is a high proportion of FIFO workers, tend to flow out of the region either immediately or shortly after they are incurred (Acil Tasman 2006) through FIFO salary and wages. In fact, backward or upstream linkages associated with the supply of inputs to resource extraction companies has nothing to do with FIFO work arrangements and everything to do with government, corporate and commercial decisions (Freudenburg and Frickel 1994, Pick et al. 2008), which in many cases have overlooked the regional and local opportunity costs. That noted, the 'hollow economy' syndrome has tended to occur at the micro level. The savings and investment pattern of residents and workers of the Pilbara region show that many have investments outside of the region (Johnson 2009). Acil Tasman (2006: 56) found there was a 'save to leave' trend in the Pilbara where people either saved funds in order to leave the region or invested funds outside of the region in anticipation of their departure. Inevitably, wages paid to FIFO workers living elsewhere flow outside of the region and thus, local investment and micro-economic benefits in the *host* community are compromised at the local level.

A number of studies (Houghton 1993, Secretariat for the Standing Committee on Regional Development 2004, Watts 2004, Chamber of Minerals and Energy Western Australia 2005, Gallegos 2005) have been undertaken to assess the impact of FIFO on personal and community wellbeing. Undoubtedly there is a range of personal and corporate advantages (see next section) associated with FIFO, but there are also some disadvantages depending upon the situation, the people involved and the interconnected relationships across a range of communities. As noted by Sibbel et al. (2006), the personal impacts of FIFO work arrangements are dependent on company policies and practices and the individual's coping and support mechanisms. Inevitably, when examining the impact of FIFO, more than one community will be impacted and at least two - the community where the FIFO worker lives when he or she is not working, (the *resident* community), and the *host* community, the community where that person works (Houghton 1993).

FIFO workers have varying rosters meaning that the time back in the home community will vary with each worker. There is evidence to show that the absence of workers from a small community, such as rural communities, does have drawbacks (Tonts et al. 2008). Small rural and remote communities struggle to retain a viable population that will underpin the local businesses, community organisations including sporting teams, volunteer and service organisations, and services such as fire and ambulance officers, sporting coaches and administrators when

their most able bodied residents, usually young men (Tonts 2009 (forthcoming)), are away from the community for large periods of time. The rural community of Ravensthorpe was transformed from a broadacre agricultural economy to one dominated by mining after BHP Billiton announced plans to open a large nickel mine in 2002. Not only did the local population more than double with both resident miners and FIFO workers, but employment for local residents also changed as people were lured to high paying jobs associated with the mine. The local farmers struggled to hire labour for shearing teams and the problem became so acute that some farmers reduced their flocks or focused exclusively on cropping. This scenario changed very quickly when the mine ceased operation as discussed later, but by then, local employment patterns and services had changed considerably. Maintaining a stable population base and retaining staff in these communities is a paramount concern. As noted by Tonts (2009 (forthcoming)), 'recent evidence suggests that the chronic shortage of labour in both the mining industry and the wider Western Australian (and national) economy has contributed to growing levels of intra- and inter-spatial competition for workers' (Bureau of Transport and Regional Economics 2006, Minerals Council of Australia (with Chamber of Minerals and Energy) 2006, State Training Board 2007). Inevitably, shifts in activity patterns in one community will affect the economic, environmental and social performance of another (Zandvliet et al. 2008). Attracting the most able cohorts of the population away to FIFO or drive-in/drive-out (DIDO) jobs in the resource industries and communities has the potential to undermine local productivity, profitability and/or the quality of service delivery. Inevitably, there are impacts on the social networks of the town and community (Storey and Jones 2003). It also has the potential to constrain local and regional economic growth which, in the long run, can leave areas lagging the rest of the State or nation on a range of social and economic indicators (Tonts et al. 2008).

FIFO workers returning to the resident community with inflated pay packets and increased spending money can also have detrimental impacts when the money is spent on alcohol and drugs or sets up resentment and conflict with those in the community who do not have the same spending capacity (Lambert 2001).

The impact of FIFO on relationships and families is well documented and there is a substantial body of evidence that FIFO can have a disruptive impact on personal and family arrangements, which some people and families manage better than others (Sibbel 2001, Secretariat for the Standing Committee on Regional Development 2004, Watts 2004, Gallegos 2005). FIFO workers have varying rosters meaning that the time back in the home community will vary with each worker. FIFO arrangements are intense - blocks of work time followed by blocks of time with family and/or friends. The family left at home continue their normal lifestyle patterns often at some disadvantage due to an adult being absent. The FIFO worker can often experience loneliness, homesickness and a sense that they are 'missing out'. The incidence of relationship and family break-ups for FIFO families is higher than for the average population which has social and economic costs for the community and the individuals concerned (Beach 1999). While a family

break-up is a deeply personal issue, when it occurs to a family in a rural environment, very rarely do the family members stay in the rural community. They move away to access family and government agency support, thus having a detrimental impact on the broader rural community and its demographic profile. Many companies are cognisant of ripple effects of family breakdown and provide employee assistance programs with counselling services available to employees and their families to limit employee turnover and family breakdown (Chamber of Minerals and Energy of W.A. 2008).

Another significant concern, especially for local government and local Chambers of Commerce, is the use of services and infrastructure by FIFO workers. FIFO employees do not contribute directly to local government rates and thus local infrastructure. The reason for this, as identified by the Australian Bureau of Statistics (2008a), is that FIFO workers usually report their 'usual' address as their home address (where their partner and children live), but not the 'actual' or usual place of residence where they have or intend to spend six months or more, as required on the Census form. Therefore, some of these employees may not be counted according to their usual place of residence due to the respondent not interpreting the question correctly. This has significant implications for local government and the distribution of Commonwealth grants and means that local governments with mining and high FIFO activity are providing infrastructure and services for which they are not given resources commensurate with the resident population. *Host communities*, and certainly those in small rural communities, generally believe that FIFO workers do not contribute to local community organisations, participate in community building activities such as sporting groups or volunteering, and take from the community with minimum return.

Further, particularly in the southern half of the State, land uses in most of the communities have been dominated by agricultural activities until the recent opening of large scale mines. Small towns with relatively stable populations, such as Boddington in the Peel region and Ravensthorpe and Hopetoun on the South Coast, have felt the impact of a large number of 'strangers' moving into the town *en masse*. As noted by Zandvliet, Bertolini and Djist (2008: 1469) "the social homogeneity among residential populations is greater than the heterogeneity among mobile populations" and local residents in these communities have found the transient population challenging because many of the newcomers do not value the town and community the same way as the long-term residents. This has put unplanned and unresourced pressure on the community leaders, most particularly the local government authority required to manage community development. Some residents valued the economic opportunities a new mine and FIFO workforce represented, but others put a higher value on other less tangible things such as knowing everyone when they go shopping or not having to queue at the bank. One of the arguments posed against FIFO workers is that they essentially 'sit outside' the residential community and do not positively contribute to the functioning of the town.

15.5 Opportunities derived from workforce mobility

At the same time, FIFO has advantages for many individuals and their families who would rather not live in remote mining communities. The choice of where to live is often critical in the decision to accept a job and the option of FIFO plays a role in attracting employees (Chamber of Minerals and Energy of W.A. 2008, Tonts 2009 (forthcoming)). Usually, the employment options for the 'trailing spouse' in remote communities are very limited: an important consideration given the shift to dual career families. The higher quality education resources in the larger population centres are another major reason why families often prefer to live in these centres. This is a particularly important consideration once children reach secondary school age. Other attributes which make living elsewhere more attractive include the greater diversity of employment opportunities available for young people once they finish school, more recreational and social activities, connections to other family members, and the ability to have a social life that is disconnected from the workplace. Further, if the trend was to reverse and there were more employees demanding residential jobs then the impost on the public purse for expensive public investment, such as educational and medical facilities, would be huge and unlikely to be met, at least in the short to medium terms.

As noted in the previous section, the concerns for *host* communities suffering from the effects of the 'fly-over' effect and the hollow economy syndrome can have benefits for the *resident* community. The significant funds derived in the *host* communities flow to other regions of Western Australia thus enabling regional development albeit in other regions. This is particularly the case for businesses with head offices or places of work in regional areas and employees who either have investments in regional Western Australia or whose home base is in a regional area. As shown by economic modelling conducted by Maxwell (2001b) and Acil Tasman (2006, 2008), the greater the share of local purchases the greater the direct and indirect economic and social impact on the local economy and community. If it was feasible for large resource companies to increase their local purchasing activities, there would be considerable impetus for economic diversification in both *host* communities and *resident* communities. Work undertaken by economists (Acil Tasman et al. 2008, Johnson 2009) indicates that the presence of a FIFO workforce accommodated in or close to town generates a significant economic benefit to that town even if the expenditure is limited to small grocery, cigarette, alcohol, takeaway and news agency purchases. The life of a particular FIFO 'camp' site has significant potential impact on local business decisions for investing in expanded and/or additional services. A key determinant is accessibility for FIFO workers to shops and services consequently, walking distance is important because of the lack of public transport and the likelihood that many FIFO workers will not have access to private cars while in camp.

In a State as large and diverse as Western Australia whose economy is nonetheless dominated by primary resource production, it is inevitable that while there have been boom economic conditions and very low levels of unemployment in the

mining and resource sectors, some of Western Australia's southern regions were not faring as well. For example, persistent drought and declining returns to agriculture negatively impacted many rural communities while narrow economies tend to limit employment opportunities. As a result, some areas of regional Western Australia were experiencing comparatively high levels of unemployment. Regional FIFO practices have been an important source of income and assisted in providing work opportunities for people in regional areas while allowing these workers to maintain their regional base (Hogan and Berry 2000, Tonts et al. 2008). In doing so, the economic sustainability of regional areas is boosted through lower unemployment levels, employment diversification and the injection of incomes back into the regional economy (Wilson 2004). Economic modelling (Acil Tasman 2006, Acil Tasman et al. 2008) clearly shows the benefit to agricultural-based regions and communities from the repatriation of incomes earned by FIFO employees. In addition, the distribution of Commonwealth funds according to the principle of horizontal fiscal equity, (based on the premise that each State is entitled to receive a share of general revenue funding from the Commonwealth which would enable it to provide government services at standards that are not appreciably different from those of the other States without having to impose taxes and charges at levels appreciably higher than those of the other States (The Australian Government Treasury 1998: 18)), is an important mechanism for sharing the benefits of the mining and resource sectors across all communities (Hogan and Berry 2000), not least the small, agricultural based communities which have struggled to remain viable. The use of long distance commuting has also influenced the pattern of coastal regional economic development with people, including families, moving to coastal communities, thus building local economies and attracting infrastructure investment, while at least one member of the family commutes long distance to work (Hogan and Berry 2000, Maxwell 2001a, Salt 2006). Mandurah, 100 kilometres south of Perth, claims a growing proportion of FIFO workers since the 2001 Census.

From a corporate perspective, there are human resource management advantages from utilising FIFO work patterns. Gillies, et al. (1997) reported that their research indicated mining operators were able to attract a higher quality work force and the incidence of absenteeism was lower with FIFO workers than town-based mining operations. Further, an onsite work force enabled management to more easily control the shift start-times, and further maximize productivity through the use of individualised and decentralised bargaining in exchange for higher remuneration and high levels of contract employment (Heiler and Pickersgill 2001).

There are environmental advantages associated with FIFO work arrangements. Tightly contained, high density accommodation reduces land demand and limits environmental impacts (Johnson 2009). The provision of housing families in some of the hotter regions of Western Australia, such as the Pilbara, has a very high carbon cost. However, FIFO does have some greenhouse implications, which, until now, have been overlooked. For example, the additional carbon cost

of flying to and from the mining activity area. Gillies et al. (1997) found that mining companies believed that it was easier to obtain environmental approvals for their project due to reduced environmental disturbance associated with not constructing a town to service the mine and that the carbon cost of FIFO is relatively short-lived, depending upon the mine life. They also found that Aboriginal decision makers were more willing to approve projects that did not involve town sites because Aboriginal sacred sites and 'country' were less likely to be disturbed by tourists and random visitors, thus minimizing management of sites.

15.6 Long term sustainability

As inevitably happens, booms are followed by downturns and by the end of 2008 a world-wide recession loomed. As noted at the beginning of this Chapter, the *raison d'être* of many communities, especially small communities in Western Australia, is mining. Inevitably, they are highly vulnerable to the inevitable boom and bust cycles because of the mining and resource sectors' exposure to international markets and fluctuations in demand and supply. The traditional boom/bust cycle of the minerals and energy sector influences investor confidence and entrepreneurial activities in the region. Consequently, regions with a high dependence on mining are likely to experience uneven employment patterns and limited long-term investment by the private sector. As the most recent boom has shown, when commodity prices are on the rise, the skilled and experienced labour market is highly competitive, there is an almost insatiable demand for infrastructure investment and services and accommodation and other ancillary services are put under extreme pressure. Conversely when commodity prices fall, housing markets and labour demand react quickly in a negative direction. The impact of contracting local employment opportunities from mining downturns can cause considerable economic and social upheaval, especially in communities where there are few alternative employment prospects as has been evidenced in Ravensthorpe and Hopetoun with the closure of the nickel mine. The smaller the region the more dependent its regional economy is on external factors (Amcoff and Westholm 2007).

In early 2009, BHP Billiton announced it would be mothballing its newly opened \$2 billion (Au) nickel mine midway between Hopetoun on the southern coast of Western Australia and Ravensthorpe, 50 kilometres inland, due to falling international nickel prices. In 2002, the company made an undertaking to employ a residential workforce and worked with the government and community to build up infrastructure and services in the small, remote towns, which had, prior to the nickel mine, serviced marginal broadacre agriculture. The State government had committed to provide significant infrastructure including power and sewage upgrades to the small towns with a combined population of 1400 residents and the construction of housing and a new school in the small town of Hopetoun, in anticipation of a mine with a 25 year mine life which was purported to provide 2100 jobs. Consequently, when the closure announcement was made less than one year after the mine was commissioned there was State-wide public outrage that there had been such a 'waste' of public monies in expensive infrastructure and the pri-

vate sector had been hoodwinked into investing in new housing and small business development in the towns. The contentious issue of FIFO was debated in the press and there was a general consensus that a FIFO workforce arrangement might have been a more prescient decision, especially for a commodity such as nickel, the price of which on international markets is notoriously volatile. BHP Billiton has been pressured to redeploy their nickel employees elsewhere in the State in other mining operations and enable them to fly-in, fly-out from Hopton, thus ensuring there is a resident population for the small businesses and the school that have been established there and preserving the housing market at an acceptable level. The company claims this is not an economically viable strategy even though BHP Billiton is heavily reliant on a FIFO workforce in the Pilbara. The BHP Billiton decision has reinforced to government and mining and resource industry management the economic advantages of FIFO, not to mention the cost of goodwill associated with the social fallout of mine closures and market downturns.

There has been similar debate regarding the sustainability of towns during a resource boom when there is a huge demand for labour. If a majority of the FIFO workers had been resident in Pilbara communities for example, the towns could not have coped with the additional population and infrastructure and services required. Under such intense pressure the towns' services would have struggled due to an inundation of people without adequate supporting infrastructure. There would have been a series of health, education and housing crises that Government would have had to respond to or alternatively, resource extraction, transport and export would have been considerably curtailed with commensurate reductions in export income and royalties to Government.

The arguments presented by Storey and others (Houghton 1993, Maxwell 2001b, Storey 2001) that regional centres have "not only failed to capture many of the benefits of resource development within their regions, but have sometimes experienced additional cost burdens resulting from the need to provide services for transient workers and operators with little or no return on investment" (Storey 2001: 146) are relevant. If government and industry are committed to the use of FIFO labour arrangements and to enhancing the sustainability of regional economies, then strategies and policies need to be developed to ensure governments and resource companies co-ordinate development efforts (Pick et al. 2008) and hence, strengthen regional centres. This is preferable to regional centres being depleted, and may enable them to capture regional benefits as FIFO hubs.

Data collection agencies, most particularly the Australian Bureau of Statistics, need to modify the manner by which they collect information about where people work and where they live so that accurate information is collected that properly reflects the high rates of in- and out-migration and the use of services and infrastructure by transient labour. As noted by Amcoff and Westhom (2007), a challenging and potentially expensive regional population problem is the forecasting for small (in population terms) regions because of the unevenness in space and time of the presence and volume of people. Nonetheless, accurately tracking population movements and settlement trends facilitates planning and appropriate public and

private investment for the future, thus avoiding the housing and service bottlenecks, not only in regional centres, observed in the most recent boom. The risk of over-optimism, especially during a prolonged boom period as has been the recent experience, can be avoided if data collection is consistent.

15.6 Conclusion

FIFO work arrangements have escalated in Australia over the last ten years. The vast majority of FIFO workers work in regional areas but usually claim to live in urban or peri-urban settings (Australian Bureau of Statistics 2008b, Australian Bureau of Statistics 2008a). The rapid change in workstyles has inevitably had an impact on communities and businesses in a variety of regional and remote locations.

Economic reasons and pragmatism appear to have been important motivators for the mining and resource sectors to establish and then expand their FIFO workstyle operations. Many ore-bodies in Australia have a fairly limited mine life and the reality of this limitation, associated with the high cost of infrastructure in remote areas and the cyclical vagaries of international metal prices necessitates against the establishment of any substantial residential communities for these operations (Gillies et al. 1991). A further disincentive to establishment of townships with subsidised low rental housing in remote areas has been the introduction of fringe benefits taxation as a cost to the employer.

At the same time, the boom economic conditions have put extraordinary pressure on a highly sought after skilled labour force. Workers in the sector choose to commute to work places in often remote communities for both economic and social reasons; a well paid job while at the same time retaining family and friendship ties in their residential communities, taking advantage of facilities and opportunities there in the furlough period which are not available in remote and small communities. The mining and resource industry employees who choose to commute instead of relocate distribute the socio-economic costs and benefits of the super-cycles across numerous communities, regions and even States.

The trend to transient workstyles has impacted on rural communities as fit, often relatively young people seek high wages in the resource industries away from their home communities. It is this cohort which is the most valued in small rural communities for their volunteerism, contribution to local business and participation on sporting teams. In small, relatively impoverished communities, the fat pay packets can create problems, not only around envy, but also associated with increased drug and alcohol use. In communities such as the southern coastal rural community of Ravensthorpe, the lure of a local nickel mine undermined important local businesses such as shearing contractors, to the point that farmers reduced their flocks because they could not be assured of a reliable shearing team. Until now, rural community leaders have been challenged by people leaving permanently, but the FIFO workforce brings new dilemmas. The local authority must provide for a population cohort who is resident for only part of the time, few of whom

can contribute when they are resident in the community as they are recovering from a heavy workload and catching up with their personal responsibilities.

This Chapter has explored some of the local impacts caused by global economic influences and the challenges associated with a peripatetic workforce. It is likely that FIFO work arrangements are an established response to relatively short mine-lives and volatile labour requirements and global market movements. Managing the economic and social implications of a FIFO workforce and extracting the benefits are an ongoing challenge for resource companies, governments and communities.

Acknowledgements

Sincere thanks are due to the anonymous referees who made helpful comments and provided additional data evidence.

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