

Rural-Urban Linkages

Literature Review for Waikato Spatial Plan

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Executive Summary

Introduction and approach

This review explores the relationships between urban and rural economies, drawing on the international literature. The review has been undertaken to inform the development of the Waikato Spatial Plan, and specifically explores patterns of urban-rural relationships as they apply to the Waikato.

The review was sourced through extensive searching of internet and academic databases. A key limitation of the literature in this area is the lack of empirical research on rural and urban relationships. The literature tends to hypothesise about, or describe relationships, but does not quantify these to an extent that would allow assessment of the net benefits or costs between urban and rural areas.

It should also be noted that the definitions of urban and rural in the international literature are used inconsistently; for the purposes of this review, we have wherever possible (and with particular regard to the Waikato) used a distinction between three types of settlement – city, town and country.

Types of relationships

Relationships between different places can be characterised as:

- **Interactive**, where these places exchange different kinds of goods and services and labour;
- **Independent**, where their resource bases and markets are sufficiently divergent from each other for there to be little existing economic relationship, or;
- **Competing**, where they have similar specialisms and compete with each other for resources (including labour) and/or markets.

These different types of relationship are not mutually exclusive, and relationships can shift and change over time. **Internationally, there are clear indications from the literature that cities, towns and urban areas have a dynamic and interactive relationship, where there are clear economic and social linkages between each.** This is particularly strong in Europe; however, as noted above, these relationships tend to be observed rather than quantified.

With regard to the Waikato region, there are clearly a range of relationships between Hamilton, smaller towns and rural areas.

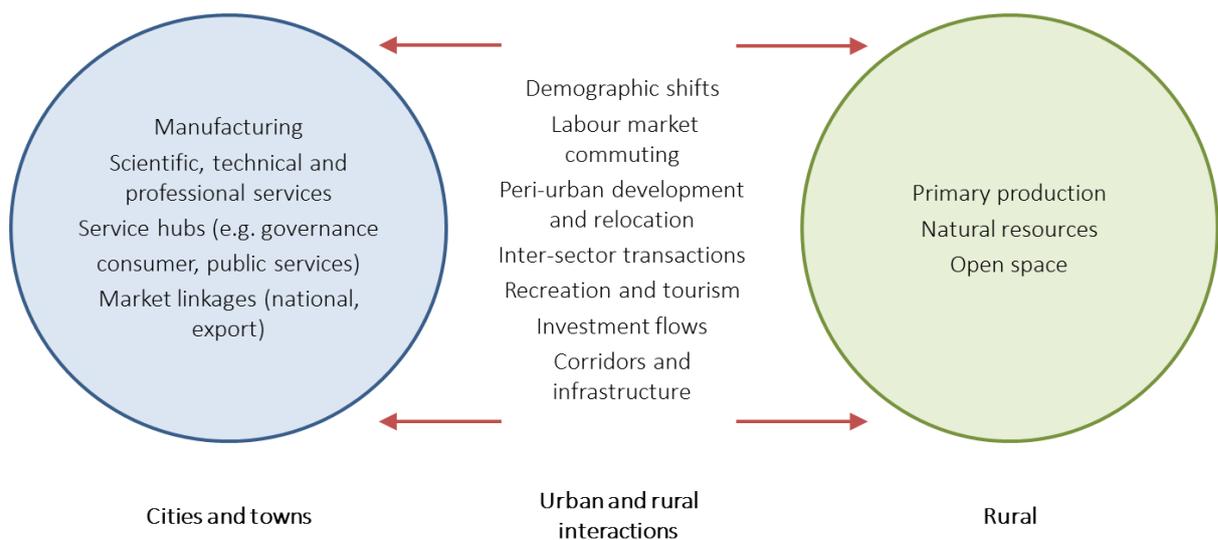
The international literature observes a degree of *interaction* in the flow of goods and services; *independence* in the markets that each are focused on; and to some extent *competition* for populations that provide labour and fund public services. **Specific rural-urban flows include the following:**

- **Transactions of goods and services** produced in one place and used or consumed by another. These include rural provision of primary products for city populations, and

provision of services in the city for the whole region. They also include intra and inter-sectoral transactions that occur as part of a production process (such as milk produced in rural areas being transformed into milk powder in towns and exported using financial and other services from cities). Transactions also increasingly include recreation and tourism, undertaken by both rural people in cities and urban people in rural areas..

- **Central place relationships**, where more populous cities and towns provide diverse agglomerations of the key service, scientific and knowledge hubs, governance, specialised manufacturing, and access to international markets, that serve the whole region and are necessary for rural economic activity. Auckland and Hamilton can be seen to function in this way for the rest of the Waikato region.
- **Natural resources**, where rural areas specialise in providing primary goods and services that generate export income.. The centrality of the primary production sector to the Waikato region is notable in this regard.
- **Boundary relationships**, often expressed through changes in land use on the peri-urban fringe of cities, with primary production being replaced by housing or industry.
- **Corridors and infrastructure**, where the roads, energy and other infrastructure of rural areas provide the connections and resource flows between rural areas, towns and cities. Corridors and infrastructure in the Waikato region service the whole North Island.
- **Long term demographic and labour market shifts** between urban and rural areas. This is not a simple process of rural-urban drift but rather an exchange of different age groups within a region, overlaid by international migration and inter-regional movements. The Waikato is in this respect a microcosm of New Zealand, with faster growth in the city; growth in nearby rural and small towns’ populations commuting to the city for work (urban overspill); loss of working age people from other areas; and retirees shifting to coastal towns.

These potential relationships between urban and rural areas are summarised in the diagram below:



The lack of measurement of rural-urban linkages in the literature means that we can't know the extent to which rural-urban relationships in the Waikato should be characterised as interactive, versus independent or competitive. Up to date, comprehensive statistical analysis and modelling of migration flows and production relationships would be very useful. Two pieces of literature that did attempt to measure production flows in a partial way (through estimating the impact of commodity price changes on cities versus rural areas in New Zealand) came to opposite conclusions.

The Waikato region in a national and global context

We can hypothesise that rural and urban production may more independent of each other in regions such as the Waikato than is the case in Europe. This is because most of New Zealand's rural primary production is exported to the international market in relatively simple form (for example as milk powder and wood), while European countries export high tech manufactured goods and services using inputs from many places. Only a small proportion of New Zealand's rural production ends up in our cities for consumption or further processing. Meanwhile, most of the products and services generated in our cities are also consumed in the cities (which also consume a lot of imports). Notwithstanding this, some city based products and services are absolutely essential inputs to rural production processes and rural communities, and rural export income is important to cities.

Links between the Waikato and other regions may be at least as important as rural-urban linkages within the region. The region has very close and significant economic connections with both Auckland and Tauranga, and collectively forms a key triangle of economic growth. The Waikato region acts as a critical hub in the North Island, particularly in terms of the corridors and infrastructure that support not only the Waikato but also the wider NZ economy. There are also significant population flows between these regions.

Finally, in an international context, there are major global forces impacting on rural and urban areas that local people cannot change (including technological change, urbanisation, ageing, global prices and the growth of the services sector) that require regions to consider how best to adapt.

Policy implications

Policy interest in sub-national economic development has waxed and waned and has been dominated by different paradigms at different times. Currently there is an interest in 'place-based development', which has broadened the previous focus of policy makers on competitive cities, and has moved away from the traditional redistributive emphasis on trying to lift up lagging regions.

Place based development includes policies designed to strengthen the institutional links between regions (such as the Upper North Island Strategic Alliance) and between rural and urban areas within regions (such as the Waikato Spatial Plan). Such institutional partnerships are particularly useful in developing joint policies and decisions across rural and urban development, where there are:

- Common issues facing all areas
- Network infrastructure issues that are intrinsically regional or even national
- Spillover issues (where activity or policy in one area impacts other areas)
- Benefits in having consistent policies

However, inter-regional and regional approaches will not be suitable for everything. Different policies are required to “unshackle” the benefits of high growth areas, than are needed to grow the productivity of middling areas. Meanwhile for some local areas facing de-population, policies to “manage decline” while maintaining quality of life will be most helpful. Waikato’s different sub-regional areas may wish to group together around such packages of policy (such as the *Future Proof* strategy).

Many place based policies are custom designed at a much smaller scale by local people to address unique local challenges and opportunities. Such policies are just as important to the Waikato, with its 11 local bodies and the diversity of their circumstances.

1. Introduction

Spatial planning has emerged as a central tool for establishing long-term and sustainable foundations for economic, social and territorial development. Spatial plans are intrinsically an approach for integrating activity both spatially across regions, and sectorally across such areas as transport, agriculture, industry, housing, energy and services (United Nations 2008). Within spatial planning is recognition that urban and rural economies both have different roles to play, yet the particular contribution of these, and the interconnections between urban and rural economies, is often overlooked.

There is a tendency to merely compare rural and urban areas as though they are separate and competing, with debate about their relative importance diverting effort away from integrated approaches to advancing wellbeing. Yet one of the things that is most distinct about New Zealand is that it is both highly urbanised, and at the same time has an exports profile that is significantly based on natural resources. The Waikato region epitomises this dichotomy.

This review has been prepared to inform the development of the Waikato Spatial Plan. It explores the relationships between urban and rural economies, including the potential benefits and costs flowing between the two, as well as the economic interdependencies between city and rural areas.

The interdependency between urban and rural areas is a key theme in regional development internationally. A complex and multifunctional interrelationship exists between urban and rural areas (Scott et al 2007, Castle et al 2011). This is noted by the OECD in their review of urban-rural partnerships:

“Cities no longer correspond to the simple notion of clusters of compact settlements with high densities of population and employment that are clearly distinguished from their rural surroundings. Similarly, agriculture is no longer the sole or principal economic activity of rural areas. Instead, both cities and rural areas now include urban and rural elements, even if this is in different proportions and characterised by different settlement patterns and densities.” (OECD 2013)

Importantly, some parts of the literature highlights that urban and rural relationships are not simply spatial, in terms of the physical and geographic links between urban and rural areas, but that they are also sectoral, in the sense that the interdependencies are also felt through key sectors of the economy, including transport, production, manufacturing, and tourism (Metrex 2011).

To support the Waikato Spatial Plan, we explore the international literature for key emerging themes in urban and rural economic linkages, and the locally-observed patterns and implications for the Waikato Spatial Plan.

The review is structured around the following areas:

- The approach taken for this literature review

- Conceptual issues in considering urban and rural economies, including what constitutes “urban” versus “rural”
- Critical global forces of change that shape urban and rural economies
- A brief profile of the Waikato region
- Rural and urban relationship patterns happening internationally, and the extent to which these patterns are playing out in the Waikato region
- Policy responses that have emerged to support local development
- Key considerations for the Waikato Spatial Plan in the light of the literature.

This review was commissioned by Hamilton City Council for the Waikato Spatial Plan team, and undertaken by Adrian Field and Tanya Perrott.

2. Method

The brief

The initial brief for this review was to explore:

1. the nature and strength of the relationships between rural production and city economies;
2. the socio-economic benefits received by cities and larger towns from the rural production centres of a region; and
3. the socio-economic benefits that cities and towns provide to rural production centres.

It was also intended that the review focus on situations that are of similar population, economic and geographic context to the Waikato region.

The literature

We reviewed more than 50 separate literature sources for this report, of which approximately 40 were included in this review (Appendix 1 details how the literature was sourced, selected and analysed). In doing so, it became quickly apparent that this is an area that is not intensively researched, and that the available literature is somewhat limited in addressing the questions in the brief. However it does provide some valuable insights for the Waikato spatial planning process. Key features of the available literature include the following:

- Most of the literature is dedicated to comparing entire regions, or just focuses on cities or rural economies, rather than exploring rural-urban interactions or interdependencies
- The literature that does focus on urban-rural relationships tends to be theoretical, and does not actually quantify the flows between urban and rural economies; a limited number of social accounting matrix models have been undertaken, but few with applicability to New Zealand
- The observations made by some of the older literature may be less valid as rural/urban relationships change and fluctuate over time
- The distinction between urban and rural is an area of some debate
- No case studies of regions comparable to the Waikato emerged in our search
- A focus on benefits alone would ignore some of the realities of urban-rural relationships and the concerns that locals have about change.

Our approach

With these issues in mind, an approach was agreed with the Waikato Spatial Plan team, which seeks to:

- Explore the international literature on rural and urban economic linkages, and the key drivers of change in rural and urban economies.

- Use New Zealand literature and some statistics to analyse the extent to which Waikato's rural-urban relationships reflect or vary from the patterns discussed in the international literature.
- Discuss implications and decision-making issues.

A key distinction emerged in the literature between urban-rural *relationships*, and urban-rural *partnerships*. The former refers to the broad range of linkages that occur between urban and rural areas, while the latter is specifically about the policy responses to fostering interdependent urban and rural development (European Commission 2000). The primary focus of this report is on urban-rural relationships.

Definitions of 'Rural' and 'Urban'

There is no internationally or nationally agreed definition of "rural" or "urban". Many authors simply describe whole regions as either urban or rural. On the other hand, some use complex typologies that recognise a continuum and diversity of settlement types, and the interactions between them. This literature tends to make richer observations.

The starting point of most approaches is to classify urban types of settlement, with whatever is left over defined as rural. Defining factors include population, administrative boundaries and labour markets. Only one of the sources we reviewed uses the opposite approach of defining areas in terms of how rural they are (in terms of their involvement in commodity production).

There are two implications. First, care needs to be exercised when drawing conclusions about Waikato's urban-rural relationships based on literature that uses inconsistent and non-comparable definitions. Second, we suggest that it would be fruitful to develop an understanding of the relationships between three types of population settlement in the Waikato: the city, towns and rural areas.

Notwithstanding the limitations of the literature, when possible we have attempted to draw out the relationships between these three levels of settlement in this review. Further background to the definitions of rural and urban, and how they apply to the Waikato region, is detailed in Appendix 2.

3. Forces of Change

Rural-urban relationships occur in a context of interrelated global forces of change. These forces are outside the control of any one region. Successful local development policies find ways to adapt, responding to opportunities and changing local capabilities and resource use rather than attempting to fight the forces themselves (Garcilazo 2012).

Technology

Technological change has been a constant in modern societies since the Industrial Revolution, driving social and economic change in both urban and rural economies. Major place-shaping technological developments include rail and motorised transport, refrigeration, a raft of agricultural innovations and information technology. Both urban and rural settings have benefitted from these technological developments, enabling more productive use of resources, reduced costs and employment opportunities (OECD 2014). Technology has both destroyed and created new industries, and has eroded the barriers to economic activity between nations, and also between urban and rural areas.

Growth of the services sector

Economic activity can be classified according to whether it involves some form of resource extraction (primary sector), processing of resources into physical products (manufacturing) or provision of services to people. Primary sector activities locate in rural areas close to natural resources. Simple manufacturing activities often locate in rural settlements or towns, while higher technology manufacturing is concentrated in urban areas. Most services activities locate in urban areas, close to both labour and consumers.

During the last 50 years, the share of the New Zealand workforce employed in services activities has increased from 50 per cent to 75 percent (MBIE 2013), in line with trends in other developed countries. Technological developments have enabled labour to be released from the farms to work in factories, banks and shops in towns and cities. In addition during the last few decades large-scale manufacturing has moved off shore to Asia and its employment has stagnated or reduced in the OECD. Quite simply, the overwhelming majority of employment growth and job opportunities are in the services sector, and therefore cities.

Urbanisation

All countries have been urbanising, as working age people migrate to cities in response to the technological and economic developments outlined above. Over half of the world's population and three quarters of OECD residents now live in cities. In the last 100 years New Zealand's towns and urban areas grew seven fold while the rural population grew very little (MBIE 2013). New Zealand is now one of the most urbanised countries in the world (Pool et al 2005). It is also one of a few, small countries where such a large share of the national population is settled in one place (Auckland). In 2006, 86% of the population lived in urban areas, and the proportion of

people living in 'main urban areas' (centres with populations of 30,000 or more) increased from 70% in 1991 to 72% in 2006 (Statistics NZ 2008). By 2013, the Auckland region accounted for 1.4 million people, and made up half the growth of the New Zealand population (Statistics New Zealand 2013).

The growth of Internet connectivity beyond urban centres has given rise to the opportunity for more virtual environments for labour market activity to take place (Caffyn and Dahlström 2003, Milbourne and Kitchen 2014). However, predictions that information technology would render place unimportant and arrest the growth of cities have not eventuated: indeed the proponents of the 'new economic geography' assert that it has made cities even more important, because face to face contact adds value to the plethora of information now available (McCann 2009).

Demography

The ageing of the populations of developed countries is another key force. While all settlements are ageing, rural areas are ageing more rapidly than urban ones. This is because working age people are migrating to cities while older people are tending to move away from cities to rural areas. International migration is also increasing ethnic diversity in major urban centres much more than in other places (European Commission 2000, Allen and Eaqub 2012, Pool et al 2005).

Ageing however is not the only emerging issue. Analysis from the University of Waikato indicates that future population decline is inevitable. Globally, population growth has already ended in some countries, and international migration only delays this. Demographic patterns indicate that population decline starts in rural areas and towns before extending to cities. Notably, population decrease is seen as a new form of local decline, with major implications for maintaining service levels, quality of life and viability of communities. In some countries local governments are being bankrupted by the loss of populations (MacMillan 2015).

New Zealand is seen to be several decades behind the countries that are depopulating at the national level, but the shift towards population decline is already happening at the subnational level in one third of territorial authority areas.

Demographic projections are best thought of as directional rather than absolute, but they are relatively accurate, and they are difficult to redirect once a course is set. In demographic terms once an area reaches a certain depopulation point, it is almost impossible to reverse this. The indicators of future population decline (such as falling working age population share, and retired people exceeding children) are observable decades before it happens. Therefore policy makers, at both national and local levels, have substantial time to develop strategies (MacMillan 2015).

Global demand and prices

In the last seven years a resources boom, fuelled by the growth of Asia, has benefitted some rural economies, temporarily counteracting some of the long term trends outline above. Fluctuating global demand and prices are constantly affecting the economic "performance" of nations and the regions within them. Some of the literature suggests that small rural areas that

depend on only one or two sectors are particularly vulnerable, to both upswings and downturns.

Culture and identity

The changing demographics of urban and rural areas is also bringing with it a changing identity and changing lifestyles, accelerated by increasing choice and mobility for some. To some degree this is reflected in cosmopolitan shifts and also heightened social polarisation within cities (European Commission 2000).

At the same time however, rural areas – particularly those with reasonable access to urban areas within their region, are developing their own unique identities based on both human heritage and amenity value. These are attracting urban populations, either as resident populations, or as regional tourists (European Commission 2000, Scott et al 2007).

Environmental sustainability

Across both urban and rural areas, environmental sustainability, motivated by concerns of environmental degradation, climate change and loss of biodiversity, are increasingly a rallying point for changes in both policy and practice. This is reflected in legislation and regional planning that seeks to balance social, economic and environmental considerations, and in some cases, give priority to the needs of future generations. But like the other forces described in this section, these are dynamic and contested terrains, that often bring about conflict between the competing claims of amenity and the natural landscape on the one hand, and extraction and production on the other (European Commission 2000, Mylott 2009).

4. Waikato and Sub-regions – Profile

The following is a brief summary of key points covered in the Waikato-focused literature.

National role

The Waikato region has nine percent of New Zealand's population and GDP (MBIE 2014), but almost 40 per cent of its electricity generation capacity and over a quarter of its dairy stock. Its location between the two largest ports in the country makes it a nationally significant transport juncture. The Waikato river is a key source of water for neighbouring Auckland, and there are considerable migration flows between the two regions (Gooderham et al 2014; MBIE 2014).

Population and settlements

Approximately 430,800 people live in the Waikato region (Statistics New Zealand 2014). They are divided between the metropolitan area of Hamilton (with 153,100 people or 36 per cent), and the region's many small settlements, which are surrounded by agricultural production.

The administrative boundary of the Waikato region was extended northwards in 2010 with the establishment of the Auckland Council, adding the settlements of Waiuku and Pokeno to the Waikato district and increasing its population by about 1500 people or one third.

Social and economic characteristics

Waikato's median income and GDP per capita are both slightly below the national average, but there is considerable divergence between the various parts of the region (Knuckey et al 2013). In 2012, the level of GDP per capita produced in Hamilton was estimated to be higher than the national average at \$55,509, while Thames-Coromandel only produced an estimated \$26,797 per head – reflecting its low proportions of both working age people and land used in economic production.

Over the last decade the value of economic production grew most in Hamilton, Waipa, Taupo and Otorohanga (with GDP increases estimated at over 2 per cent per annum for these areas). However, in the last five years encompassing the global recession and resources boom, Hauraki has shown the greatest economic growth. Throughout both periods, the Thames-Coromandel economy has not been growing at all, and South Waikato has been shrinking.

Skills levels in Hamilton are considerably higher than in all other parts of the region. In 2006 almost one-fifth of the Hamilton workforce held a Bachelor's degree or higher, while in other areas less than ten per cent did. In fact, outside of Hamilton, between 30 and 40 percent of people aged 15 and over had no tertiary qualifications at all. This gap reflects the location of tertiary institutions in Hamilton and the higher education requirements of its services-based activities, compared with the commodity production located elsewhere in the region.

Waikato has several different sectoral specialisms concentrated in different places:

- Hamilton’s main role is to provide business, public and consumer services for the region. It also produces some medium tech manufactured inputs to New Zealand agriculture and for export. Most other parts of the region undertake resource based activities and simple manufacturing for export.
- Most districts are heavily involved in dairy farming, and there are dairy processing plants in Hamilton and Waikato, Matamata-Piako, South Waikato and Taupo districts.
- Forestry and wood processing are concentrated in Taupo and South Waikato.
- Energy production is concentrated in Taupo, South Waikato and Waitomo.
- Mining is concentrated in Hauraki and Waikato districts.
- Horticulture is strong in Waikato and Thames-Coromandel districts.
- Aquaculture is primarily located in Thames-Coromandel and Hauraki.
- And tourism is concentrated in Thames-Coromandel, Taupo, Otorohanga and Waipa.

Māori

Over one-fifth of the Waikato population is Maori (the national share is 14 per cent), with communities to the south of the region having higher proportions than the north. Maori comprise over 40 per cent of the Waitomo population, 32 per cent of South Waikato, 28 percent of Taupo, 27 percent of Otorohanga and 25 per cent of Hamilton (Te Puni Kokiri 2014).

Iwi are an increasingly powerful economic force in the Waikato. The principle iwi groups include Waikato/Tainui, Maniapoto, Raukawa, Hauraki, Tuwharetoa and Te Arawa (Knuckey et al 2013). Their geographic boundaries differ from those of local government.

Over one quarter of New Zealand’s collectively owned Maori asset base¹ is held in the Waikato, in part a reflection of early Treaty of Waitangi settlements across most of the region (Te Puni Kokiri 2014). The bulk of these assets are in agriculture and property, but they also include the forests, Tuaropaki geothermal power station and Miraka dairy company in Taupo, and education, health and social services, particularly in Hamilton. Tainui Group Holdings is the dominant property developer and investor. It developed the former Te Rapa Airforce base into New Zealand’s largest shopping complex, and it has now entered into a joint venture to develop a \$3.3b inland transportation port and industrial hub at Ruakura. The Crown has entered into a co-management arrangement with Waikato-Tainui over the Waikato river.

Infrastructure and resource pressures

The Waikato region has very good infrastructure, much of which also serves other regions - including energy generation, tertiary education and research institutions and its transport network.

The Waikato economy is substantially dependent on its resources, and on effective, sustainable management of pressures on freshwater availability, water quality, rural land and soil quality

¹ Assets held by trusts, incorporations and other Māori entities.

(Waikato Mayoral Forum 2014). These are however the focus of many competing uses (described further in subsequent sections).

Institutions

There are eleven local authorities in the Waikato region², each of which represent quite different communities and activities:

- The Waikato Regional Council;
- Hamilton City Council; and
- The Thames-Coromandel, Hauraki, Waikato, Matamata-Piako, Waipa, South Waikato, Otorohanga, Waitomo, Rotorua and Taupo district councils. Unusually, three of these districts (Rotorua, Taupo and Waitomo) straddle the boundaries of the Waikato and nearby regions, with most of Rotorua falling outside Waikato.

Central Government expenditure in the Waikato dwarfs that of local government, and institutions such as Waikato University, Waikato Institute of Technology, the District Health Board and AgResearch have a very significant presence, especially in Hamilton.

Iwi and associated subsidiaries, as mentioned above, are also major institutional decision-makers in the Waikato, along with the Waikato River Authority, and Te Wānanga o Aotearoa (the largest provider of indigenous education in New Zealand).

Key business institutions include DairyNZ (based in Hamilton), the Waikato Chamber of Commerce and local chambers and associations.

² This is the largest number of councils in any region in New Zealand.

5. Rural/Urban Relationship Patterns

Types of relationship

Relationships between different places can be characterised as:

- *Interactive*, where these places exchange different kinds of goods and services and labour.
- *Independent*, where their resource bases and markets are sufficiently divergent to each other for there to be little existing economic relationship, or;
- *Competing*, where they have similar specialisms and compete with each other for resources (including labour) and/or markets (Allen and Eaqub 2012).

These are not mutually exclusive and relationships shift and change over time.

Because so much of the literature simply *compares* local economies, the implicit assumption is that they are in competition – for labour, natural resources and Government funding. And it appears that this competition is being won by cities, which are growing faster and which offer greater job opportunities and income (Allen and Eaqub 2012).

On the other hand, some of the literature asserts that an interactive relationship must exist between rural and urban areas because they each specialise in different types of activity. Some authors suggest that ‘economically functional regions’ make more sense than administrative/local government areas. Economically functional regions comprise agriculture, manufacturing and services activities, which are located in different parts of the region. This notion stresses the importance of interdependencies between rural and urban areas (Caffyn and Dahlström 2003, Garcilazo 2012).

Gooderham et al (2014) describe how Waikato supplies Auckland with water, energy and food, while Auckland provides commercial services and international connectivity to the Waikato and other regions (MBIE 2014). Allen and Eaqub (2012) suggest that “*Growth in Auckland may spur growth in complementary industries in the Waikato*”. A complementary relationship might also be observed within the Waikato, between Hamilton city and surrounding districts. This could be bi-directional, where flows run between urban and rural, or unidirectional, where the flow of goods and services are more from one area to another. The relatively larger size of cities may mean that they have a bigger impact on rural areas than the other way around.

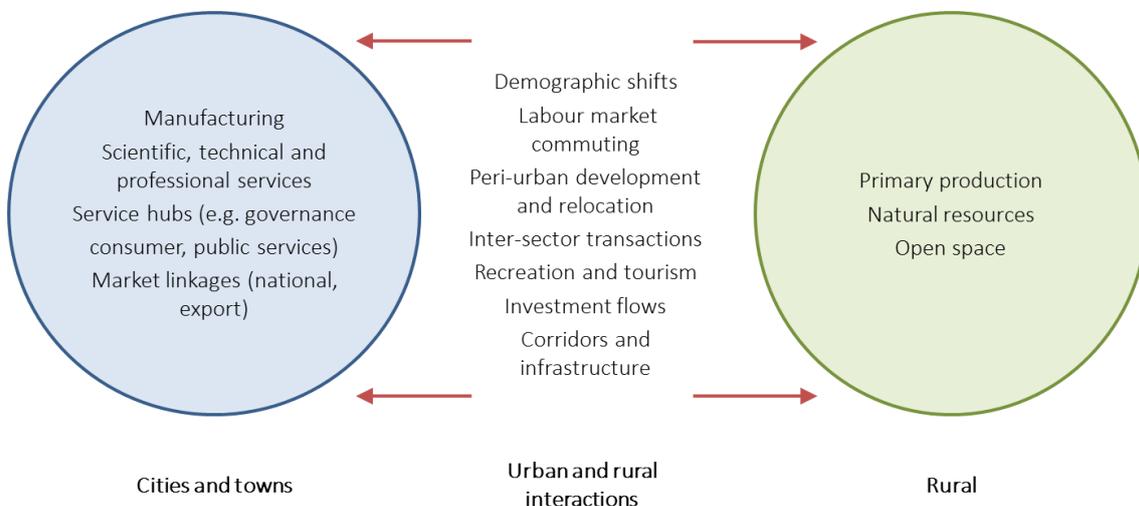
However, most of the literature tends to merely hypothesise about what the relationships between different areas might be, in the absence of quantitative information.

Specific relationships between urban and rural economies

Spatial relationships between urban and rural areas, include transactions between their different businesses and sectors, population and labour market shifts, peri-urban development, the exchange of recreation and tourism opportunities, and corridors and infrastructure linkages.

In Figure 1 below we set out what we see as the key spatial relationships occurring between urban and rural areas that have been identified in the literature, which have particular relevance to the Waikato region. These are explored in the sections that follow.

Figure 1: Spatial relationships between urban and rural economies



Central place relationships

An important area of focus in urban and rural relationships is that of ‘central place relations.’ The services, amenities and facilities in urban areas act as key attractors for rural populations and businesses (Akkoyunlu 2013). These can include local amenities such as shops and parks; education and training establishments; commerce and industry; government services; and health services. These connect urban and rural enterprises, supporting urban services and industries and rural production (European Commission 1999, Zonneveld and Stead 2007).

With concentrations of human and physical capital in urban centres, central places often offer large-scale services, commerce and industry; destination assets or amenities (such as sports complexes, larger museums or arts centres, or large-scale events); and centres of learning (such as universities and technical institutes). Central places also offer the skills, expertise and connections that support primary production to connect with international markets (in New Zealand typified by such organisations as Fonterra and Enza); and access to ports and international companies (Tacoli 2003).

Urban centres continue a long-established tradition of market towns serving their rural areas, as well as their own urban populations. But the relationship today is considerably more complex, and there has emerged a tendency for central places to become more hierarchical and/or agglomerated, and for the lower echelons of services to be lost in both urban and rural settings (examples include health services, schools and commercial branch offices). Hamilton’s role in the Waikato to a large degree reflects this central place relationship, with its key role as a provider of business, public and consumer services to the region.

Natural resources

Rural areas are significant suppliers to urban areas, and to wider markets of natural resources. These include primary production activities, extractive resource for industrial development (such as mining), and energy resources for supplying power and heating nationally. Rural spaces are often the catchment areas for urban water needs; but where there is also often competing demands (such as for farming irrigation).

The centrality of natural resources to the Waikato economy is well-established. The region has plenty of freshwater resources but it also experiences drought, particularly in the East, and there are competing uses for the water in both Waikato and Auckland. The quantity of freshwater that can be allocated is also being restricted by declining water quality. In order to reduce nutrient loadings into waterways, farmers will face restrictions on increasing cattle numbers and fertiliser use, constraining the growth of dairy production in the region (Knuckey et al 2013).

New types of rural and urban transactions and consumption flows

There is a rich flow between urban and rural areas in domestic tourism and consumption, such as in rural people visiting cities and spending money on food and entertainment and vice versa. This challenges the traditional notion of rural areas solely as centres of primary production: they are also settings of more diverse economic activity (Roberts 1997, OECD 2013). This can include accessing natural amenity (such as beaches, forests, rivers and other attractions) and the recreation/tourism benefits to smaller centres that this can bring; accessing cultural heritage (such as rural-based cultural and historical sites, as well as cultural gathering points such as marae); and visiting small town farmers markets, shops and cottage industries. There is also evidence that farms near cities are quite adaptive, and will respond to the opportunities that nearby urban areas provide, such as through cottage industries, markets and boutique product offerings (Castle et al 2011, Healey 2002). These relationships can act as forerunners to sunbelt relationships discussed earlier; and also offer an example of rural areas and towns using their resources in more diverse ways.

It is in this area that one of the few attempts to quantify rural and urban relationships has taken place, using social accounting models (Courtenay et al 2007). This however focused on the interactions between smaller towns and peri-urban towns in southern England, and not on cities and rural areas. Its findings highlight the complex relationships between rural and other areas, noting that smaller towns are significantly influenced by the rural hinterland, but exert little influence on the hinterland. Peri-urban towns on the other hand, with greater concentrations of services, exerted more influence on rural areas, in part because of their connections in turn to larger centres (Courtenay et al 2007).

Another, more dated study, used a social accounting matrix to explore urban and rural relations in Scotland (Roberts 1998). It found that whilst rural households had more income earning potential than urban households, they were more dependent on inter-regional flows for their income earnings; this may have some applicability to the Waikato where rural areas are looking to take their production outside the region and internationally. It also revealed diverse

commuting patterns, that reinforce the suggestion of a more complex process of urban-rural relationships than simple processes of urbanisation would suggest.

Population and labour market shifts

The production relationships between New Zealand's rural and urban economies may be somewhat complementary and somewhat independent. However, there is no getting away from the fact that cities like Hamilton have been growing because people have been migrating there from towns and rural areas.

On the other hand, "rural-urban drift" is not the only spatial flow, rather, there is a complex exchange of different people and ages between different areas, with both centralising and decentralising forces at play (Castle et al 2011, Davoudi and Stead 2002, Scott et al 2007).

First of all, international migration is increasing, and concentrating in the largest cities. Domestic migration interacts with this.

In the New Zealand context, Pool et al (2005) identify four patterns of domestic migration between cities, towns and rural areas:

- Urbanisation – where working age people move to cities such as Hamilton from isolated towns like Te Kuiti and Putaruru
- 'Sunbelts' – where primarily retired people shift from cities to rural (and coastal) areas and towns that offer a more substantial lifestyle change
- 'Urban overspill' – where people shift from cities to small lifestyle blocks and dormitory towns nearby, and commute in to work
- Movement of discouraged workers (often Māori) to and from rural and urban areas

Urban overspill is a special kind of domestic migration also being observed internationally. It reflects shifting patterns of labour market flows between urban and rural areas. This is most apparent in the relocation of people from urban areas to rural areas, while still commuting to and employed in urban settings. Towns within commuting distance of regional job centres are becoming 'bedroom suburbs' (Mylott 2009, Paniagua 2002). These are either for cost reasons (such as cheaper housing) or lifestyle (such as the quietness of rural surrounds) or for new opportunity (such as self-employment). In addition, there are also patterns of people remaining in rural areas but who are employed in urban areas (Caffyn and Dahlström 2003, European Commission 1999, Mylott 2009).

The extent to which some of these urban-rural shifts transfers economic activity to rural areas is debated, particularly for urban overspill relationships; the key settings for consumption often remain urban areas, except on the weekend. For these reasons, some commentators have been cautious in describing these demographic shifts as a 'rural renaissance'; rather, they are occurring for very specific reasons (Mylott 2009, Roberts 1997, Scott et al 2007). One analysis from Scotland, for example, points to rural areas with close and functional connections with urban centres as being the main beneficiaries of a shift from urban centres; more isolated rural areas instead experienced net population losses. Furthermore, the migrants from urban areas tend to retain their jobs in the urban centres (Scott et al 2007).

Waikato's dominant population trend is the much higher growth in Hamilton and the two adjoining districts of Waipa and Waikato than in the other places (reflecting both urbanisation and "urban overspill" patterns). This is projected to continue, with population decline forecast for Otorohanga, South Waikato and Waitomo districts (Statistics New Zealand 2015). Related to this, the age-profiles of the different populations in the region vary considerably. Hamilton has the youngest population in New Zealand with a median age of 32, while the Thames-Coromandel "sunbelt" has the oldest, with a median age of 51 (Statistics New Zealand 2014).

Waikato's demography is also affected by Auckland. Auckland is actually no longer receiving a net inflow of working age people from other New Zealand regions. Rather its growth is fuelled by international migrants (with foreign born people comprising about 40 per cent of Auckland's population) and natural increase (MBIE 2014). This echoes the experience of larger international cities like London and Sydney.

Some of Auckland's workforce is relocating to cheaper residential areas in the Waikato such as Hamilton, Huntly and Waiuku (Gooderham et al 2014). It appears that this includes significant movements of Maori from Auckland to the Waikato between the last two censuses³. These people movements parallel relocations of some industries from Auckland to cheaper land in the Waikato. In addition, Auckland's retirees are contributing to the growth of the Thames-Coromandel.

Corridors and infrastructure

Rural areas have always provided the connectivity between urban and town centres, through roads, power lines, and energy and network infrastructure (Caffyn and Dahlström 2003). As New Zealand's urban population has grown, the carrying capacity of rural areas has also grown significantly, exemplified by such initiatives as the Waikato expressway. These provide the traffic of primary production for urban processing and/or direct export; the traffic of urban-produced or manufactured goods and services, and information connectivity between centres. Lastly, rural areas are generally the endpoint for urban waste, via large-scale landfills (European Commission 2000).

Waikato's infrastructure is important not only as a connector between Hamilton and surrounding towns and rural areas, but also as a connector with other regions. This includes the water infrastructure connecting Auckland to the Waikato river, and the Waikato's energy infrastructure which serves the whole north Island.

³ Between the last two censuses Waikato's Māori population increased by almost 10 percent, growing much faster than the total Waikato population or the national Māori population, suggesting substantial inward migration of Māori to the Waikato from elsewhere. According to past Statistics New Zealand reports about domestic migration, Māori are much more likely than other groups to migrate between regions, and migration flows are most significant between Auckland, Waikato and Bay of Plenty. The economic position of Māori worsened everywhere between the last two censuses, but Māori employment rates were higher in the Waikato than they were in Auckland (MBIE 2014).

The Waikato region plays a key role as a transport hub in the north of the north island, as its transport corridors link other regions to the Ports of Auckland and Tauranga. Its road network carries a higher number of heavy commercial vehicle movements per day than in any other region, and a very high proportion of through traffic (Knuckey et al 2013). The north of the North Island generates over half of New Zealand's GDP, and freight being carried through this area is predicted to double by 2035 (Upper North Island Strategic Alliance 2013).

Major decisions and investments are being made about these transport corridors, including:

- The investment in the Waikato Expressway between Auckland and Cambridge being undertaken to cater for continued high growth.
- The Ruakura inland port, being planned by Tainui Group Holdings as the central focus for rail freight in the North Island. This is expected to significantly increase freight efficiencies and exports, and to create an extra 11,000 jobs and an additional \$1b in GDP by 2061 (Knuckey et al 2013).

Boundary relationships

A final layer in the complex spatial flows between rural and urban areas are boundaries, whether of territorial authorities, or of residential or industrial development. These create dynamic interactions between urban and rural in multiple ways. These include the preservation of natural resources through green belts and metropolitan limits; changes in land use on the peri-urban fringe, from rural production to industrial or residential development; and decentralisation of urban areas.

The peri-urban fringe of cities offers particular challenges to regional planners, where the changing land use brings to the fore a range multiple competing perspectives, interests and world views. In these circumstances, the conflict between environmental, recreational, commercial, industrial, primary and policy sectors quickly becomes apparent, and from these different perspectives, reflects a tension between preserving the economic and social offering of what is currently there (such as agricultural land or public open space), and tapping into the potential of what could be through alternative land uses (Adam 2002, Castle et al 2011, Mylott 2009).

In the Waikato, competing uses for rural land in some areas of the region have implications for soil quality. The growth of Auckland and Hamilton is creating demand to use fertile land for residential development at the rural/urban boundary in the Waikato and Waipa districts (Gooderham et al 2014). In other areas where there is intensive farming, increased soil compaction and declining fertility could become a major issue in the future (Knuckey et al 2013).

The many local and regional government boundaries in the Waikato region, and overlaps in some areas, also create challenges to the cohesiveness of the region and the ability of the councils to work in a collaborative way. Nevertheless they have progressed several joint decisions and plans, including the Waikato Economic Development Strategy, Future Proof (a

growth management strategy for Hamilton city and Waikato and Waipa districts) and the current Waikato spatial planning process.

Waikato Regional Council and Hamilton City Council also contribute to the Upper North Island Strategic Alliance (UNISA), along with local authorities in Auckland, Northland and the Bay of Plenty. UNISA is working with the New Zealand Transport Agency and Kiwirail on a shared evidence base to inform decisions affecting freight (Upper North Island Strategic Alliance 2013).

Production relationships

Primary, secondary and tertiary sectors

In a simple three sector model of an economy, the rural-based primary sector provides resources to towns and cities, to be manufactured into products which are consumed by everyone (with most consumers dwelling in the cities). In turn, cities provide services to everyone, including farmers, manufacturers in towns, and other services businesses.

Most developed countries export high tech products and services, with their rural areas providing inputs to these. But the relationship is reversed in New Zealand. Over half of our exports are made of primary sector based products that have been relatively simply processed, with dairy products alone making up 20 per cent (MBIE 2013). We have a very small high tech manufacturing sector, and we have been slower than other countries to export our services, which are primarily domestically focused.

This means that production relationships between sectors based in rural areas, towns and cities are likely to be different in New Zealand than they are in much of the OECD. Rather than rural areas providing the inputs to exports dominantly produced in cities, our cities provide inputs to exports produced in rural areas. These include specialised, higher value professional and scientific services that rural areas would struggle to provide (Spiller 2012).

Inter-industry (or 'input-output') tables measure actual financial transactions between sectors in the production process. They can be used to infer what the production relationships between rural and urban areas might be, including the extent to which these are complementary versus independent of each other, and which industries have the most interactions.

Table 1 provides a conceptual representation of the transactions recorded in the New Zealand Inter-industry table⁴, for three sectors that are highly geographically concentrated in either rural areas, towns or cities:

- Dairy farming (rural)
- Dairy product manufacturing (in towns)

⁴ Statistics New Zealand's 2006/7 national inter-industry transactions table.

- Finance (cities)

Table 1: Inter-industry transactions for dairy farming, dairy product manufacturing and finance

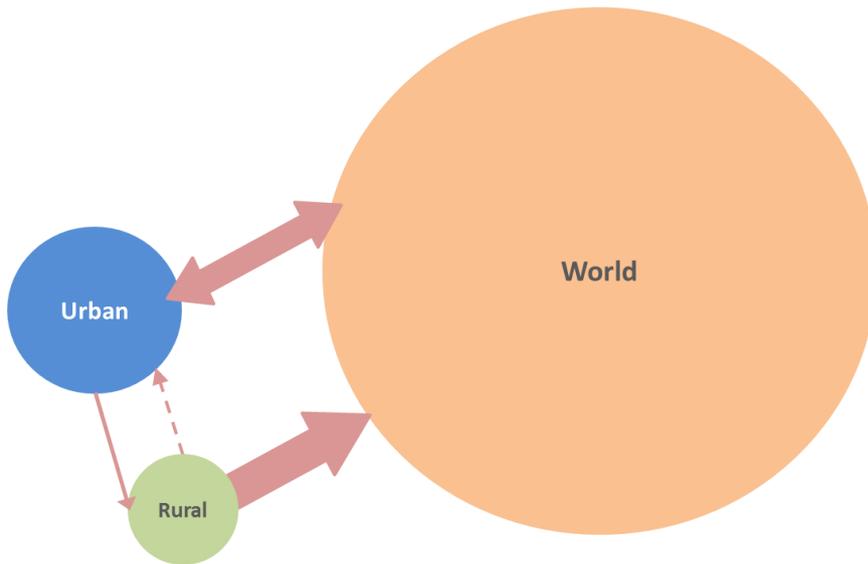
	Input	Output	Market
Dairy farming	Support Services Fertilisers Financial services Pharmaceuticals Forage Electricity	Milk	Dairy product manufacturers
Dairy product manufacturing	Milk Freight services Financial services Packaging Plastics	Milk powder butter, cheese	Overseas NZ consumers Other food manufacturers
Finance	Diverse other services	A range of different financial Services	Many different markets across New Zealand
Rural areas	Towns	Cities	

Source: Simplified representation of transactions in the New Zealand Inter-industry table

This indicates that for these three sectors there is some complementarity between New Zealand’s rural and urban areas. However, interactions are much greater between rural areas and towns than with cities. Cities are not a very important market for dairy production, most of which is exported. In addition, while cities provide financial services within New Zealand, including to towns and rural areas, most of these financial services would be provided to businesses and consumers located in cities.

There may be greater rural-urban interactions for other sectors. However, if much of the production from New Zealand’s rural areas is exported without being further processed, while cities mostly serve themselves, this would suggest a high level of independence between urban and rural areas. Figure 2 depicts this possible relationship.

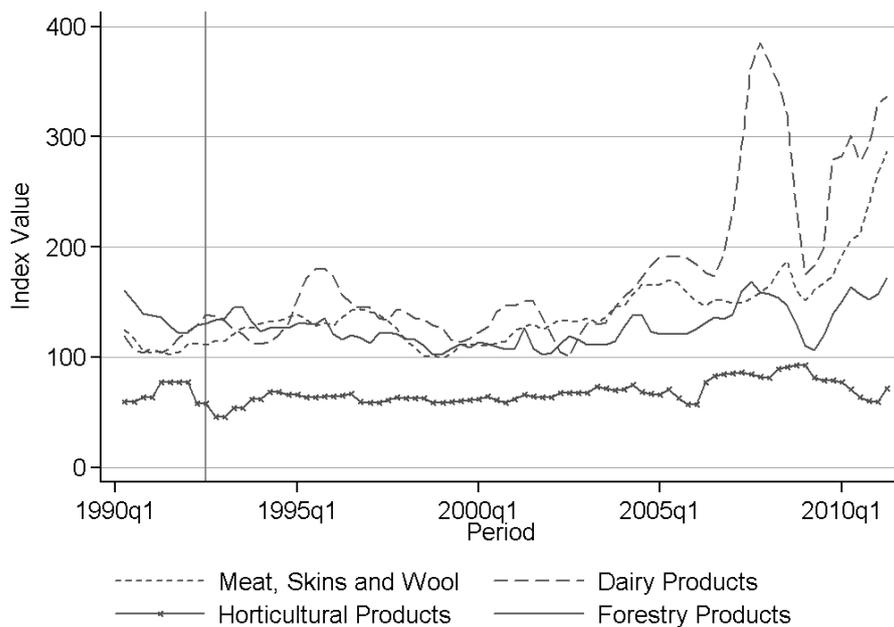
Figure 2: Hypothetical model of New Zealand’s rural and urban interactions



Global commodity price shocks

The urban versus rural impact of commodity price changes is of particular interest for a commodity exporter such as New Zealand (and the Waikato). Dairy prices have experienced the greatest volatility of all the commodities included in the ANZ World Commodity Price Index (see Figure 3). What impact does this have in the Waikato, which generates almost one third of New Zealand’s dairy production?

Figure 3: Component world commodity price indices



Source: ANZ World Commodity Price Index 1990 – 2010, Grimes and Hyland (2010)

Two recent attempts have been undertaken to understand the impact of these price changes on rural versus urban areas in New Zealand. They reach different conclusions, partly because they are measuring different things over different time frames, using different methods.

The first approach looks at the medium term impact of commodity price changes on land and house prices in rural districts, “quasi-rural” districts (such as Taupo) and urban areas in New Zealand (Grimes and Hyland 2013). The research method involved vector autoregressive modelling using the ANZ Commodity Price Index and quarterly housing data⁵ for each territorial authority from 1991 to 2011. The research found that commodity price shocks had no discernible impact in rural or quasi-rural areas, but are passed on to urban areas, where “*a permanent increase in commodity prices of 1.0% leads to a 0.09% increase in long run house prices , and a 0.01% increase in long run housing stock*”.

The authors suggest that this may be because:

- Rural economies and towns do not have much employment-rich economic activity compared with urban economies, and so while commodity price changes in this order affect farmers they don't translate into much change in job numbers or wages in rural areas and towns.
- Farmers respond to commodity price shocks by keeping consumption in rural and quasi-rural areas constant, but increasing/reducing their expenditure on urban-based professional services and durable goods (inputs to agricultural production). This “indirect income effect”, indirectly increases/reduces jobs and income in urban areas.
- Alternatively, commodity price shocks may appreciate/depreciate the exchange rate and therefore reduce or increase import prices, which in the end affects consumers - who are concentrated in urban areas.

Grimes and Hyland (2013) make the point that their findings have broader application. For example, a policy implemented in rural areas (such as regulation that constrains the growth of production) may in the long run have more impact on urban economies.

The second approach uses multiplier analysis⁶ to estimate short term impacts on GDP, specifically impacts on Hamilton's GDP of a change in milk prices (Stroombergen 2014). This report estimates that “*for 10% decline in the commodity milk price, it is estimated that Waikato regional GDP would decline by about 1%. The effect on the Hamilton city economy is much less at slightly under 0.4% of its GDP...*”. Stroombergen bases this conclusion on estimates of inter-industry transactions, which show inputs to Waikato dairy production are a relatively small proportion of Hamilton's economy.

⁵ Grimes and Hyland used housing market outcomes as the indicators of economic impact because the two indicators summarise the effect of price and population reactions to a shock. They note that farm sale prices are also an important indicator but modelling these did not produce evidence of economic impact in rural areas.

⁶ Applied to inter-industry estimates at the city and regional level, which have been extrapolated from Statistics New Zealand's 2006/7 national inter-industry tables.

A key difference between the two approaches is the timeframe used: Stroombergen measures the short term impact on GDP while Grimes and Hyland look at the “final incidence”, in this case on house prices. The two approaches also use completely different methods. While Grimes and Hyland attempt to explain actual results (the correlation between increasing commodity prices and increasing urban house prices), Stroombergen uses information about inter-industry transactions to estimate what the result (impact on GDP) would be. Finally, while Grimes and Hyland look at the relative impact of commodity price changes on all rural areas, towns and urban areas in New Zealand, Stroombergen looks only at the impact of milk price changes in the Waikato and Hamilton. The urban impact of commodity prices changes is likely to be partly felt in Auckland, which provides services for the whole country.

We note that recent dairy price fluctuations have in fact been significantly higher than the 1 per cent and 10 per cent changes modelled in the above two approaches.

6. Policy Responses

What is the goal?

Most of the literature on local development assumes implicitly or explicitly, that the goal for each local area is “growth”, primarily growth in GDP or GDP per capita. Population growth is viewed as an indicator of, or a necessary input to, economic growth (with the working age population seen as particularly important). Following from this, much of the literature is concerned with explaining why growth is unevenly distributed, and what can be done about it. Spatial equity is therefore another implicit or explicit goal.

We note that in line with this the Waikato Economic Development Strategy aspires to:

- a) increase median household incomes to above the New Zealand average and
- b) grow value added (or GDP) by 2.8% p.a. - in the upper third of regions in New Zealand (Waikato Economic Strategy Governance Group 2014)

Some economic geographers point out, however, that global forces are increasing the unevenness of spatial development, and that growth may even be an unattainable goal for many places. While there has been some evidence of convergence in growth rates between countries internationally, regional disparities within countries are increasing (Tomaney 2010).

Spatially uneven growth has long been a feature of New Zealand. Auckland’s population growth is so much higher than elsewhere that it skews the national average: all other regions except Canterbury are projected to have lower than average growth between 2013 and 2043. The populations in 36 out of 67 territorial authority areas are projected to decline (Statistics NZ 2015). Demographic projections for the Waikato are that three districts will experience immediate population decline, while four other districts will experience an initial increase in population followed by decline.

Some of the literature advocates that local development can more productively concern itself with broader goals and that this is more meaningful anyway (Tomaney 2010). MBIE’s Regional Economic Activity Reports for 2013 and 2014 measure local economic performance against two non-growth goals⁷:

- a) “Good” living standards (measured in terms of median household income); and
- b) Job opportunities (measured in terms of the employment rate).

The New Zealand Treasury is pioneering work on living standards that is defined to include sustainability, equity and risk management, as well as economic growth. The Waikato Spatial

⁷ When measuring the economic performance of local areas, the choice of indicator really matters. For example if you choose income, then the divide is between Wellington City, Selwyn, Auckland and Queenstown (which earn higher than the national average), and the rest of the country, which earn less than average. However, if you compare unemployment rates, the divide is between the North Island where rates are high, and the South Island where they are low (NZIER 2014).

Plan has a very broad primary objective, “to contribute to the Waikato’s social, economic, environmental, and cultural well-being” (Waikato Mayoral Forum 2014).

Paradigms in local development

Interest in local economic development has waxed and waned over time both internationally and nationally, and the nature of that interest has changed along with the dominant economic paradigm of the day (Tomaney 2012). Table 2 summarises local development approaches prevalent at different times.

Table 2: Local development approaches

	1970’s – mid 80’s Balanced Regional Development	2000 - 2009 Internationally Competitive Cities	Current: Place-Based Local Development
Problem	Regional disparities	Institutions constraining benefits of growth	Under-utilised potential
Objectives	Equity	Competitiveness	Competitiveness and Equity
Place of Focus	Lagging regions	Cities	All places
Actors	Central Government	Central Government, Metropolitan governments, large business	Multi-party: Governments at all levels, business, NGOs
Approach	Compensate disadvantage and respond to shocks with “exogenous” transfers and investments	Ensure national and metropolitan decisions maximise benefits of agglomeration and minimise its costs	Develop potential by building on “endogenous” assets and knowledge
Tools	“Big” infrastructure, subsidies, job schemes	Governance reform; spatial planning; investments in urban amenity and infrastructure; Cities networks	Planning; investments in skills and innovation to support context- specific “specialised diversification”; rural- urban partnerships

Source: Modified version of table in Tomaney 2012

‘Balanced’ regional development

The economic crisis experienced by developed countries during the 1970’s was reflected in growing disparities between different regions. Concerns about that led to governments adopting “balanced regional development” policies, focused on lifting up lagging regions through a combination of infrastructure investments, subsidies and job schemes. New Zealand’s version of this included the “Think Big” energy projects, Development Finance Corporation loans for regional manufacturing initiatives and the Project Employment Programmes.

‘Spatially neutral’ development

Regional development policies became less popular during the mid-eighties, when countries began to pursue deregulation, removal of subsidies and smaller government in the pursuit of national efficiency and competitiveness. Increasingly, policy makers began to see regional inequality as a) inevitable and b) even welcome, a reflection of global forces allocating resources to where they are most productive. Regional disparities had continued to grow despite a long history of policies to counter this. Regional policies were seen as “inefficient, wasteful and counterproductive, serving only as a drag on the growth of the whole economy” (Tomaney 2012). Governments abandoned them in favour of “spatially neutral” economic development policies, investing in people rather than places, equipping them with the means to be mobile and respond rationally to market signals.

‘Internationally competitive cities’

However, by the beginning of this century this approach began to be challenged as “spatially blind” by proponents of the “new economic geography”, articulated by Nobel Prize winner Paul Krugman and others. These theorists observed and explained the concentration of economic activity, people, and capital in large cities around the world. They highlighted the benefits of agglomeration (greater innovation, higher productivity, international competitiveness), as well as the potential for these benefits to be undermined by the costs of growth (transport congestion, rising house prices, environmental pollution, social unrest). They advocated for government policies to support the benefits and minimise the costs.

Governments began to invest in urban infrastructure and amenity to support “internationally competitive cities”, often around hosting major international events. They also undertook metropolitan governance reforms and engaged in spatial planning, to improve integrated decision-making in cities throughout the world – including Auckland.

Related to this, some countries such as England and the Netherlands have also pursued the development of city networks. They aim to improve national economic performance by improving institutional collaboration between separate cities. Hamilton City Council has participated in a New Zealand core cities network initiative (NZIER 2012).

‘Place-based’ development

The 2008-2012 global recession was transmitted via the finance sector, housing markets and then manufacturing – and therefore hit cities particularly hard. Meanwhile, the impact on some

rural areas was somewhat mitigated by the resources boom happening at the same time, fuelled by the growth of China.

By 2012 the OECD was making the observation that “*there is strong potential for growth in rural and intermediate regions*” and that in many countries “*these regions have contributed more to national growth than... advanced regions*” (Garcilazo 2012). This, perhaps temporary, turnaround has also been apparent in New Zealand. Growth in resource-based regions such as Canterbury, Taranaki and Southland has been such that by 2013 they had higher levels of GDP per capita than Auckland (MBIE 2014). Regional disparities have continued to grow, but they are not based only on the urban/rural divide.

This has contributed to governments becoming interested in *all* places, and in the “place-based approach” to local development. Place-based policies aim to improve both efficiency and equity, through tackling under-utilised potential in all places (Tomaney 2010). This driver means that policies are customised to local circumstances and are being applied to regions, cities and rural areas all around the world of different sizes and with different economic structures. This is proposed by the OECD as a ‘paradigm shift’ from a redistributive approach to one that is building competitive regions to bring together actors and target key local assets (Garcilazo 2012). The place-based approach may therefore offer the Waikato region and its component parts with useful policy responses to issues of spatially uneven development.

Place-based approaches emphasis strengthening local institutions and proactive long-term strategies. Local government, local businesses and people with local knowledge are at the centre of designing and implementing strategies. These often focus on quality of life and environmental sustainability, as well as economic performance. They comprise integrated packages of action that build on the assets and comparative advantages of the local area.

Rural strategies tend to pursue diversification around natural resource endowments⁸, the introduction of new skills and technologies into traditional sectors, and reform of local governments to achieve scale economies. Urban strategies typically focus on liveability to attract knowledge workers, innovation system linkages and serving the regional and national markets (Tomaney 2010). Place based strategies everywhere emphasise developing local skills and innovation capacity, which are considered necessary in order to realise benefits from infrastructure investments (Garcilazo 2012; Tomaney 2010 2012).

Institutional partnerships

Consistent with place-based approaches discussed above, is the notion that urban-rural relationships are not simply about geographic or spatial flows, but about linkages between institutions. Place-based approaches are therefore often pursued via partnerships between rural and urban institutions.

⁸ The regional growth studies being undertaken by MBIE and local stakeholders in Northland, Bay of Plenty and Manawatu-Wanganui are in line with this. They seek to identify ways to achieve “specialised diversification” in each region by a) growing activities that provide inputs to, or further process, the commodities these regions traditionally produce, and b) using resources and capabilities in new ways.

Internationally, there has been a steady growth in institutional partnerships to meet the collective needs of regions, to link what had previously been seen as independent, and to transcend what were seen as competitive relationships. These are intended to leverage mutual resources and to raise economic performance; and the evidence indicates that places where “urban” and “rural” are closer, and where institutions are more inclusive, perform better than others in terms of growth of population and GDP per capita, respectively (OECD 2013, Metrex 2011).

Institutional partnerships can be thought of in terms of inter-governmental partnerships, such as those occurring between the partners in the Waikato Spatial Plan and economic development strategy. Alongside this, a developing theme internationally is that of partnerships between government (central and local), academic and private sector. These bring to the table different competencies in policy development, scientific research and development, and commercial leverage (Caravannis 2000). Other important institutional partners include chambers of commerce and other sectoral interest groups.

Key issues in forging strong institutional partners include the stability of the participating institutions; the role of leadership in guiding and forging partnerships; and the strength of networks within and between institutions (OECD 2013).

Policy responses to the issues outlined in this report should include institutional partnerships between rural and urban areas, however these are only part of the suite of responses that local policy makers should use to address their issues. Regional partnership arrangements are best applied to:

- Common issues facing all areas
- Network infrastructure issues that are intrinsically regional or even national
- Spillover issues (where activity or policy in one area impacts other areas)
- Achieve benefits by having consistent policies

Sub-regional partnerships may also be useful for developing policies to “unshackle” the benefits of high growth areas (such as the *Future Proof* strategy), grow the productivity of middling areas, and “manage the decline” of areas facing de-population (see below).

Unless there is a strong push to amalgamate into one council, each local authority also has their own different issues that they must each address and fund.

Responding to population decline

As discussed in previous sections, depopulation is a key challenge for some regional and national economies. Policy responses to depopulation can be summarised as:

- ‘Non-intervention (whether because of ignorance, denial or choosing to let the market run its course)
- ‘Countering’ (interventions to try and stimulate population growth)

- ‘Acceptance’ (‘managed decline’ interventions that accept depopulation but still strive to achieve a good standard of living, including better meeting the needs of an older population)

The literature indicates that policy makers go on a journey through these stages. However, internationally most countries and their regions, including New Zealand, are still in the non-intervention and countering stage. They tend to focus their policies on either a) equipping local people with the skills and ability to move; or b) trying to rejuvenate the local economy and make it more attractive to workers and firms. Japan and Germany are two countries that have accepted depopulation and which are actively intervening to manage this (MacMillan 2015).

Managed decline interventions include:

- Local Governance reform (amalgamating local authorities to share the financial incidence of maintaining infrastructure between growing and declining areas - note the Local Government Commission’s reorganisation proposal for the Wellington region is in line with this, by including the Wairapa in the proposed unitary authority on financial viability grounds)
- ‘Right-sizing’ infrastructure - Southland is doing this by reducing maintenance standards for less priority roads
- Labour market reform (e.g. NZ abolishing the age of retirement, encouraging more flexible work practices)
- Actions to increase productivity (output per worker), including application of technology and new practices; adding more value to natural resources; finding new markets; making new uses of current resources and capabilities
- Redesigning the urban environment to meet the needs of disabled and older populations
- Temporary use strategies for abandoned buildings
- Attracting and better integrating international migrants
- Housing reforms that increase supply of single occupancy dwellings (MacMillan 2015).

7. Conclusions and implications for the Waikato Spatial Plan

This review highlights that urban and rural economies are shaped by not only their own respective economic bases, but also by the interdependencies between rural and urban areas. There is a dynamic relationship occurring between people and place across and between urban and rural areas. Moreover, it can also be seen that underlying the ongoing urbanisation of New Zealand is a complex relationship between cities, towns and rural areas.

A clear theme emerging in regional development internationally, in recognition of the interdependent nature of rural and urban economies, is the development of place-based approaches that work regionally, and seek to strengthen local institutions, and build complementarities and synergies.

The Waikato is a microcosm of New Zealand, containing in one region the extremes of some of the nation's key dichotomies and tensions:

- Rural commodity exports versus urban public services and innovation
- Satellite townships with their own unique relationships to both urban and rural areas
- Youthfulness and population growth versus ageing and population decline.

Managing these tensions requires a regional approach, one that recognises the development opportunities and constraints of urban and rural areas, and the interdependencies between the two. The Waikato Spatial Plan should also be of significant interest to central government, which seeks to better meet diverse needs and address significant economic challenges, yet struggles in the face of international forces of change.

The sparseness of literature on urban-rural relationships, particularly literature that includes up-to-date quantitative evidence relevant to the Waikato, suggests that some further analytical work, potentially using social accounting matrix approaches, would strengthen understanding of urban-rural relationships. In particular we would suggest undertaking some work on domestic migration patterns using the latest population estimates and projections; and some work on inter-industry transactions using the national input-output table (or perhaps regional model based on this).

Each local authority will need to consider its own policy responses and contribution to the spatial plan as each has different issues to address. Some need to focus on managing growth, others on managing decline, and each has different assets and capabilities and specialisms to develop from.

Taken together, the Spatial Plan and individual local authorities will need approaches that work collectively across rural and urban areas by developing the capabilities of their people, as well as physical resources and infrastructure; and partner with community, iwi, business, and other partners to achieve region wide growth.

Appendix 1. Literature Scanning/Analysis Approach

Literature scanning

On commissioning this review, we were supplied with an initial list of documents by the Waikato Spatial Plan team for consideration. These spanned a wide range of areas related to urban and rural linkages, some discussing the broad area of urban and rural economic linkages, and others focusing on specific aspects (such as regional partnerships, or peri-urban land use challenges).

Following this initial scan, a more formal search was undertaken using keyword searches on Scopus, Econlit and Geobase electronic databases, using a range of search terms, and in particular the following: 'urban rural relationships', 'urban rural economic development', 'spatial distribution of regional economic activity' and 'central place relationships.'

Further reports and documents were accessed through review of the bibliographies from key sources accessed through the literature searching.

Following review of each document accessed, a final set of some 50 documents formed the foundations of this analysis, as detailed in the bibliography to this report.

Analysis approach

Rapid review

This approach for this analysis is one that is common with many 'rapid reviews', in which key sources from the published and grey literature (i.e. commissioned reports that are not always published as academic papers) are gathered and explored over a short timeframe. Criteria for inclusion in the review primarily focused on relevance and insight into urban and rural linkages, as discussed in under literature scanning above.

Rapid reviews such as these seek to explore an appropriate breadth of the literature, but for reasons of both time and cost, do not seek to provide an exhaustive review as may be expected for example from systematic reviews in academic studies. They do however provide a reasonable cross-section of key documents, and enable exploration, discussion and insight to support future decision-making.

Appendix 2. New Zealand definitions of ‘rural’ and ‘urban’

There are variable definitions of ‘urban’ and ‘rural’ used in the New Zealand literature.

Local government boundaries

Much of it uses local government boundaries. Regional economic analysis uses regional and unitary council areas, with Auckland and Wellington always described as urban and many other regions as “agricultural” (MBIE) or “provincial” (NZIER). Sub-regional analysis tends to refer to city council areas as urban, and district council areas as rural⁹.

Population: NZ standard urban classification

Statistics New Zealand has a five-level standard urban classification that ignores local government boundaries and defines areas based on population. These include main urban areas; secondary urban areas; minor urban areas; rural centres; and rural areas. Table 3 shows how Waikato’s settlements (excluding rural areas) are defined under this classification.

Table 3: Standard Urban Classification of Waikato areas based on Population

Category	Population	Waikato Settlements
Main urban area	30,000 +	An area comprising Hamilton, Cambridge and Te Awamutu “zones”.
Secondary urban area	10,000 – 30,000	Pukekohe, Taupo, Tokoroa
Minor urban area	1000 -10,000	Coromandel, Huntly, Matamata, Morrinsville, Ngatea, Otorohanga, Paeroa, Putaruru, Raglan, Tairua, Taumaranui, Te Kauwhata, Te Kuiti, Te Aroha, Thames, Turangi, Waihi, Waihi Beach, Waiuku, Whangamata, Whitianga
Rural centre	300 - 999	Kawhia, Kerepehi, Kinloch, Meremere, Pauanui Beach, Piopio, Te Puru- Thornton Bay, Tirau, Waharoa, Waitoa

Source: Statistics New Zealand 2013

Pool et al use a slightly revised version of this standard urban classification, splitting “main urban area” into “metropolitan” and “large” urban areas. Hamilton is defined as metropolitan. Pool et al also make the point that the populations of areas defined as urban in New Zealand are small compared to other countries, where comparable settlements would be described as

⁹ With the exception of Auckland and sometimes Nelson, unitary council areas are usually described as rural.

villages. Nevertheless these settlements do have urban economic characteristics, with the majority of workers employed in manufacturing and services industries.

Labour markets

Statistics New Zealand also provides an “experimental” classification based on labour market catchments. It uses the urban and rural boundaries of the standard urban classification, but provides an alternative breakdown beneath this.

Figure x maps the Waikato region according to this experimental classification. The Hamilton/Cambridge/Te Awamutu settlement is the main urban area, and four settlements are defined as “satellite urban communities”, with 20 percent or more of their populations commuting to Hamilton to work: Pukehohe, Waiuku, Huntly and Raglan. All other urban settlements are defined as “independent” with less than 20 percent commuting to work in Hamilton. Rural areas to the south of Pukehohe, and surrounding the Hamilton/Cambridge/Te Awamutu area, are categorised as having a moderate to high degree of urban influence (with “significant” proportions of their resident population working in nearby urban areas).

Commodity production

In contrast, Grimes and Hyland (2013) define local government areas as either rural, quasi-rural or urban, depending on the share of their land value used for commodity production. The following table shows how the Waikato areas are defined:

Table 4: Classification of Waikato Territorial Authority Areas by Commodity Production

Classification	Territorial Authority Area	Proportion of land value in commodity production (%)
Rural	Otorohanga	80.1
	South Waikato	78.3
	Matamata-Piako	71.2
	Waitomo	70.5
	Hauraki	62.6
	Waikato	56.1
	Waipa	54.5
Quasi-Rural	Rotorua	22.7
	Taupo	20.5
Urban	Thames-Coromandel	7.6
	Hamilton	1.7

Note: Thames-Coromandel is classified as urban here because one third of its area is in Conservation estate, coastal settlements comprise a significant share of its land value, and only a small proportion is used for commodity production.

Implications

Literature that uses the more complex typologies makes richer observations about rural-urban relationships. For example,

- People appear to be moving to major urban areas from independent secondary urban areas, rather than from rural centres (Statistics New Zealand 2004).
- Waikato is the only region in New Zealand with a “metropolitan” area that is also significantly rural (Pool et al).
- “...if in a “metropolitan” region the division is into city and not-city territorial authorities, then...the concerns of city politics and policies may not fit with those of more rural communities.” (Pool et al).

There are two key points to take from this. First, we believe that there is value in looking at the relationships between *three* types of areas: Urban, Town and Rural. (These would not match local government boundaries, which in any case are not a good approximating of “economically functional” areas. We could recommend using an amalgamated form of the Statistics New Zealand classifications, with the Hamilton/Cambridge/Te Awamutu area being “Urban”, all other urban settlements of 1000 people or more being “Towns”, and the rest being rural). Second, care needs to be taken when translating findings in the various literature to the Waikato situation. The literature is not based on consistent and comparable definitions of urban and rural. However, we are of the view that this three-level typology is supported by current thinking in regional development that notes the importance of both central hubs, and small to medium-sized towns, that provide employment in their own right interact with their rural surrounds (Courtney et al 2007).

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