Developing Indicators for Local Communities:  
The New Zealand Experience

Statistics New Zealand

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Abstract

New Zealand, although relatively small, is a diverse country. Local communities may vary greatly from one another in terms of their economy, demography, land area and the resource management issues that they face.

This paper provides an overview of New Zealand, its communities, its legislative framework and initiatives that are being developed for local community monitoring and reporting, including the development of indicator sets.

Local communities in this paper refer to not only the legal or formal communities that are governed at the local level, but also communities of interest such as urban and rural communities. The paper also discusses the challenges faced in developing indicators that meet the diverse needs of local communities while enabling comparability and creating a national picture to inform our responses to global challenges such as climate change and our need for sustainable development. For instance, census data for very small areas (meshblocks with very small populations) may be confidentialised.

Introduction

New Zealand communities

New Zealand is an island nation in the south-west Pacific with two main islands, the North Island and the South Island, as well as numerous smaller ones such as Stewart Island and the Chatham Islands group. The capital, located in the North Island, is Wellington. Also in the North Island is Auckland, the leading port and largest city with a population of 1,303,068. New Zealand is an independent sovereign state, its parliament sets all national laws in the absence of any federal structure and the country was a foundation member of the United Nations Organisation.

The majority of New Zealanders are of European descent (67.6 percent) (Statistics New Zealand, 2005a). New Zealand’s indigenous Māori population makes up around 15 percent of the

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1 This paper was prepared by Abby Thornley in the Geography, Regional and Environment Team at Statistics New Zealand. Any enquiries about the paper should be directed to: Abby.Thornley@stats.govt.nz
population. New Zealand’s land mass is similar in size to Japan or Great Britain, with a population of approximately 4 million. Compared with other Organisation for Economic Co-operation and Development (OCED) countries, New Zealand has a small population (fourth smallest), it also has a higher than average fertility rate (fifth highest in the OECD), and a higher than average life expectancy at birth (twelfth highest) (OECD, 2005). New Zealand has a relatively low ratio of people aged over 65 years compared with the labour force (eighth lowest).

Local communities in New Zealand can be defined by legal boundaries, such as regions or districts, or they can be defined by less formal criteria, such as rural and urban communities, or non-geographically linked communities with strong ethnic ties. In this paper, both formal and non-formal communities are addressed, using legal boundaries for local communities based around the New Zealand Geographic Frame. The Geographic Frame identifies of small units of variable geographical area called meshblocks, which are made up of approximately 100 households. The location of the meshblocks determines the local authority boundaries. The robust structure of the New Zealand Geographic Frame has meant the formal boundaries of local communities in New Zealand have been able to be consistently monitored and updated since their implementation in the 1960s.

New Zealand has a diverse range of local communities, they are highly mobile, and in many cases the local communities have very different social, economic, environmental and cultural attributes which can make them unique. For example, Auckland, one of the smallest regions in terms of land, is home to approximately one third of the population, which highlights the uneven distribution of New Zealand’s population (see table 1 and figure 1). Table 1 shows Auckland has the highest population density (215.3 people per square kilometre), compared with the West Coast, which has the smallest population density (1.3 people per square kilometre). Another illustration of difference is that whereas approximately 31 percent of Northland’s population is Māori, around 12 percent of Wellington’s population is Māori. These differences can be further demonstrated when looking at New Zealand’s two main islands separately. Three out of four New Zealanders live in the North Island. The increase in population in the last ten years has also been greater in North Island towns and cities with a 12.6 percent increase recorded in North Island regions, compared with 7.6 percent in the South Island (Statistics New Zealand, 2006).

Table 1. Regional Attributes in New Zealand, 2006

<table>
<thead>
<tr>
<th>Region</th>
<th>Population</th>
<th>Percentage of NZ Population</th>
<th>Percentage Māori</th>
<th>Population density People per Square Km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northland</td>
<td>148,470</td>
<td>3.69</td>
<td>31.70</td>
<td>10.8</td>
</tr>
<tr>
<td>Auckland</td>
<td>1,303,068</td>
<td>32.35</td>
<td>11.08</td>
<td>215.3</td>
</tr>
<tr>
<td>Waikato</td>
<td>362,716</td>
<td>9.50</td>
<td>20.96</td>
<td>15.9</td>
</tr>
<tr>
<td>Bay of Plenty</td>
<td>257,379</td>
<td>6.39</td>
<td>27.53</td>
<td>21.0</td>
</tr>
<tr>
<td>Gisborne</td>
<td>44,499</td>
<td>1.10</td>
<td>47.27</td>
<td>5.3</td>
</tr>
<tr>
<td>Hawke’s Bay</td>
<td>147,783</td>
<td>3.67</td>
<td>23.51</td>
<td>10.5</td>
</tr>
<tr>
<td>Taranaki</td>
<td>104,124</td>
<td>2.59</td>
<td>15.76</td>
<td>14.3</td>
</tr>
<tr>
<td>Manawatu-Wanganui</td>
<td>222,423</td>
<td>5.52</td>
<td>19.62</td>
<td>10.0</td>
</tr>
<tr>
<td>Wellington</td>
<td>448,959</td>
<td>11.15</td>
<td>12.77</td>
<td>55.2</td>
</tr>
<tr>
<td>Tasman</td>
<td>44,625</td>
<td>1.11</td>
<td>7.09</td>
<td>4.6</td>
</tr>
<tr>
<td>Nelson</td>
<td>42,888</td>
<td>1.06</td>
<td>8.67</td>
<td>96.7</td>
</tr>
<tr>
<td>Marlborough</td>
<td>42,558</td>
<td>1.06</td>
<td>10.47</td>
<td>3.9</td>
</tr>
<tr>
<td>West Coast</td>
<td>31,326</td>
<td>0.78</td>
<td>9.67</td>
<td>1.3</td>
</tr>
<tr>
<td>Canterbury</td>
<td>521,832</td>
<td>12.96</td>
<td>7.22</td>
<td>11.7</td>
</tr>
<tr>
<td>Otago</td>
<td>193,800</td>
<td>4.81</td>
<td>6.56</td>
<td>6.2</td>
</tr>
<tr>
<td>Southland</td>
<td>90,876</td>
<td>2.26</td>
<td>11.78</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Note: Data in table sourced from Statistics New Zealand, 2006, 2006 Census Regional Summary Tables
The changing face of New Zealand’s local communities

In 1881, New Zealand was predominantly rural, with nearly 60 percent of the population living in rural areas but the momentum behind urban development was rapidly gathering pace.

Between 1906 and 1916, the proportion of the population living in urban areas overtook those living in rural areas. Between 1886 and 2001, the population of urban New Zealand increased by over 1,500 percent, compared with an increase in rural areas of 83 percent (see figure 2).
The composition of urban areas has also changed considerably, particularly since 1950. Ethnic diversity has increased in urban areas, first with the urbanisation of Māori beginning in the 1950s, then with the rise of immigration from the South Pacific islands in the 1960s and 1970s. The 1990s experienced significant inward migration from Asia.

Over the course of the twentieth century, New Zealand was transformed from being composed of largely rural communities into a society comprised of highly urbanised ones. The nature of the economy also changed, although approximately half of New Zealand’s merchandise exports continued to be of primary produce by the end of the century.

Working on the land is no longer the occupation of the majority. According to the 2001 Census of Population and Dwellings, less than 10 percent of the New Zealand workforce report the agriculture, forestry or fishing industries as their occupation (Statistics New Zealand, 2005a). However, the changes that have occurred in local communities have not only been driven by economic factors, but demographic factors as well. For example, the growth in New Zealand’s population by approximately 23 percent since the 1980s (Statistics New Zealand, 2005b) has meant that population density has increased, particularly in the main urban areas. In addition, the increase in New Zealand’s population over the past ten years has been driven by natural increase\(^2\) (70 percent) as opposed to net migration (30 percent). This means that often changes in local communities are driven primarily by internal migration movements rather than by significant changes in migration flows.

The differences between local communities in New Zealand have become increasingly apparent over the last thirty years driven by a number of economic changes adopted since the 1980s. These changes include: the removal of agricultural subsidies, the significant reduction in tariffs on imports, the liberalisation of financial market controls on capital flows, the privatisation of former state-owned assets such as telecommunications, and the introduction of macro economic stabilisation as the primary objective of monetary policy. As a result, New Zealand became more connected with the global economy and New Zealand businesses were both able to better participate in global markets while also, of course, facing increased competition from offshore.

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\(^2\) Natural increase is defined as births minus deaths.
The changes initiated a structural change in the economy, shifting the focus from industry to services, which along with the arrival of retail chains serving both Australia and New Zealand and an increasingly cosmopolitan hospitality industry led to a new ‘café culture’ (Smith, 2005). Globalisation has changed the face of New Zealand business – it is now more competitive internationally and there is an increasing focus on productivity, growth and innovation. Currently, New Zealand has one of the lowest unemployment rates in the OECD.

Although the 1980s saw an increase in urban communities and a decrease in rural community populations there has been a recent renewed interest in rural areas, albeit with a different driver. More recently, people have been moving to the more rural areas around cities\(^3\) owning ‘lifestyle blocks’ or small scale farms and commuting to work in the city centres.

Figure 3 illustrates the urban rural profile of the Canterbury region and appendix 1 and 2 illustrate the full distribution of New Zealand’s local communities in an urban/rural context in 2001.

**Figure 3. Example from the Christchurch/Canterbury area**

![Map of Christchurch/Canterbury area]

Source: Statistics New Zealand, 2005, *New Zealand: An Urban Rural Profile*

**Sustainability and well-being**

The concepts of sustainability and well-being are important to New Zealand both at the national level and at the sub-national or local community level. Well-being is defined as the satisfaction of human preferences. The better human preferences are satisfied, the greater is well-being (Neumayer, 2004). Well-being is defined in terms of four themes – economic, social, environmental and cultural. These themes also commonly underpin the concept of sustainable development in New Zealand. Sustainable development is defined as “development which meets the needs of the present without compromising the ability of future generations to meet their own needs” from the Brundtland report (World Commission on Environment and Development, 1987). Sustainability is important in determining the well-being of individuals, communities and for New Zealand.

\(^3\) Classified as rural areas with high or moderate urban influence.
Zealand as a whole. Given the changes that have occurred in New Zealand’s demography, economy and environment it is becoming more important than ever to ensure the well-being of New Zealanders. It is also becoming more important to monitor these well-beings (through the development of indicators) especially as New Zealand’s demography, economy and environment continues to change.

Long-term sustainable strategies are, therefore, required for our ongoing success as a nation. New Zealand is committed to developing a sustainable nation and to developing suitable internationally comparable measures of the non-economic aspects of societal, cultural and environmental progress to complement the measures of economic performance that are already commonly accepted internationally. These measures will need to be reportable at national, regional and local levels. Communities will need to monitor changes in their local areas, and to benchmark against each other. This will also enable New Zealand to be benchmarked and compared with other countries.

Sustainability is also important to the current New Zealand Government. For instance; when outlining her priorities for 2007, the Prime Minister said “New Zealand's future is dependent on long term sustainable strategies for our economy, society, environment, culture and way of life” (Clark, 2007).

**Governance of local communities in New Zealand**

*New Zealand’s governance structure for local communities*

New Zealand has a single legislative chamber parliament. In addition to central government, New Zealand also has a structure of local government. Local government authorities, alongside central government, make decisions about the allocation of local resources, such as water, transport, and community facilities. These decisions generally seek to provide for the sustainability and well-being of their local communities. Local authorities are also responsible for the reporting to central government on the sustainability of resources in their region.

The top tier of local government is called a *region* and there are 16 regions in New Zealand. Of these 16 regions, 12 are governed by regional councils, while the other four are governed by the second tier of local government, *territorial or local authorities* (territorial authorities which perform both roles are known as *unitary authorities*). In total there are 86 local authorities in New Zealand.

*Legislation*

New Zealand has a range of legislation that assists in monitoring local community sustainability and well-being. However, two key legislative frameworks empower local community decision making and monitoring; the Local Government Act (LGA) 2002, and the Resource Management Act (RMA) 1991.

The purpose of the LGA 2002 is to provide for responsive and effective local government that recognises the diversity of New Zealand’s communities. To balance this empowerment, the law promotes local accountability, with local authorities accountable to their communities for decisions made. The LGA 2002 therefore facilitates local authorities to take a broad role in promoting community well-being, while taking a sustainable development approach to the use and management of natural resources.

Under the LGA 2002 local governments are required to develop long-term community council plans (LTCCP); these require local authorities to develop a set of well-being indicators for monitoring well-being and to ensure sustainable development. These are required to be reported on at least once every three years.
The RMA 1991 is the main piece of legislation that outlines the processes to manage our natural environment. Its purpose is to ensure that the effects of economic, social and cultural activities on the natural environment are managed in such a way as to ensure the environment does not suffer irreparable damage.

The basic concept of the RMA is to promote sustainable management and efficient use of our natural resources, using The Brundtland Report (World Commission on environment and Development, 1987) definition, namely “development which meets the needs of the present without compromising the ability of future generations to meet their own needs” as a background concept. In New Zealand, district and regional plans are important aspects of the RMA 1991. These plans set out guidelines for the public to follow on how they can and cannot use the environment.

**Measuring local community well-being**

There have been several initiatives at different levels which measure and monitor community well-being. A number of the recent key initiatives are outlined below (in chronological order).

**Quality of Life Project report**

The Quality of Life Project was established in 1999 by representatives from Auckland City Council, Christchurch City Council, Manukau City Council, North Shore City Council, Wellington City Council and Waitakere City Council to provide social, economic and environmental indicators of quality of life (or well-being) in New Zealand’s six largest cities.

It was initiated in response to growing pressures on urban communities, concern about the impacts of urbanisation and the effects of this on the well-being of residents. The purpose of the report is to provide information to decision-makers to improve the quality of life in major New Zealand urban areas.

The project is run by a team made up of representatives from the participating local authorities. The Quality of Life Project has since expanded to include twelve territorial authorities and there have been two reports to date, in 2001 and in 2003 (Big Cities). The project has also developed a questionnaire which can be used by other local authorities not included in the report to measure the quality of life in their area whilst ensuring comparability with those areas in the report.

The indicators monitored in this report cover topics such as: people; knowledge and skills; standard of living; economic development; housing; health; the natural environment; the built environment; safety; social connectedness; and civil and political rights. Economic growth is an indicator that is reported on under the economic development topic; Gross Domestic Product (GDP) is used as the measure for this. The data used to produce the indicators of quality of life are Official Statistics and taken mostly from Statistics New Zealand’s information releases.

**Long-Term Community Council Plans (LTCCPs) and Community Outcomes**

As outlined previously, the LGA 2002 requires local authorities to state their LTCCPs to assess progress towards the achievement of community sustainability and well-being outcomes.

Many local authorities have carried out considerable community consultation through surveys and meetings to determine their outcomes. There have been several innovative approaches to this process and a willingness to share experiences and knowledge across local government. The first monitoring report for local authorities is due in 2009 and reporting will continue on a three-yearly basis.
One example is Future Path Canterbury (FPC), an initiative to develop a long range strategic planning programme, which was developed through a partnership between the regional and city councils. The goal of FPC has been to ‘develop and agree upon a broad-based community view of what we want the future to look like, and pursue the achievement of it’. For this to be successful the Future Path project considered that ‘Visions only work when communities are involved in developing them’. (Local Government New Zealand, 2004).

**Linked Indicators Project**

In 2003 the government initiated a programme of work for sustainable development, called the Sustainable Development Programme of Action (SDPOA), following the World Summit in Johannesburg. One initiative that came out of the SDPOA was the Linked Indicator Project (LIP) which aimed to facilitate the monitoring of New Zealand’s sustainability and well-being.

The LIP is the main top-down community indicators project. It was a collaborative project between New Zealand’s statistical agency, Statistics New Zealand, and other central and local government agencies. It identified a set of regional indicators that would fill gaps in information to better inform local decision making. The term ‘linked’ in the terms of the LIP refers to data being linked from the national to the regional levels. An indicator was defined as a parameter that can be measured (eg, distance from a goal, target, benchmark) to show reliable trends or sudden changes in a particular condition. This linking is useful because, in order for decentralised decision making to be effective, policy makers need to have access to reliable and transparent tools/data.

Varying degrees of data currently exist, with the greatest amount of data available for reporting on indicators at the national level. This diminishes rather quickly when disaggregated to the sub-national level (see table 3). Social well-being is the only complete set of indicators for which there is data available at both the national and sub-national level, whereas the environment well-being only has data available to produce 45 percent of the indicators at the national level, this decreases to only 27 percent for the indicators at a sub-national level. The current focus is on filling the gaps in the indicators particularly at a sub-national level.

Social well-being covers themes of civil and political participation, health, housing, leisure and recreation, safety, skills/knowledge and social connectedness. Economic well-being covers themes of economic growth, international connection, standard of living, work, infrastructure and innovation. An example of the indicator measure used to report on economic growth is GDP.

<table>
<thead>
<tr>
<th>Table 3. Coverage of Linked Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well-being</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>Culture</td>
</tr>
<tr>
<td>Economy</td>
</tr>
<tr>
<td>Environment</td>
</tr>
<tr>
<td>Society</td>
</tr>
</tbody>
</table>

Source: Statistics New Zealand, 2005, *Linked Indicators*

**Other local community indicator programmes**

There are a range of other programmes for monitoring sustainability and well-being, however, many of these programmes focus on reporting at a national level, therefore the focus looking to the future is on disaggregating these indicators where feasible so that they can be reported at the local community level.
Statistics New Zealand has a number of initiatives underway, many in collaboration with other central government agencies, which have contributed to improving sub-national statistics, including:

- Programme of Social Statistics (POSS)
- Regional GDP
- Local population estimates and projections
- Regional Stocktake
- Quarterly Regional Review
- New Zealand’s geographic frame (meshblocks by which small area data is collected for the Census. Meshblocks are also used as the basis for local community boundaries and in local body elections).


A common understanding and monitoring of outcomes over time will be essential for comparing New Zealand’s progress between communities, against past performance and against that of other countries.

Challenges

There is increasing demand for information at the sub-national level with the introduction of the Local Government Act 2002 and the LTCCPs. However, in meeting this demand there are some key challenges. New Zealand has a small population, which means large samples need to be used to produce good sub-national estimates. Small population sample surveys cannot always deliver reliable estimates of small communities or small groups. For instance, census data for very small areas (meshblocks) are confidential. There is also the issue of respondent burden: consideration must be taken to ensure that high quality official statistics are produced without excessive load on data providers. Respondent burden is particularly challenging given New Zealand’s small population. To help overcome these challenges with data availability, confidentiality and respondent burden, a focus has been placed on the effective coordination of datasets, both survey-derived and administrative, through the Official Statistics System (OSS), a programme led by Statistics New Zealand to provide formal structures for the efficient coordination of official statistics across the entire public sector.

Another key challenge is the level of capability and capacity within local communities to undertake statistical activities. As shown previously, the scale differs greatly between local authorities and this impacts the resources that different areas have available to develop and analyse indicators for community outcomes. Statistics New Zealand, as leader of the OSS, is working in

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4 While a pilot project for collecting regional GDP data has been completed, resources are yet to be secured to commence the full collection of data for a regional GDP series of statistics.

5 The Social Report, reports on social indicators at the national, regional and local authority level. Some of the indicators reported on are the same as in the quality of life report. However, the Social Report has a narrower and more detailed focus on New Zealand’s society, whereas the Quality of Life report has a broader but less detailed focus on New Zealand’s society, economy and environment.
conjunction with local government and other central government agencies to overcome these challenges.

While there are programmes to monitor sustainability and well-being at the national level, there are considerably fewer sub-national ones. One of reasons for this is the comparability of sub-national datasets in New Zealand. Although local authorities collect and monitor their own sustainability and well-being, the information is often collected using different methodologies, then it is analysed and reported on in different ways. This means that it is difficult to aggregate to a national picture and often complicates comparability across regions.

Conclusions

New Zealand, although relatively small, is a diverse country. Local communities may vary greatly from one another in terms of their economy, demography, land area and resource management issues. This diversity requires local government to manage and monitor well-being and sustainability at sub-national level.

Local government has been empowered to make its own decisions about how to achieve its community’s outcomes through the Local Government Act 2002. This act requires local authorities to develop LTCCPs which are used to report on the sustainability and well-being of those local communities. In addition to the bottom-up approach to local community well-being reporting such as the LTCCPs, New Zealand has initiated top-down programmes led by central government, such as the Linked Indicators Project.

To date the main statistical challenge faced is one of data availability. The majority of the data is available at the national level. There is some sub-national data, however, it is often collected and analysed using different methodologies, so there is a lack of consistency across local authorities.

The focus now, for New Zealand, is strengthening the degree of consistency in measuring and monitoring well-being at the local community level. This will be facilitated by the Official Statistics System through capacity and capability building at all levels of government.
Appendix 1. Urban Rural Profile of New Zealand’s North Island local communities, 2001

Note: Data based on 2001 Census of Population and Dwellings.
Source: Statistics New Zealand, 2005, *New Zealand in the OECD*
Appendix 2. Urban Rural Profile of New Zealand’s South Island local communities, 2001

Note: Data based on 2001 Census of Population and Dwellings.
Source: Statistics New Zealand, 2005, New Zealand in the OECD
References


Neumayer, E, 2004, Sustainability and Well-Being Indicators, United Nations University, Tokyo.


