# MEASURING COMMUNITY WELLBEING: A CENTRAL QUEENSLAND CASE STUDY

## R. L. Miles

Institute for Sustainable Regional Development, Central Queensland University, Rockhampton QLD 4702.

## L. Greer

Institute for Sustainable Regional Development, Central Queensland University, Rockhampton QLD 4702.

## D. Kraatz

Department of Local Government, Planning, Sport and Recreation, PO Box 15031, City East QLD 4002.

## S. Kinnear

Institute for Sustainable Regional Development, Central Queensland University, Rockhampton QLD 4702.

**ABSTRACT:** It has been acknowledged by both Australian governments and regional development organisations that there is a need and global trend to develop, measure, analyse and disseminate evidence regarding community and regional wellbeing. Evidence based information regarding community and regional wellbeing can act as a sophisticated mechanism to inform and benefit both decision makers and communities. In the present study, a model to measure community wellbeing was developed following (a) an assessment of local government needs specific to Queensland (Australia) and (b) a global literature review. This paper presents the results of this work, including the research and analyses used to define the model and preliminary results from a pilot-scale case study. The resulting "Six-by-Six" community wellbeing model features 36 indicator headings organised into six domains (or dimensions) of wellbeing, with each domain comprising of six indicators. The model's six domains are constructed to cover economic, environmental and social wellbeing sections in a balanced manner. The key findings from the model's application to the case study are presented, along with an evaluation of the constraints and implication for a time series application. Finally, the future development of the model and its potential for wider applications are also discussed.

## 1. INTRODUCTION

It has been acknowledged by governments and regional development organisations that there is a need and global trend to develop, measure, analyse and disseminate indicators of community and regional wellbeing. Measuring wellbeing in a community is vital to knowing how that community is faring; it therefore provides critical information for decision-making regarding sustainable

development in regional communities. For example, most leading government and non-government organisations have now become entrenched in the mantra of the 'triple bottom line' (TBL) process, especially in the context of the changing roles that local, regional and state development and planning bodies are facing. Similarly, many professional planning bodies recognise that sustainability within the planning sector should address the social, environmental and economic aspects of development and resource management (Social Planning Guide, 2007). However, despite this growing awareness of the need to measure and address these three concerns in concert, regional decision-making has traditionally involved an over-reliance on measures such as Gross Domestic Product (GDP) and Consumer Price (CPI) indexes. These tools are limiting because they focus entirely on economic issues; they are also often measured at broad scales that are unsuitable or inadequate for regional and local area comparisons. It is becoming obvious, therefore, that such tools are inadequate for use in planning for sustainable regional development. In contrast, the use of more inclusive and comprehensive 'wellness indicators' to measure and provide evidence-based information regarding community and regional wellbeing can act as a sophisticated mechanism to inform and benefit decision makers and communities in regional areas.

The relatively recent development of the Socio-Economic Index For Areas tool (SEIFA) by the Australian Bureau of Statistics (ABS) has provided a substantial improvement in the data available to Australian planners, policy makers and communities. SEIFA comprises multiple different indexes, each summarizing a different aspect of the socio-economic conditions of the Australian population. Data for SEIFA and its indexes are sourced using a combination of variables from the Census of Population and Housing; for example, the 2001 Index of Relative Socio-Economic Disadvantage includes variables that reflect or measure relative disadvantage, such as low income, low educational attainment, high unemployment and people with low skilled occupations (ABS 2001). This broad-based approach to measuring the socioeconomic conditions of the Australian population is just one of the merits of SEIFA: the index is also capable of providing a populated weighted value for each Statistical Local Area (SLA) within Australia, using data derived at the ABS census collection district level. This is important since it enables small areas to be ranked against, and compared with, one another. Unfortunately, SEIFA does have some limitations, most notably that the census data it is based upon – whilst being highly representative of most communities due to the mandate for compulsory collection – is only collected once every five years. Another criticism is that different indicators embedded in the SEIFA tool are not necessarily mutually exclusive; some may even appear to be contradictory. For example, a community that scores highly in an index of disadvantage may not necessarily receive a low score in an index of advantage.

Best practice decision-making regarding sustainable regional development is a clear and worthy objective, especially where deliberations are based upon on a broad and reliable array of measures that qualitatively improve an understanding of the community. Regrettably, many of the existing tools designed to support

decision-making are limited by their narrow focus, poor regional applicability and/or problems inherent with their calculation and interpretation. Hence, developing a new model for the measurement of community wellbeing would provide a valuable tool for communities, planners and policy makers. This would especially be the case if the model was based upon a set of indicators that are reliable, statistically robust, capable of indicating community wellness accurately, and are relatively easy to use and interpret.

This paper describes the preliminary findings of a project that set out to identify sustainable indicators of community wellbeing by extending the key concepts of the SEIFA model, and to consolidate these into a decision-making tool that was regionally appropriate, flexible and practical. The primary focus of the study was the development of a sustainable model for the collection, analysis and dissemination of a suite of community wellbeing indicators. The model that was produced reflected a broad conceptualisation of community wellbeing, which comprised economic, environmental and social wellbeing factors. However, the end product (model) should be regarded as just one step in a continually evolving process to develop a practical and robust set of indicators of community wellbeing to improve local community engagement and community planning. This ongoing process will eventually contribute to providing an evidence-based framework for policy development on sustainable regional community planning at the local, regional and state level.

## 2. DEFINING, CONCEPTUALISING AND MEASURING 'COMMUNITY WELLBEING'

Community wellbeing is not easy to 'measure': it is largely a subjective concept. Wellbeing is normatively seen as a state of being for individuals or groups, and one that is often evaluated against a set of socially determined ideals (Teghe and Rendell, 2005). Previously, there has been a tendency for wellbeing to be associated with factors such as economic prosperity, market participation or the inevitable outcome of good social policy. Wellbeing has also been associated with concepts such as happiness, life satisfaction and social capital, all of which fall under the rubric of a 'social quality of life'. The social quality concept has recently been adopted within the European Union; its objective it to identify when social goals have been achieved as part of policy directions. Social quality can be defined as "the extent to which citizens are able to participate in the social and economic life of their communities under conditions which enhance their well-being and individual potential" (Beck, van der Maesen, Walker 1998:3). The social quality experienced by citizens is therefore considered to be based on four conditions: the degree of socio-economic security; the extent of social inclusion; the strength of social cohesion and solidarity between and among generations; and the level of autonomy and empowerment of citizens. The concept of social quality has, however, come under some criticism, primarily in regards to the ambiguous definitions used to describe the components of social quality and the subjectiveness of attempts to measure of social quality (Phillips, Berman 1999; Svetlik 1999). Given these reservations, Berger-Schmitt & Noll (2000:28) suggest that the conceptualisation

of social quality may require further refinement, and that it should be conceived as "an effort to integrate the ideas of social cohesion, social exclusion and human development under a common policy perspective".

In the Australian context, much of the empirical measurement of community wellbeing has focused on a construction of "social capital" drawn from the theoretical work of Bourdieu (1986), Coleman (1988) and Putnam (1995) (see Table 1). Further analysis by Onyx and Bulleen (1997) resulted in the identification of eight key factors associated with social capital:

- participation in local community;
- proactivity in a social context;
- feelings of trust and safety;
- neighbourhood connections;
- family and friends connections;
- tolerance of diversity;
- value of life; and
- work connections.

**Table 1.** Definition, Purpose and Analysis of Social Capital

| | Definition | Purpose | Analytical scale |
|---|---|---|---|
| **Bourdieu** | Resources that provide access to group goods | To secure economic capital | Individuals in class competition |
| **Coleman** | Aspects of social structure that actors can use as resources to achieve their interests | To secure resources of all kinds | Individuals in family and community settings |
| **Putnam** | Trust, norms and networks that facilitate cooperation for mutual benefit | To secure effective democracy and economy | Regions in national settings |

**Source:** Adapted from Winter (2000).

### 2.1 Measuring Wellbeing

In order to know if a community is heading in a desired direction, some form of evidence is required to indicate respective progress (though the definition of

'progress' is highly contested) and/or indicate possible problems. Community wellbeing indicators can reflect a community's health status and its basic quality of life. Indicators are therefore a useful tool for helping communities develop a better understanding of where they are in relation to other communities. They can aid citizens, policy makers, government agencies, the media, businesses and community activists in identifying and exploring the relationships among a wide range of community health trends and conditions. Broadly speaking, there are several approaches commonly used to understand not just economic but also social and environmental community wellbeing. These are:

- the accounting framework approach;
- the one-number approach; and
- the suite of indicators approach.

The accounting framework approach incorporates two main accounting systems: satellite accounts, which are a set of accounts which allow for non-market factors to be included into the national accounts; and Social Accounting Matrices (SAM) which are also based on the national accounts. SAMs are presented in a format in which each macro economic variable of the national accounts is linked with the mainly micro-statistics of labour markets and households.

The one-number approach involves the construction of one composite indicator (CI) from a range of component indicators such as health, wealth and environment. The two most notable efforts here are the Genuine Progress Indicator and the Human Development Index. Composite indicators have an obvious appeal in that single values enable a quick and clear indicator (such as a league table) that can be easily interpreted by most of the population. Other advantages include the timeliness, simplicity and accuracy of the measure. However, these are balanced by several disadvantages, most notably that the use of single CIs is often associated with oversimplication of wellbeing and hence the value is rendered meaningless or misleading (Hall, 2006). In addition, there is usually considerable debate surrounding the risks of data aggregation and weighting in the calculation of CIs. For the latter, however, Saltelli (2006) believes this is largely a non-issue, particularly where CIs are based upon large numbers of composites; rather, limiting CIs to only a handful of "A-League" indicators carries much higher risk of distortion. There are also concerns that CIs are overly subjective, and that movement of the indicators is too difficult to interpret since analysts must 'decompose' (disaggregate) a composite indicator in order to explain any changes. CIs are therefore currently subject to considerable debate regarding their worth. The 'suite of indicators' approach can therefore be viewed as perhaps the most promising of the general approaches available for the measurement of community wellbeing.

**2.2 Using Suites of Indicators in Models**

The development of a set (or suite) of clear and concise indicators of community wellbeing is not straightforward. It involves a number of compromising reductionist processes based largely upon political, personal and practical expediencies. Firstly, indicators of community wellbeing require

grounding within a construct, a model or a framework that can be theoretically defined and universally accepted. Secondly, it must be acknowledged that the underlying goal of developing a suite of indicators is not to arrive at a 'certain' conclusion regarding community wellbeing in any particular location; but rather to simply strengthen, by indication, the evidence that guides in-depth examination. For example, any measure of the community sustainability that includes economic, environmental and social indicators will, by necessity, involve a composite level of conceptualisation. The accuracy inherent in this may rely upon various factors such as the strength, reliability and methodological soundness of the indicators used to measure each of the economic, environment and social aspects. If any one of these issues is overlooked, then there is a higher likelihood that key aspects of community wellbeing will remain undetected and that the final analysis will be deficient as a result. It could be argued, therefore, that whilst sole reliance on composite measures broadens the likelihood of a more reflective evaluation of a community, it should not entirely exclude qualitative examinations of community wellbeing.

## 3. THE CENTRAL QUEENSLAND INDICATORS OF COMMUNITY WELLBEING PROJECT

There were two main catalysts that gave rise to the Central Queensland (CQ) Indicators of Community Wellbeing Project. First and foremost was the recognition of the existing data gaps regarding socio-economic conditions, specifically as they exist in the regional communities of CQ. Such gaps are evident largely because existing CQ data collection instruments tend to measure wellbeing at the state or broad regional level, rather than providing relevant, small-area specific data in a format that can be readily utilised by local government authorities. For example, two relevant surveys include the Queensland Social Survey (QSS) and the Central Queensland Social Survey (CQSS). Whilst these are designed to capture estimates at the state and regional level, they do not survey at the small area (LGA) scale. Rather, they sub-sample by framing major population bases and then remaining sample areas (QSS: Brisbane & Moreton – Rest of Queensland; CQSS: Rockhampton – Rest of Central Queensland). The Office of Economic and Statistical Research (OESR) household and community surveys are similarly conducted at higher levels and do not permit data disaggregation by small areas (LGA). The one exception to the problem of regionally-relevant data availability is the ABS Census data, since this can be disaggregated to the smallest of areas; however even this is limited in terms of the scope of issues covered and its frequency of collection.

The second catalyst was that a significant number of local government authorities (LGAs) within Queensland are currently conducting individual, cross-sectional surveys of their citizens. These surveys are useful in order to receive feedback on council services and performance, and to inform the planning processes that councils are required (by legislation) to develop. However, they are often characterised by a number of limiting factors such as a lack of sufficient funding and/or flawed survey methodologies; these can result in compromised and/or unrepresentative findings that diminish the real value of the

whole exercise. There is, therefore, an urgent need to improve the current level of LGA data collection if reliable and informative data is to be obtained from these surveys.

The CQ Indicators of Community Wellbeing project was therefore established to: (a) address existing information gaps regarding community wellbeing by obtaining regionally-specific socioeconomic data, and (b) supplement and improve existing survey methodologies being undertaken by LGAs in central Queensland. Furthermore, the project was focussed on developing a best practice model for data collection which was supported by a sustainable methodology and enjoyed broad scale support from both local communities and from state policymakers. The key objective for the project was to develop a framework for a suite of community wellbeing indicators that is clearly linked to government policies and concurrently drawn from local experience, knowledge and concerns.

### 3.1 Methodology

For this project, cues were taken from recent international and interstate developments regarding the current procedures for modelling and measuring community wellbeing. This involved broadening the working definition of 'wellbeing' to include factors such as:

- the non-material aspects of community wellbeing;
- the benefits of strong communities;
- building upon our existing understandings of social capital and public policy; and
- benchmarking the values of social inclusion and participation.

To adequately and effectively account for change within communities, it was determined that the measurement of indicators of community wellbeing must report to a triple-bottom-line (TBL) in the same way as governments and industrial development. Thus, this project sought to identify practical and sustainable indicators of community wellbeing for the central Queensland region which successfully spanned the TBL. The approach taken was to incrementally develop a model that met the needs of local communities as well as those of key policy makers.
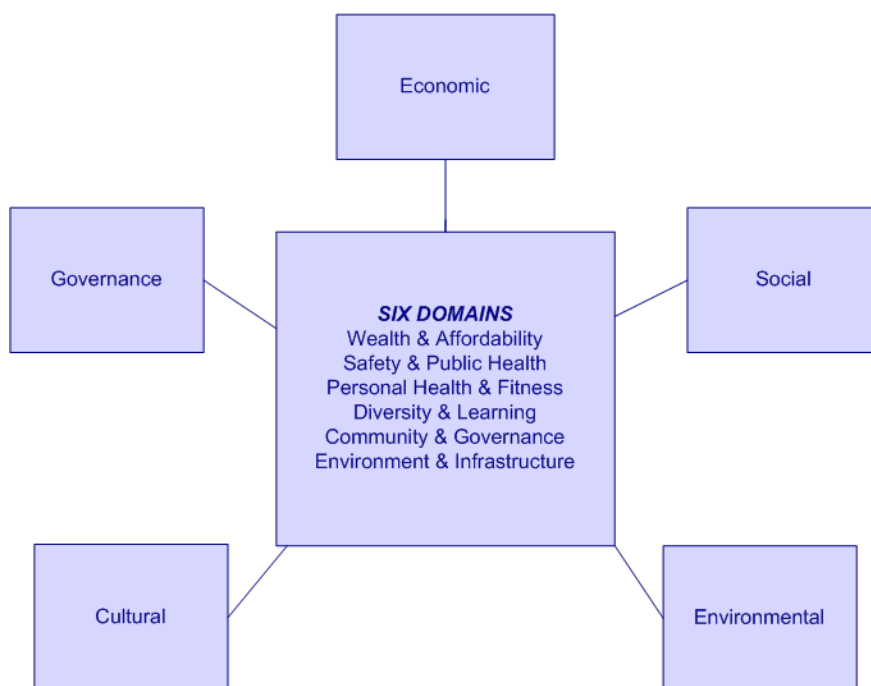
### 3.2 Creating the Model

Following a thorough review of the literature and consultations with academic, government and community sectors, the first step of the framework development involved choosing and revising the main domain headings and sub-headings that would reflect both the triple bottom line and the perceived balance required to adequately measure community wellbeing. In doing this, consideration was given to a number of key elements that were drawn from the literature and from other similar models, as follows:

- cost effective data collection;
- timely and relevant data;
- standardised reports for comparative analysis;
- individual LGA and regional trend data;

- builds upon existing local (LGA, CSSR & ACARP research), national (ABS) and international developments (OECD);
- integrated, strategic and sustainable approach; and
- is driven by 'bottom up' demand from communities, local government and regional officers as well as 'top down' from state planners and policy considerations.

The main policy areas and social dimensions that were drawn upon to constitute the domains used in the model are shown in Figure 1. Another critical part of developing the community wellbeing framework was the inclusion of 'bottom-up' indicators as well as 'top-down'. To achieve this, choices for the suite of indicators were based upon several key questions that arose from a local government community satisfaction survey instrument. The indicators were also derived from a variety of information sources.



**Figure 1.** Policy Areas and Social Dimensions Constituting the Model Domains

## 4.  CASE STUDY: DATA COLLECTION TO POPULATE THE MODEL

A case study approach was used to collect data in order to populate the final version of the community wellbeing model. The case study involved a random sample of approximately 400 households in Emerald Shire (Qld) that could be contacted by landline telephone. Sampling was proportional to the population

concentrations of the LGA, to ensure an accurate representation of the population and would also be stratified by gender and age. This pilot-scale study was conducted concurrently with a local government customer satisfaction survey to improve the data collection instrument used in both studies.

The survey instrument itself comprised of three sections:

- The LGA (customer satisfaction) section: key performance indicators, service delivery issues, significant local issues for the given LGA. For this section, Emerald Shire council supplied an existing questionnaire;
- A standardised suite of indicators of community wellness which would be appended to the full suite of indicators post-collection; and
- A set of standardised demographic questions (linked with those already existing in the CQSS, QSS, ABS).

A fourth section relating to regional development issues (e.g., housing; new development) was also originally intended for inclusion, however, this did not eventuate due to concerns regarding the length of the questionnaire, insufficient time and funding restrictions.

## 4.1 Output: the 'Six by Six' Community Wellbeing model

The final version of the model is referred to as the "Six-by-Six" Community Wellbeing model. It features 36 indicator headings organised into six domains (or dimensions) of wellbeing, with each domain comprising six indicator headings (Table 2). A detailed description of the individual indicators used under each domain and indicator subheading can be found in the appendix at the end of this paper. Earlier permutations of the model contained fewer indicators and domains, however it was determined that these did not adequately reflect the necessary combination of community input, relevance to regions, information required for decision making and – most importantly – providing an accurate picture of the 'real world'.

The model's six domains are constructed to cover economic, environmental, and social wellbeing sections in a balanced manner. The model in its current state therefore aligns with the triple bottom line philosophy that constitutes the principles of sustainability of communities. Furthermore, some of the indicators have been generated by interview and represent the subjective perceptions of the community from a bottom-up view; whilst the remainder are from official agencies and/or census-style statistics to present an objective top-down view. The sources of information for the different indicators ranged from existing and newly-created survey questions, to datasets available from key national bodies and other external sources (see Table 2). This is important since each type of data has different qualities that, when combined in the suite, provide a superior indication of wellbeing in their domain. The final choice of indicators was intended – at least conceptually – to identify patterns and relationships through a comparative analysis between jurisdictional areas such as local government areas.

**Table 2.** The 'Six by Six' Model for Measuring Community Wellbeing

| | Wealth & Affordability | *Source* | | Safety & Public Health | Source |
|---|---|---|---|---|---|
| 1.1 | Average Cost of Renting | OESR | 2.1 | Public Health Services | EDS |
| 1.2 | Housing availability | EDS | 2.2 | Crime Against Persons | EDS |
| 1.3 | Housing Activity (Prices Trend) | OESR | 2.3 | Other Offences | EDS |
| 1.4 | Personal Income | ABS | 2.4 | Crime Against Property | EDS |
| 1.5 | Economic Stress | OESR | 2.5 | Perceptions of safety & crime | CS |
| 1.6 | Income support | OESR | 2.6 | Victim of crime | EDS |
| | **Personal Health & Fitness** | | | **Diversity & Learning** | |
| 3.1 | Adult Overweight | CS | 4.1 | Age Distribution | EDS |
| 3.2 | Adult Physical Activity | CS | 4.2 | Education Level | CS |
| 3.3 | Alcohol Consumption | CS | 4.3 | Population Density | EDS |
| 3.4 | General Health Status | CS | 4.4 | Population Growth | EDS |
| 3.5 | Satisfaction with life | CS | 4.5 | Local Arts and Cultural Activities | EDS |
| 3.6 | Work-life balance | CS | 4.6 | Diversity | CS |
| | **Community & Governance** | | | **Environment & Infrastructure** | |
| 5.1 | Citizen engagement | EDS | 6.1 | Parks and Gardens | EDS |
| 5.2 | Community Governance | CS | 6.2 | Community and Recreation | EDS |
| 5.3 | Community Connectedness | CS | 6.3 | Roads and Infrastructure | EDS |
| 5.4 | Personal Connectedness | CS | 6.4 | Local Development | EDS |
| 5.5 | Community Trust | CS | 6.5 | Environmental Issues | CS |
| 5.6 | Community Participation | CS | 6.6 | Transport | CS |

**Notes:** EDS = external data source (e.g. Centrelink, QLD Health, web-based, Electoral office); CS = Local Government customer satisfaction survey; OESR = existing data from the Office of Economic and Statistical Research; and ABS = existing census data from the Australian Bureau of Statistics.

Overall, the process used to arrive at the model was one of indicator selection, data collection and dissemination, but also one that encompassed reflexive evaluation at each step of the process (see Figure 2). The responsiveness of the model was maintained by holding frequent discussions with stakeholder groups, including a critical examination of the proposed indicators and their domains (the 6x6 model); the likely relevance of each indicator; data availability, and the relationships between indicator and localised factors (such as degree of urbanisation – remoteness and/or cultural relevance in the targeted community). It was envisaged that this reflexive process would lead to a greater accountability for the indicators and assist in achieving the key elements of legitimisation of the indicators, community relevance and policy formation and outcome.

Special consideration was given to achieving an in-built flexibility in the model, which would allow ongoing modifications and the development of a set of indicators suitable for regular use across the whole central Queensland region. The relative efficiency of data collection is a key consideration in any sustainable model, but particularly so for one that is reliant on regular, sustained data collection across relatively small populations. In central Queensland, as for many other regional areas, the burden of financing data collection often renders theoretical debates on regional community wellbeing to mere hypotheticals. Thus, it was especially important that the model was designed to be easily changed to include questions of regional significance as necessary, since this

may link with the opportunity for additional funding options. Adaptability also helps to generate local ownership of, and interest in, the model, as indicators can be substituted according to community and stakeholder input.
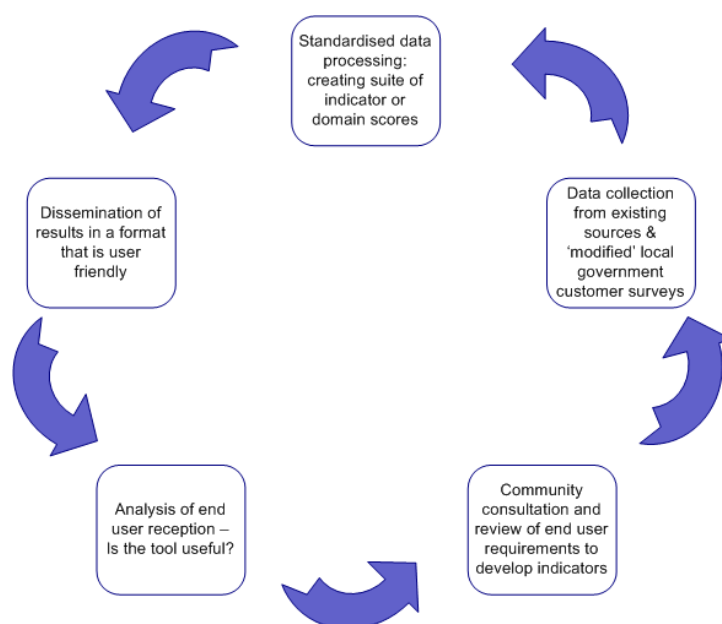


**Figure 2.** Indicators of Community Wellbeing Flow Chart Emphasising Reflexivity

### 4.2 How It Works: Data Output Options

Table 3 illustrates how values would be calculated for the environment and infrastructure domain as used in the 6 x 6 model. Individual values are entered under the relevant indicator categories, as calculated from the survey response data. Provision is also made to identify a benchmark measure under the heading 'relative to'; this allows for a direct comparison of the studied region with a pre-existing data set for each indicator value. For example, data that is collected on various aspects of housing may be calculated in relation to a Brisbane median value or a Queensland mean score. This is particularly critical since the calculation of indicators must be both transparent and meaningful to the end user, and allow for replication so that other data collections may be able to quantify their position in relation to the benchmark. Finally, the table also allows for additional factors to be communicated such as the key assumptions and/or value judgements made against an indicator in order to reflect community wellbeing.

**Table 3.** Sample Calculation of a Domain Score for 'Environment & Infrastructure'

|       | More or less than | Relative to: | Unit | Value | Assumptions / value judgements made |
|-------|-------------------|--------------|------|-------|-------------------------------------|
| 6.1   |                   | Calliope     |      | 14.03 |                                     |
| 6.2   |                   | Calliope     |      | 2.12  |                                     |
| 6.3   |                   | Calliope     |      | -8.98 |                                     |
| 6.4   | No comparison     |              |      |       |                                     |
| 6.5   | No comparison     |              |      |       |                                     |
| 6.6.1 |                   | ABS 2000     |      | 10    |                                     |
| 6.6.2 |                   | State average|      | 2.5   |                                     |
| *SCORE* |                 |              |      | *19.67* |                                   |

Once indicator scores have been summed for a single domain, a composite index summarising all domains can be prepared, as shown in Table 4. This serves the dual purpose of comparing community wellbeing as a general issue across all study areas, whilst also allowing for differences between main domain headings to be distinguished. The same data can also be mapped onto radar diagrams (see Figure 3): these allow for easy comparisons to be made at a high level of conceptualisation, and would assist planners and policymakers to quickly be able to identify spatial differentiation based on the six domains.

**Table 4.** Regional Comparisons Using the Composite Community Wellbeing Index

|   |                                | Emerald Shire | Calliope | Rockhampton | CQANM[#] | QLD average. |
|---|--------------------------------|---------------|----------|-------------|----------|--------------|
|   | *Domain*                       | *Indicative score*\* |      |             |          |              |
| 1 | Wealth & affordability         | 22            | 23       | 25          |          |              |
| 2 | Safety & public health         | 23            | 22       | 18          |          |              |
| 3 | Personal health & fitness      | 24            | 25       | 17          |          |              |
| 4 | Diversity & learning           | 25            | 27       | 36          |          |              |
| 5 | Community & governance         | 26            | 26       | 21          |          |              |
| 6 | Environment & infrastructure   | 27            | 24       | 18          |          |              |
|   | TOTAL                          | 147           | 147      | 135         |          |              |

**Notes:** # Central Queensland – A New Millennium; * For illustrative purposes only, scores do not represent actual data for each region
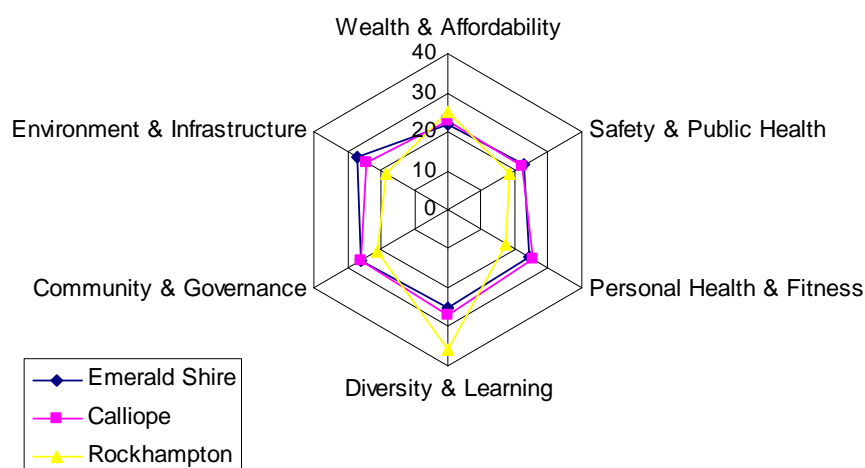
**Figure 3.** Radar Diagram of Composite Community Wellbeing for Emerald, Calliope and Rockhampton

## 5. CASE STUDY FINDINGS

A case study was conducted in Emerald Shire in central Queensland in order to test the robustness, efficiency and suitability of the model. A number of key findings arose from this pilot trial. Firstly, the current data collection methodologies used by LGAs within central Queensland are, unfortunately, generally below best-practice standard. However, the shortcomings of existing surveys can easily be overcome by encouraging a minimum standard of compliance with a recommended research design. This would allow the data collection mechanisms to become statistically usable; it would also circumvent the existing, frustrating scenario in which the incompatibility between local government client services evaluation surveys means that LGAs are missing out on valuable opportunities to compare values across regions and benchmark services. Better compatibility between each of the indicators could be achieved across Statistical and Local Government Areas by determining face validity, possibly through the use of expert panels. The next stage would then be to determine concurrent validity of the indicators via a process of correlation to achieve 'gold standard' validation.

Secondly, considerable value adding can be instilled into the process of LGA evaluations by including the community wellness approach. This, in turn, will facilitate a more meaningful evaluation at a regional and state level. A key aspect of the proposed community wellbeing measurement approach is that it features a wide breadth of indicators encompassing economic, social and environmental issues. This diversity of indicators is one of the key strengths of the model and

potentially offers a qualitatively better account of a region's development and progress.

Finally, a number of important questions were raised by the case study data collection, particularly regarding the basic mix of global and individual indicators used in the model (see the Appendix). For example, though the Emerald Shire customer survey provided important data for many different indicator variables, there was often a limited ability to evaluate this because of a lack of comparable, available data from other LGAs. This essentially meant that despite some scores for Emerald being available, there was no way to define or assess their relationship with the concept of 'community wellbeing' and they became relatively meaningless.

### 5.1 A Proposed Funding Model for the Case Study

The funding model that was adopted for the case study drew upon a cooperative approach including the Emerald Shire Council, Central Queensland University and the then Department of Local Government, Planning, Sport and Recreation. The cooperative approach would seem sensible given the relative high cost of collecting data from individual local government areas. The model incorporated, where possible, existing data sources however in a number of key areas the appropriate data did not exist and/or the existing data was not available in a suitable format. The proposed funding model, while suggestive at this stage, envisages a sharing of the costs by those who will benefit from the process. The funding model considers the sustainability of the process to be very important, as such it is important that the process is attractive to local government and state government departments and that economy of scale can be factored into the process.

### 52 Model Constraints and Limitations

This model augments and improves the way that local government satisfaction surveys are carried out, resulting in better, more statistically reliable information. The indicators of community wellbeing are intended to offer a measure of community progress by providing a benchmark criterion for comparative analysis. However, whilst this is the broad intention of the community wellbeing model there are important caveats that should not be overlooked. Firstly, the project objective was to frame a set of indicators that did just that – 'indicate' – as opposed to examine in-depth. The end product framework therefore represents a means of gaining useful 'indications' of the relative progress of LGAs; it cannot hope to measure comprehensively or conclusively, the actual wellbeing status of a given community.

Secondly, not all needs could be totally satisfied by the 6 x 6 model. For example, data related to the community and governance domain in the model were particularly problematic, with end-user criticisms being that the available data sets for regional planning issues that were difficult to translate into policy sectors, required extensive data manipulation, or were unable to be disaggregated or focused to suit departmental requirements

Thirdly, a number of 'computational' challenges remain unresolved with the

model in its existing state. There is a need to address the standardisation of the scores, and to relate them back to the original study questions in terms of how closely they approximate reality. The model also currently makes no accommodation for performing correlations between domains and indicators: this has been attempted in other models and can provide useful information on which to base regional decision-making. Most importantly, the lack of other data with which to compare the collected domain scores represents a considerable impediment in interpreting the regional datasets. That is, collecting data, analysing it and assigning a certain value to each domain essentially remains meaningless, unless data is available elsewhere with which to compare each of those domain values. The existence of comparable and regionally specific data would therefore provide a relative measure against which community wellbeing in the studied region could be assessed.

The final area that requires further discussion and development is the way in which the collected indicator data is presented. This is critical to the success of any attempt at producing a sustainable model for the dissemination of a suite of indicators of community wellbeing that is easy to use and understandable. The key question here is whether the data should be presented in a standardised format for all potential users, or whether the data should be presented in different formats for particular groups. To date, a final output format for the model remains open to discussion, but some key points for consideration are:

- developing a clear understanding of who the target audience will be;
- conducting a scoping exercise to determine extent of data uses;
- evaluating whether the data format will be usable, and/or applicable;
- should the data be represented as single indicators or composite domain scores?;
- raw data or comparative differences using a standardised benchmark?; and
- how can the 'bottom-up' process be exploited within the output format to ensure the model has an acceptable degree of community ownership?

## 6. MODEL RECOMMENDATIONS AND FURTHER APPLICATIONS

In consultation with the Indicators of Social Wellbeing Consortium, a number of key recommendations from the CQ Indicators of Community Wellbeing Project were developed. These are as follows:

- An integrated, sustainable system of local community wellbeing indicators should be established in Queensland as a key tool for improving citizen engagement, community planning and evidence based policy making by local and State governments;
- An independent steering committee should be established to support and guide local governments and communities identify local wellbeing indicators; collect, disseminate and analyse indicator trend data; and improve capacity to use indicators for citizen engagement, community planning and policy making. This could, for example, involve

developing partnership arrangements between the Institute for Sustainable Regional Development at Central Queensland University, relevant Queensland government departments, the ABS and OESR and other Australian and international university, government and non-government organisations;

- The dissemination of community data should capitalise on the rapidly expanding multimedia capabilities such as recent GIS developments and software such as 'Gapminder' (http://www.gapminder.org/index.html);
- The existing Indicator of Community Wellbeing Survey instrument should be further refined especially in the area of environmental indicators. Linkages should be sought with the National Land and Water Audit developments;
- An in-depth examination of the dissemination of a suite of indicators should be undertaken. This would be qualitative research involving end user groups and a multimedia/ICT expert group; and
- A thorough review of local government authority client satisfaction survey instruments and survey methodologies should be undertaken with a view to offering an 'adaptable' standardised instrument that maintains the ability for local issues to be included.

There are a number of exciting applications for the model in its existing state, especially given that the model is grounded in a flexible design that can be modified to reflect local or regional needs in different settings. It also provides a firm foundation on which to implement a wider, on-going survey of indicators in an economically sustainable way. If employed as a rolling survey across all central Queensland LGAs, there could be considerable benefit to all participating councils in terms of overall cost savings, as well as improving the quality and interpretation of the data collected. Furthermore, due to the flexibility inherent in the model, in a scenario where two or more State agencies combine resources, a "standard" model of community wellbeing indicators could be developed and used across the whole of the State for comparison between local government areas and make it possible to identify "wellbeing benchmarks".

## 7 CONCLUSION

"Community wellbeing" comprises economic, environmental and social wellbeing factors, reflecting the triple-bottom-line approach to sustainability. Measurement of community wellbeing is a way for governments, the community and planners to understand and evaluate the long term sustainability of a region. The Six-by-Six Community Wellbeing Model incorporates in a balanced way forward with:

- a broad array of multidimensional themes, represented by six domains, to reflect different aspects of Community wellbeing, with each domain represented by six indicators; and some indicator headings have more than one indicator;
- use of top-down, objective agency data combined with bottom-up, subjective community survey data to contrast different types of data

related to the domain;
- a simple to use approach, and one that is statistically sound;
- a flexible approach to community consultation to inform and validate indicator headings.

The indicators used for this project are intended to be used as measures by which meaningful comparisons can be made between the central Queensland region, (as a whole and as smaller spatial units such as sub-regions and local government areas (LGAs)), and other geographic areas such as the nation, state and/or other regions. It is strongly emphasised that the particular set of indicators selected for this project are not the only set that might be used. Through consultation and feedback the group of indicators may be altered or replaced as a considered part of the process.

## ACKNOWLEDGEMENTS

## REFERENCES

Australian Bureau of Statistics (ABS) (2001) *Measuring Wellbeing: Framework for Australian Social Statistics*. Cat.No. 4160.0, ABS: Canberra.

Beck, W., van der Maesen, L and Walker, A. (Eds.) (1998) *The Social Quality of Europe*. The Polity Press: Bristol.

Berger-Schmitt, R. and Noll, H.H. (2000) *Conceptual Framework and Structure of a European System of Social Indicators*. EU Reporting Working Paper No.9, Subproject "European System of Social Indicators". Centre for Survey and Methodology (ZUMA), Social Indicators Department: Mannheim.

Bourdieu, P. (1986) The Form of Capital. In J. Richardson (Ed), *Handbook of Theory and Research for the Sociology*. Greenwood Press: New York, pp. 241-58.

Coleman, J. (1988) Social Capital in the Creation of Human Capital. *American Journal of Sociology*, 94, pp. 95-120.

Hall, J. (2006) *The Global Project on Measuring the Progress of Societies* (OECD). PowerPoint Presentation, ABS Community Indicators Workshop, 5-6 September, Melbourne.

Onyx, J. and Bullen, P. (1997) *Measuring Social Capital in Five Communities in NSW: An Analysis*. Centre for Australian Community Organisations and Management Working Paper Series No 41, University of Technology, Sydney.

Phillips, D. and Berman, Y. (1999) Social Quality: Definitional, Conceptual and Operational Issues. Paper presented at the 4th European Sociological Conference, Amsterdam, 18-21 August.

Putnam, R. (1995) Bowling Alone: America's declining Social Capital. *Journal of Democracy*, 6(1), pp. 65-78

Saltelli, A. (2006) Joint Research Centre – European Commission. Available at: http://farmweb.jrc.ec.europa.eu/ci/.

Planning Institute of Australia. *Social Planning Guide.* Accessed February 2007, http://www.planning.org.au/index.php?option=com_content&task=view&id=409&Itemid=400.

Svetlik, I. (1999) Some Conceptual and Operational Considerations on the Social Quality of Europe. Paper presented at the 4th European Sociology Conference, Amsterdam 18-21 August.

Teghe, D. and Rendell, K. (2005) *Social Wellbeing: A Literature Review*. School of Social Work and Welfare Studies, CQU: Rockhampton.

Winter, I. (Ed.) (2000) *Social Capital and Public Policy in Australia*. Australian Institute of Family Studies: Melbourne.

## APPENDIX: DETAILS OF INDIVIDUAL INDICATORS

**1 Wealth and Affordability**
1.1 Average Cost of Renting
    1.1.1 Median weekly rent 2 bedroom unit.
    1.1.2 Median Weekly Rent 2 bedroom unit – annual growth CQ & Brisbane.
    1.1.3 Median Weekly Rent 3 bedroom House – 2005/06.
    1.1.4 Weekly Rent 3 bedroom house – annual growth.
1.2 Housing Availability
    1.2.1 New Residential houses 2002/05.
    1.2.2 Average cost per dwelling 2002/05.
1.3 Housing Activity (Prices Trend)
    1.3.1 Median Unit and Townhouse Prices 2001, 2006.
    1.3.2 Median Unit and Townhouse – Annual growth 2001/06.
    1.3.3 Median house prices 2001/06.
    1.3.4 Median house prices – Annual growth 2001/06.
1.4 Personal Income
    1.4.1 Mean taxable income 2000/01 – 2003/04 – average annual growth.
1.5 Economic Stress
    1.5.1 Do you think that the rates of the Emerald Shire Council are reasonable?
    1.5.2 Would you prefer lower/higher rates for reduced/or more services?
1.6 Income Support
    1.6.1 Centrelink customers % of population, June 2003.
    1.6.2 Centrelink payment by LGA 2003.

**2 Safety and Public Health Indicators**
2.1 Public Health Services
    2.1.1 Are you satisfied with your local public health services?
2.2 Crime against Persons
2.3 Crime against property
2.4 Other offences
    2.4.1 Offence rate by small crime area 2002/03.
2.5 Perceptions of Safety and Crime
    2.5.1 How safe do you feel walking alone in the area you live after dark?
2.6 Victim of Crime
    2.6.1 Have you been a victim of crime in the last 12 months?

**3 Personal Health and Fitness Indicators**
3.1 Adult Overweight
    3.1.1 Height of respondents - 4 BMI categories.
    3.1.2 Weight of respondents - 4 BMI categories.
3.2 Adult Physical Activity
    3.2.1 In the LAST WEEK, how many times have you walked continuously for recreation or leisure (10 mins)
    3.2.2 How much time you would estimate that you spent walking in this way in the last week (hours)?
    3.2.3 How much time you would estimate that you spent walking in this way in the last week (minutes)?
    3.2.4 In the last week, how many times did you do any other more MODERATE physical activities that you have not already mentioned? (e.g. gentle swimming, social tennis, golf, etc).

3.2.5 In hours and/or minutes, what do you estimate was the total time that you spent doing these activities in the last week? Hours.

3.2.6 Cross tabulation (No_over_150_mins * No_of_times_active).

3.3 Alcohol Consumption

3.3.4 How many times during the past 30 days did you have 5 or more drinks on an occasion?

3.4 General Health Status

3.4.1 In general, would you say your health is good?

3.5 Satisfaction with life

3.5.1 In most ways my life is close to my ideal.

3.5.2 The conditions of my life are excellent.

3.5.3 I am satisfied with my life.

3.5.4 So far I have gotten the important things I want in life.

3.5.5 If I could live my life over, I would change almost nothing.

3.6 Work-life balance

3.6.1 How do you rate your current Work-life balance?

**4 Diversity and Learning Indicators**

4.1 Age Distribution

4.1.1 Median age 2006 – 2026.

4.2 Education Level

4.2.1 Type of educational institution attending by sex.

4.2.2 Highest level of schooling.

4.3 Population Density

4.3.1 Average person per dwelling.

4.4 Population Growth

4.4.1 Average Annual Population Growth – Medium series.

4.4.2 Estimated non-resident worker population of the Bowen Basin.

4.5 Local Arts and Cultural Activities

4.5.1 Do you have the opportunity to participate in affordable local arts and cultural activities?

4.6 Diversity

4.6.1 Do you think that your community is an accepting place for people from diverse cultures and backgrounds?

**5 Community and Governance Indicators**

5.1 Citizen engagement

5.1.1 % of people who vote.

5.1.2 % of women with occupation categories 'professional, management or administrator'.

5.2 Community Governance

5.2.1 I can influence decisions that affect my neighbourhood.

5.2.2 Do you think you can have influence over local government decisions?

5.3 Community connectedness

5.3.1 I enjoy living in this area?

5.3.2 Do you belong to an informal network of friends or acquaintances with whom you have contact on a regular basis?

5.3.4 Do you think your local community has a distinct character, that it's a special place?

5.4 Personal connectedness

5.4.1 How MANY close friends live within a 15-20 minute walk or 5-10 minute drive, if any?

5.4.2 If you needed to, could you ask someone (who does not live with you) for support

in a time of crisis for any of the following reasons?

5.5 Community Trust

    5.5.1 Would you say that you trust:

    5.5.2 If you lost your wallet would it be returned to you?

    5.5.3 Do you think you can trust your local government to do what is right?

5.6 Community Participation

    5.6.1 Have you participated in any volunteer or charity work in the last 12 months?

    5.6.2 How MANY local organisations have you been involved with in the past 3 years?

**6 Environment and Infrastructure Indicators**

6.1 Parks and Gardens

    Five indicators were presented as a single score for comparison: Parks; Botanic Gardens, Town beautification, Mosquito Control, and Environmental Protection/ Noxious weed control.

6.2 Community and Recreation

    Six indicators were presented as a single score for comparison: Library, Number of sporting facilities, Variety of sporting facilities, Standard of sporting facilities, Swimming pool and Public Halls.

6.3 Roads and Infrastructure

    Thirteen indicators were presented as a single score for comparison: Maintenance of rural roads; Maintenance of urban streets; Bike paths, footpaths, handrails, etc; Street lights; Parking; Drainage; Signs and road markings; Rubbish Collection; Rubbish Transfer Station; Sewerage; Water; Management of Airport; and Regulation of development and building.

6.4 Local Development

6.4.1 Are you satisfied with the way the Shire is developing?

6.5 Environmental Issues

    6.5.1 Do you feel that environmental issues are of importance in the Emerald Shire? Six indicators were resented as a single score for comparison: Water quality; Conservation of vegetation; Protection from chemical spraying; Weed control in rural areas; Pest management in rural areas; Pollution control.

6.6 Transport

    6.6.1 Do you think that a lack of suitable transport significantly limits your capacity to achieve key work and/or life goals?

    6.6.2 How often do you ride a Bicycle? Frequency of cycling.