Chapter 8. Measuring Community Sustainability: The Social Life Questionnaire

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The *Circles of Sustainability* figure used throughout this book provides a relatively simple view of the sustainability of a particular city, urban settlement, or region. The circular figure is divided into four domains: ecology, economics, politics and culture. Each of these domains is divided into seven subdomains, with the names of each of these subdomains read from top to bottom in the lists under each domain name. Assessment is conducted on a nine-point scale. The range from ‘critical sustainability’, the first step, to ‘vibrant sustainability’, the ninth step. When the figure is presented in colour it is based on a traffic-light range with critical sustainability marked in red and vibrant sustainability marked in green. The centre step, basic sustainability, is coloured amber – with other steps ranging in between amber and red or amber and green. The grey-scale used here is intended to simulate the colour range.
As we elaborated earlier, measuring community sustainability is a difficult process that is prone to subjectivism and lack of systemic rigour. In response to these kinds of problems there has been a tendency to move towards overly rigid and positivist mechanisms of enquiry. Moreover, measuring community sustainability tends to suffer from a fundamental tension that arises in developing a generally applicable mechanism of research that at the same time is able to handle local differences and requirements. The tension is redoubled when the surveys are used in various settings that cross the global South and global North. In this chapter, the development of a ‘social life’ questionnaire within the Circles of Sustainability approach is critically narrated. The first version of the questionnaire looked good and served our initial purpose, but beneath the surface the foundations of the questionnaire were naive and limited. The initial development was in many ways too ambitious, and the questionnaire was first rolled out at a time when we did not yet have the capacity to bring together cross-disciplinary skill sets. However, instead of suggesting that the project backtrack on its generalizing-particularizing ambitions, a series of steps were undertaken, described in this chapter, to begin to overcome profound structural limitations. The questionnaire appended at the end of the chapter is the outcome of that work.

The project faced significant challenges. How is it possible to develop a method that overcomes the subjectivism/objectivism divide? On one hand, some social researchers, anthropologists and ethnographers have progressively adjusted, refined and calibrated their tools of research to reflect the intricacies, sensitivities, and subject positions of the communities they have sought to understand, including acknowledging the effect of their own subjectivities on what they are trying to understand. However, this trend has too often led to an inability to say much about the patterns of social life beyond soft allusion, inference, or hermeneutic projection. On the other hand, recent attention to ecological and economic risks, and the corresponding rise
of sustainability discourses, has led to an emphasis on rigorous objective measurement. Perversely, however, this search for objective understanding has often led to the re-projection of positivist universals into the categories and variables of different methodological frameworks, undermining the subtlety of such tools of analysis.

An alternative synthesis is clearly necessary. In broad terms, the search is on for methodologies that bring together both objective and subjective understandings through using both qualitative and quantitative methods. Part of that task is to generate sensitivity to local conditions has led to various forms of subject-centred methodologies that still maintain a strong interest in social patterns and structures. The growth of global ethnography, grounded theory, hermeneutically inspired strategies, even our own Engaged Theory, are at least in part responses to the limitations of either postmodern subjectivism or wholesale co-option of natural scientific method into modern empiricism.

In narrower terms, the key question is how else is it possible to maintain a subtle assessment of the viability, resilience and subjective sustainability of communities while using objectively measured indicators which are globally applicable across time and space, including across different dominant formations of practice – customary, traditional, modern and postmodern? This imperative is particularly critical for marginalized, at-risk communities and communities in the global South where assessments of sustainability form – or ought to form – the basis for subsequent policy development and action. Moreover, it is equally important that indicators reflect not only objectively measurable conditions of the social and natural environment but also the subjectively understood sense of sustainability, as experienced by the community itself.

It is in this context that we discuss the development of survey tool, the Social Life Questionnaire, which endeavours to convey a picture of the subjective attitudes of community members towards the sustainability, liveability and resilience of their communities. The Questionnaire was been applied to about 3,300 members of various communities between 2006 and 2012, predominantly in the Southeast Asian region, but across very different settings, north and south. In aiming to be encompassing of all dimensions of sustainability, the indicator set is similar to other holistic approaches. However, it differs in a number of respects. One key difference is that we treat questions in a questionnaire as also constituting an index – in this case, an index that seeks to objectively ‘measure’ subjective beliefs that always needs to be correlated against other forms of data gathering such as the urban profile (see Chapter 4 on social mapping and Chapter 7 on generating an urban sustainability profile).

Second, and more profoundly, the underlying structural basis for understanding sustainability has been substantially revised in relation to other accounts, such as the Triple Bottom Line or Capabilities approach. The survey shares common features with the psychometric perspectives of the Australian Unity Wellbeing Index, the World Values Survey and the World Database of Happiness. And, indeed, certain constructs of the Wellbeing Index and World Values Survey are incorporated into our indicator set. But it is based on a very different framing consistent with the rest of the
Measuring community sustainability

Circles of Social Life approach. Thirdly, we further differentiate the approach by suggesting it aims to measure the intersubjective character of a community – not only how members of that community feel about their social and natural environment now but also how they view the future prospects of that social and natural environment.

Understanding how a community understands its own sustainability complements existing subjective and objective sustainability measures of a city as a whole, and, we argue, extends the localization of such measures to those for whom they are most relevant. Although, as we show, the questionnaire in its previous incarnation had limitations in terms of scientific validity and reliability, the exploratory analysis that follows demonstrates how the current iteration might complement a sustainability assessor’s existing toolkit. The analysis also makes a contribution in its own right into understanding key factors and relationships of the sampled communities.

Developing the social life questionnaire

The Social Life Questionnaire was first developed and administered to a number of rural and urban communities in Victoria in 2006. Over the following years it has been further administered to a number of diverse communities in the Southeast Asian, South Asian and Middle Eastern regions, including Papua New Guinea, Timor Leste, Sri Lanka, India and Israel/Palestine as well as Cameroon. The sites thus crossed the global North/South divide, and the questions were formulated to make sense in cross-cultural contexts. Although using a similar apparatus to numerous other surveys, the aim was not to assess community sustainability in a benchmarking or simple comparative fashion.

Benchmarking surveys and models are frequently criticized as being of arguable utility to communities at greatest risk. There is little comfort in knowing how unsustainable one is relative to others. However, there are several affordances that arise out of the search for general assessment instruments:

1. For all the limitations of benchmarking, when coupled with other methods, qualitative questionnaires provide a basis for comparability across diverse communities. Such comparisons can in turn be provocations for further diagnosis and action.

2. Qualitative questionnaires provide community members with a quantification of their sense of sustainability. This can be contrasted not only with other communities but also with other objective and subjective sustainability quantifications – levels of air pollution, gross domestic product, corruption or psychological well-being assessments, for instance. Such contrasts can provide both internal members and external agents with advanced warnings of potential threats.

3. Qualitative questionnaires also provide some basis for longitudinal comparison.

In the case of the work in Papua New Guinea the results did become the basis for a sea change in the formulation of government policy around community development.
However, in Papua New Guinea as elsewhere, the results were intended as complementary to accompanying research interventions, including publicly available metrics. Additionally, the questionnaire was always used in relation to more extensive qualitative engagement through a series of ethnographic, interview-based and observational inquiries into urban sustainability (see Chapter 4). This was also notably the case in studies of sustainability in Sri Lanka in the aftermath of the tsunami from 2004 to the present.

At the same time, additional sets of questions were used in addition to a consistent core set of sustainability indicators to reflect regional, localized, project-based and time-based differences. For example, our work in Sri Lanka and India after the tsunami included a module of additional questions on disaster recovery. Nevertheless, the core set of questions was consistently measured across repeated applications of the survey, and these questions are the basis for the following discussion.

The core set of questions reflects a socially holistic conception of sustainability, evident in a range of approaches to sustainability reporting. Again, our conception adumbrates four domains against which social sustainability, liveability and resilience can be assessed. Consistent with all the other tools in our methodological shed the questionnaire is constructed around the domains of the economy, ecology, politics and culture. The category of the social is not erased by this move but, rather, is treated as imbricated in each of these domains. Sustainability, in this conception, is thus irremediably social in character. Most of the core set of questions represent one of these four facets of sustainability. The remaining common survey questions capture administrative and demographic variables—the complete set is listed at the end of this chapter.

In spite of the care undertaken in the data-aggregation process, a number of concerns remain concerning both validity and reliability. Although the survey in its current iteration makes few claims of hypothesis testing, these do compromise the extent of inference drawn from the findings. Addressing these concerns became important for the current redesign of the survey. Principal among the concerns are the following:

1. **Variables articulation:** What facets of sustainability are being measured?
2. **Variables mapping:** How can the different variable systems be mapped against each other?
3. **Construct validity:** Are the constructs separately necessary measures of sustainability?
4. **Construct comprehensiveness:** Are the constructs collectively sufficient measures of sustainability?
5. **Construct reliability:** Is the language sufficiently clear and capable of being reliably interpreted by a broad range of respondents, across different locations and times?
6. **Subjective–objective comparability:** How do perceptions of members of a community relate to other measures of its sustainability?
7. **Sampling strategy:** How wide a range of sampling forms can be adopted in different settings, including convenience, snowball, purposive and cluster sampling, before the statistical comparability between those settings breaks down?
A series of descriptive statistics were obtained for this set, both to observe tendencies in the data and to cross-check the data-cleaning process, to ensure absence of out-of-bound data. Similarly, a series of pairwise correlations were run for all scalar variables. We then conducted a factor analysis with varimax rotation to view whether variables clustered together intelligibly. We hypothesized that characteristic demographic data could be useful predictors for some of the behavioural and attitudinal data, and ran a series of regression tests to test this. Finally, an analysis of variance (ANOVA) and further correlation tests were administered to determine whether meaningful differences existed, for the core attitudinal variables, between the various communities participating in the survey. The interpretation of these tests on the viability of the questionnaire is discussed in the following.

Comparing different communities

After the data were consolidated, total sample size was 3,368. Country distribution was heavily oriented towards Papua New Guinea, Australia, East Timor and Sri Lanka. Gender distribution was approximately even (female = 49.4 per cent, male = 50.2 per cent), whereas age distribution skewed towards a younger demographic, with more than 75 per cent of respondents younger than age fifty. Self-assessments of health, wealth and education – variables related to indices such as the Human Development Index – reflect the application of the survey to large number of Southern countries. The majority of respondents described themselves financially as ‘struggling’ (50 per cent), with only 9.1 per cent stating they were ‘well-off’; 45.2 per cent of respondents stated they had primary school or no formal education at all, whereas only 18.4 per cent had completed secondary school. Conversely, 48.6 per cent of people assessed their health as being ‘generally good’. A proxy Human Development Index variable was composed out of the normalized values of health, financial and education self-assessment variables. The frequency distribution of this composite variable demonstrates that in fact the relative skews of these variables collectively cancel out, leaving a close approximation to a normal distribution.

Of the fifteen common attitudinal variables, all but three had median, and all but one had mode values of ‘agree’. As all Likert items were phrased in such a way that agreement tended to endorse the underlying variable being measured, this indicates a degree of correlation between responses is likely. The average mean value was 3.65, while the average standard deviation was 1.06, a relatively low dispersion, which confirms the clustering of responses on the positive end of the scale. Inferential tests suggest, however, that there are some interesting differences between communities sampled.

Both Spearman’s rho and Pearson’s correlation coefficient were obtained of all core scalar variables, twenty-two in total, and separately, of all attitudinal variables, fifteen in total. Of 231 possible scalar correlations, 179 (77.5 per cent) were significant at the 0.01 level, with a further 8 significant at the 0.05 level (81.0 per cent). Of the 105 possible correlations of the 15 attitudinal variables, 100 were significant at the 0.01 level. Together these results suggest a very high degree of dependence between the variables, a feature discussed later in both the factor analysis and survey
Developing methods and tools

redesign sections. Given the sample size, the use of five-point scales for attitudinal variables and the potential for skew in both wording of question probes and sampling strategy, such coalescence is perhaps not surprising.

A factor analysis was conducted on all attitudinal variables. Kaiser–Meyer–Olkin measure of sampling adequacy was 0.843, a very high level for conducting factor analysis. Varimax rotation was selected because of potential dependencies between discovered factors. The factors themselves have been interpolated as follows:

1. Satisfaction with various aspects conditions (life as a whole, involvement with community, personal relationships, the environment, sense of safety, work/life balance).
2. Trust and confidence in political conditions (ability to influence authority, belief decisions are in interest of whole community, trust in experts and government)
3. Trust and confidence in cultural conditions (enjoy meeting and trust in others, influence of history, importance and use of technology)

The three factors are interpreted here as accounting for each of the four domains in the underlying Circles of Sustainability model. The first factor combines all six satisfaction constructs, taken from the Australian Unity Wellbeing Index. These have been – very liberally – interpreted as reflecting general contentment with economic and ecological circumstances, where ecology is considered as both a social and a natural context. The following two factors more directly aggregate items reflecting political and cultural engagement, respectively.

Because missing values caused a large number of cases (1,593, or 47.3 per cent of 3,368) to be ignored in the analysis, a separate analysis was conducted with mean values substituted back in. The analysis showed a weaker sampling adequacy result, but no change in the variables or factors identified. A series of composite indices, termed, respectively, ‘Attitudes towards Economy and Ecology’, ‘Attitudes towards Politics’ and ‘Attitudes towards Culture’, were constructed from the normalized values of the relevant underlying indicators. These in turn were compiled into an overall ‘Attitudinal Self-Assessment’ index, similar to the HDI Self-Assessment variable described earlier. All five computed variables were then used in subsequent regression and ANOVA tests.

A series of regression tests were conducted to note the significance and direction of relationships between the principal component clusters of attitudinal variables, and demographic and self-assessment characteristics. For the Wellbeing Index satisfaction levels (interpreted, as suggested earlier, to cover economic and ecological domains), and attitudes relating to the political domain, only the financial self-assessment variable stands out as a strong – and negative – predictor, suggesting that those who assess themselves poorly in a financial sense nonetheless score highly against satisfaction and political engagement indicators. Conversely, all variables other than ‘Financial Assessment’ and ‘Years lived in previous neighbourhood’ have a strong predictive relationship on the aggregated cultural engagement indicator.
An ANOVA test was also conducted using the community as the grouping variable. Of particular interest was whether the first three principal components identified in the component analysis had significant differences between communities. Similarly we examined the composite ‘Attitudinal Self-Assessment’ and ‘HDI Self-Assessment’ variables across the groups. Each of the five computed variables showed significant differences across the different community groups at both 0.05 and 0.01 levels.

Table 8.1 compares both mean values and rank for the five composite variables across each of the seven communities (Melbourne [2009] and Timor are incomplete due to certain items not being included in their respective surveys). As the ranks make clear, Human Development Index self-assessment means appears to correlate with attitudes towards economy, ecology and culture, with Australian towns and Be’er Sheva ranking highly for each of these four variables. ‘Attitudes towards Politics’, on the contrary, correlates inversely. This suggest that communities which are generally satisfied and confident regarding economic, ecological and cultural dimensions are sceptical of prevailing power systems and structures; those which, on the other hand, self-assess poorly and are dissatisfied with present material conditions nonetheless have trust and confidence in political mechanisms.

### TABLE 8.1 Composite Variable Mean Comparison

<table>
<thead>
<tr>
<th>Values</th>
<th>Attitudes towards Economy and Ecology</th>
<th>Attitudes towards Politics</th>
<th>Attitudes towards Culture</th>
<th>Attitudinal Self-Assessment</th>
<th>HDI Self-Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>AusTowns</td>
<td>24.2</td>
<td>11.5</td>
<td>21.4</td>
<td>72.8</td>
<td>65.5</td>
</tr>
<tr>
<td>Be’er Sheva</td>
<td>24.3</td>
<td>11.7</td>
<td>22.7</td>
<td>74.8</td>
<td>78.4</td>
</tr>
<tr>
<td>Malaysia</td>
<td>21.4</td>
<td>13.1</td>
<td>15.8</td>
<td>65.2</td>
<td>46.5</td>
</tr>
<tr>
<td>Melbourne</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>24.2</td>
<td>13.8</td>
<td>17.1</td>
<td>70.9</td>
<td>41.6</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>22.5</td>
<td>13.5</td>
<td>19.7</td>
<td>72.7</td>
<td>38.4</td>
</tr>
<tr>
<td>Timor</td>
<td></td>
<td>14.0</td>
<td>15.3</td>
<td></td>
<td>36.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mean rank</th>
<th>Attitudes towards Economy and Ecology</th>
<th>Attitudes towards Politics</th>
<th>Attitudes towards Culture</th>
<th>Attitudinal Self-Assessment</th>
<th>HDI Self-Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>AusTowns</td>
<td>3</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Be’er Sheva</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

(Continued)
Overcoming methodological limitations

Of greatest interest in the results was the strong relationship between the first three factors of the factor analysis, and the four domains articulated in the model. This suggests the survey instrument successfully measures community values towards these different domains of sustainability. Several confounding points need to be noted, however. First, these factors only account for 47.2 per cent of the total variation – leaving a large amount of attitudinal variance unexplained by the four-domain model. Second, the limitations around the survey design and administration discussed earlier suggest higher levels of significance testing are needed at the very least before results can be inferred to the broader community populations. Third, both economic and ecological constructs were coalesced in the primary factor identified. Given a key claim of the four-domain model is that each of the domains is at least potentially in conflict with others, the moderate sample size and range of communities ought to bring out greater variation between constructs measuring each domain. Of course, both the domain-construct relationship and the factor analysis have been conducted ex post; an important feature to exhibit in results of follow-up surveys would be a stronger correlation between ex ante and ex post alignment of variables to coordinating factors. Nevertheless, the coalescence of principal components with the independently derived domains suggests these remain a sound basis for the construction of future iterations of the indicator set.

While the aims of the survey were exploratory – and emphatically not intended to introduce ranking considerations – the correlation, regression and ANOVA tests

<table>
<thead>
<tr>
<th></th>
<th>Attitudes towards Economy and Ecology</th>
<th>Attitudes towards Politics</th>
<th>Attitudes towards Culture</th>
<th>Attitudinal Self-Assessment</th>
<th>HDI Self-Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Melbourne</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>3</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Timor Leste</td>
<td>–</td>
<td>1</td>
<td>6</td>
<td>–</td>
<td>7</td>
</tr>
</tbody>
</table>

A further pairwise set of correlations was ran over the composite variables, which confirm the earlier findings across the whole data set – all variables correlate significantly at 0.05, 0.01 and even 0.001 levels, with ‘Attitudes towards Politics’ the only variable correlating negatively with the others.
do demonstrate a series of significant relationships and high degrees of deviance between the communities who have participated. The key finding from the exploration appears to be the inverse relationship between levels of political engagement and satisfaction and all other subjective indicators – economic, ecological and cultural. Results for Australian towns and Be’er Sheba, in particular, demonstrate that those with high levels of general satisfaction, education and material contentment tend to be more sceptical and pessimistic with regard to their involvement in structures of power. This clearly needs more robust study but points to a potential series of hypotheses to be tested in future rounds of the survey.

It is clear that the first version of the survey showed potential but did not yet deliver as an adequate assessment instrument of community sustainability. At best it could augment other methods of both quantitative, objective, and qualitative, subjective assessment. The questionnaire thus required serious revision to play a distinct role positioned against current indicator sets and their respective orientations by assessing sustainability at an *intersubjective* communal level. In additional to a series of methodological strictures discussed earlier, this major revision has required several further analytic distinctions to coordinate the structure of the questions in the revised survey.

The previous survey design was not considered sufficiently robust for fulfilling these extended aims. A number of criticisms were raised, both in the conduct and analysis of surveys. While counteracted items can be used control individual item bias – and indeed in the first version of the survey some effort had been made in this direction – no explicit strategy was adopted. This led to irregular and hard to identify sources of skew. Moreover, the extent of bias in some cases leads to lack of variance in response to items that already offer only a limited five-point range. Where most results cluster around ‘Agree’ to ‘Strongly Agree’ (or their inverse), attempts to derive even ordinal correlations tend to be misleading. Clustered, low-variance responses were found frequently in the analysis.

More critically still, generalized surveys of this sort do need to make claims towards quasi-universality, in order to ensure reliability in survey applications in different times and places. As opposed to the Grounded Theory approach adopted for the first version, here we have felt the need to articulate a positive theory of sustainability (hence Engaged Theory and Circles of Social Life) in order to know just of what the survey indicators are indicative. Because the survey measures a community member’s *perceptions* of sustainability – leaving aside which objective measures, if any, these might conceivably correlate – this instrument may not be a useful predictive tool in and of itself, even if it certainly complements other instruments making use of global indicators.

To overcome these limitations, a series of workshops were held. A revised set of indicators/questions was drafted, with an associated set of reference questions and responses. These retained consonance with the existing survey yet sought to address the identified limitations. The revised questionnaire now measures sustainability explicitly against the four domains and their subdomains, which only formed the
Developing methods and tools

background to the original survey. More explicitly, community sustainability is assessed with reference to the following:

- Economic *prosperity* – the extent to which communities can engage in activities relevant to their economic well-being and be confident about the consequence of changing structures and pressures beyond their locale
- Ecological *resilience* – the extent to people’s involvement with nature can enhance both their own physical well-being and the capacity of the environment to flourish in the face of external impact
- Political *engagement* – the extent to which members of communities can participate and collaborate meaningfully in structures and processes of power that affect them
- Cultural *vitality* – the extent to which communities are able to maintain and develop their beliefs, celebrate their practices and rituals and cultivate diverse systems of meaning

This basic taxonomy is elaborated through a series of subdomains or perspectives (seven per domain). It is also set against a matrix of cross-cutting social themes, which intersect with each of the domains, for example the social themes of authority – autonomy and needs – limits. In total, the revised structure of the indicator set proposes a total of seven of these cross-cutting categories, covering, in addition to the four domains, what we have termed *holistic* social variables. The holistic variables include those commonly incorporated into generalized surveys of well-being, happiness and satisfaction, such as the relation between inclusion and exclusion and between identity and difference. However, unlike the usual approaches, these dialectical themes have been mapped systematically across the questionnaire in a way that allows for an assessment of the nature of community *integration* in the locale being studied, not just the degree of community sustainability. When cross-correlated against the administrative variables in relation to community context and the demographic variables in relation to the characteristics of survey participants (gender, level of education, etc.), these holistic social variables are intended to give a nuanced sense of the ways in which respondents understand and live in social context.

In response to the survey results, we have further extended the indicator model to take account of spatial and social scope, as well as temporal tense or orientation. To capture the former, we have mapped the indicators by a threefold division into the following categories:

- Personal: sustainability as experienced by the self; mode is subjective.
- Communal: sustainability relating to the immediate communal group; mode is intersubjective.
- Global (regional, national): sustainability relating to the globe; mode is objective.
To capture temporal impressions of sustainability, we suggest a simple distinction between the following:

- Present (and immediate future): satisfaction with current state of affairs
- Future (medium and long term): confidence in eventual or anticipated state of affairs

Finally, we have also included two variables per domain in order to rank importance and significance of the domain itself, or potentially of specific issues within the domain (e.g. unemployment in the economic domain or pollution in the environmental domain). These variables can be used as initial points in a causal analysis, using the Driving Force, Pressure, State, Impact and Response (DPSIR) approach or some other causal model.

A sample of variables taken from the economic domain is presented in the following:

- Present economic prosperity of person
- Confidence in future economic prosperity of person
- Present economic prosperity of local community
- Confidence in future economic prosperity of local community
- Present economic prosperity of global community
- Confidence in future economic prosperity of global community
- Impact of global economy on economic prosperity of person
- Impact of global economy on economic prosperity of community
- Relative importance [DPSIR: IMPACT] of economic prosperity (relative to the other three domains)
- Relative significance [DPSIR: PRESSURE] of economic prosperity (relative to the other three domains)

In total, the revised structure of fifty questions presents 74 indicators of sustainability (see the Appendix to this chapter). In addition, in order to maintain the specificity of each project and place, we have continued the approach of allowing optional modules covering specific sociological aspects of a community, such as work, education, communication and so on. We have now also mapped the questions in the survey in relation to the Human Development or the Capabilities approach, and this has indicated further areas for refinement. A series of approaches for generating composite, orderable indices from the indicators, based upon the composite factors presented above but using a mixture of weighted and unweighted averages, will also be trialled. We also note this instrument will sit alongside others piloted under the same project rubric, which will aim to complement the standardized subjective indicators of sustainability outlined here with locally developed, issue-based indicators.
APPENDIX: SOCIAL LIFE
QUESTIONNAIRE

Circles of Social Life

Research Location........................................
Interview’s name...........................................(if an interviewer conducts the process)
Date...........................................................

Social Life Questionnaire
Towards Sustainability, Liveability, Resilience and Vibrancy

Name of Locality, City, Country

This project is being conducted in . . . name of locality, as well as a number of other places around the world. Your contribution will help us to understand your locality and contribute to positive change.

Your input is vital. The results of this study will be shared with relevant organizations, including . . . name of organizations to generate policies and programs to improve the quality and sustainability of your life, your community, and your locality.

The results will be reported in a way that does not allow you to be identified. Your anonymity will be assured.
We know that it is sometimes difficult to give a simple answer in this kind of questionnaire. Many of the questions ask for subjective responses. Please answer each question as best you can. There are no right or wrong answers. If you do not wish to answer some questions or you do not have an opinion then please feel free to leave a box unmarked.

Your time today is greatly appreciated.

Thank you.

Throughout the entire questionnaire please mark one box only, unless indicated otherwise. If you make a mistake and mark more than one box, please indicate your final answer by crossing out the others.

If you do not know the answer to a question, or a question seems inappropriate, feel free not to respond.

1. What is the highest level of formal or school education that you have completed?
   - ☐ No school
   - ☐ Primary school
   - ☐ Some secondary school
   - ☐ Trade training
   - ☐ University (undergraduate)
   - ☐ University (postgraduate)

2. What is your age? [ ] (Please write how many years old you are.)

   (Or if you are unsure or do not want to give your exact age, please fill in one of the age-range boxes.)
   - ☐ 16–19
   - ☐ 20–29
   - ☐ 30–39
   - ☐ 40–49
   - ☐ 50–59
   - ☐ 60–69
   - ☐ 70–79
   - ☐ 80–89
   - ☐ 90–99
   - ☐ Don’t know

3. What is your gender?
   - ☐ Female
   - ☐ Male

4. Financially speaking, how would you describe your household?
   - ☐ Well-off
   - ☐ Comfortable
   - ☐ Struggling
   - ☐ Poverty-stricken

5. Compared to other people of the same age, how would you describe your health?
   - ☐ Generally good
   - ☐ Sometimes good
   - ☐ Generally poor
   - ☐ I don’t know
   - ☐ Sometimes poor

6. Have there been times in the past twelve months when you did not enough money for the health care that you or your family needed?
   - ☐ Yes
   - ☐ No

7. With whom do you live? (Choose the best way of describing your situation)
   - ☐ Alone
   - ☐ As a single person with children
   - ☐ With just your husband/wife or partner
   - ☐ With your husband/wife/partner and another person or persons—child or adult
   - ☐ With others (not your family)
   - ☐ With one or both of your parents and/or brothers/sisters
   - ☐ With extended family
     (That is, including, but going beyond parents and/or siblings)

8. How many people live in your household presently?
   - ☐ 1
   - ☐ 2
   - ☐ 3
   - ☐ 4
   - ☐ 5
   - ☐ 6
   - ☐ 7
   - ☐ 8
   - ☐ 9
   - ☐ 10
   - ☐ More than 10

9. For how many years have you lived in your current locality? (That is, in this local place or area)
   [ ] (Please write how many years.)

   (Or if you are unsure please fill in one of the age-range boxes.)
   - ☐ less than 1 year
   - ☐ 1–5 yrs
   - ☐ 6–10 yrs
   - ☐ 11–20 yrs
   - ☐ 21–50 yrs
   - ☐ more than 51 yrs

10. What or whom do you identify as your main community?
    - ☐ The place in which you live (including village, town, neighbourhood, suburb, city, territory, etc.)
    - ☐ A particular group of people
      (including extended family, ethnicity, clan, tribe, nation, etc.)
    - ☐ Your place of work
      (including both formal and or informal places)
    - ☐ A cultural or political institution
      (including sporting club, political party, etc.)
    - ☐ Your place of worship
      (including church, synagogue, mosque, temple, etc.)
Thinking about your own life and personal circumstances, how do you respond to the following questions?

<table>
<thead>
<tr>
<th>Question</th>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Neither Satisfied nor Unsatisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. How satisfied are you with being part of your community?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>12. How satisfied are you with the environment where you live?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>13. How satisfied are you with your personal relationships?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>14. How satisfied are you with the balance between your work and social life?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>15. How satisfied are you with how safe you feel on a day-to-day basis?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>16. How satisfied are you with your life as a whole these days?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
To what extent do you agree or disagree with the following statements?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neither Agree nor Disagree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>17. I can influence people and institutions that have authority in relation to my life.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>18. Political decisions made in relation to my community are generally made in the interests of the whole community.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>19. Outside experts can be trusted when dealing with local issues.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>20. Governments make decisions and laws that are good for the way I live locally.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>21. I feel comfortable meeting and talking with people who are different from me.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>22. Most people can be trusted most of the time.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>23. Experts will always eventually find a way to solve environmental problems.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>24. My identity is bound up with the local natural environment and landscape.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>25. Conserving natural resources is unnecessary because alternatives will always be found.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>26. Wealth is distributed widely enough to allow all people in our locality to enjoy a good standard of living.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>27. Current levels of consumption in our locality are compatible with an environmentally sustainable future.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>28. I feel that I can influence the generation of meanings and values in relation to our way of life.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>29. Economic development should be excluded from wilderness areas to conserve natural diversity.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>30. In our locality there is good access to places of nature.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
To what extent are you concerned that the following issues might impact negatively on the people living in your locality?

<table>
<thead>
<tr>
<th>Issue</th>
<th>Not at All Concerned</th>
<th>A Little Concerned</th>
<th>Concerned</th>
<th>Very Concerned</th>
<th>Passionately Concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>31. Global economic change</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>32. Global climate change</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>33. Globally fuelled political violence</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>34. Globally transmitted cultural values</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>35. A slump in the local economy</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>36. An incapacity to meet local needs for basic resources such as energy or water</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>37. A decline in the vitality of local cultural institutions</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>38. The corruption of local political institutions</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
Measuring community sustainability

Background notes for researchers

This methodology behind this questionnaire is based on the *Circles of Sustainability* approach. It is intended as a means of measuring subjective responses to sustainability across four domains:

- economics
- ecology
- politics
- culture

Each of the domains is considered to be equally important for the human condition.

The questionnaire is intended for use in relation to communities, cities, regions or countries – in other words, a designated constituency of people living in a particular place or set of places, spatially bounded or otherwise. The three designations in the questionnaire are locality, community and way of life. Each of these has a different emphasis: spatial, affiliative and general, respectively. Locality is very

---

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither Agree nor Disagree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>39. Technological innovation has served to liberate me in positive ways from limits that I have experienced in the past.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>40. I am free to express my beliefs through meaningful creative activities.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>41. My work allows me to fully express my identity.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>42. Places of learning, health, and recreation are distributed across our locality in a way that ensures good access by all.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>43. Our governments should support economic growth as one of its highest priorities.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>44. Continuing economic growth is compatible with environmental sustainability.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>45. People can learn to live with others who are culturally different from themselves.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>46. People living in our locality are free to celebrate their own rituals and memories, even if those rituals are not part of the mainstream culture.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>47. Outsiders are comfortable coming to live in our locality.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>48. Keeping our economy sustainable requires that we place limits on the activities of foreign-owned businesses.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>49. Keeping our economy sustainable requires that untrained migrants or refugees are excluded.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>50. Keeping our economy sustainable requires that our needs for a wide range of consumer goods are fulfilled.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
specifi c and place bound. Community could range from the local to the global, and way of life moves from the particular to the general. It refers to generality of life in this place framed by practices and meanings from the local to the global. It has resonances with but is not the same as the concepts of lifeworld (Habermas 1987) or habitus (Bourdieu 1990).

Sensitive to the time taken to respond to any questionnaire and in order to keep the task manageable, this questionnaire has been limited to a set of around fifty questions. Questions can be deleted in order to make this questionnaire shorter and less time-consuming, but in doing so please be conscious of the need to maintain the basic demographic questions (Questions 1–10) and to keep a relative balance of questions across the four domains.

Please do not change any of the questions, except in the following ways:

- First, by adding to or deleting from the words marked in red inside the brackets. The words in red are intended to clarify the question for local meanings.
- Second, by adding words in brackets after any question to further clarify the local meaning of that question.

More fundamental changes to the questionnaire might be done from time to time, but this will be done keeping in mind the need to maintain continuity and comparability. The current version of the questionnaire is Version 2 (2011–present).

If, in addition to this broad area of social sustainability, you want to focus on any particular issues please consider the additional thematic templates, and add any questions from any the templates as you wish, either imported as a whole template, as part, or as one or more additional questions. However, do not change the code numbers associated with those questions.

Sitting behind this organizing framework is a cross-cutting set of social themes:

- Accumulation–Distribution (the dominant theme today globally in the domain of economics)
- Risk–Security
- Needs–Limits (the dominant theme today globally in the domain of ecology)
- Well-Being–Adversity
- Authority–Autonomy (the dominant theme today globally in the domain of politics)
- Inclusion–Exclusion
- Identity–Difference (the dominant theme today globally in the domain of culture)

These dialectical braces – each of which has two thematic variables which stand together in tension – are treated as background themes to the questions. These social themes are treated in a matrix of relations that cross the four domains. Some of the questions are specific to one thematic variable in relation to one domain, some questions elucidate more than one social theme in relation to a domain, and some of the
questions sit loosely across both terms within a social theme or themes. In other words, the relationships that underlie the questions run variably across the following variables:

- social domains
- social themes
- thematic variables within the social themes

The aim of the question selection is make sure that at least one question applies to each of the permutations of social domains and social themes.

In setting up the questionnaire we have aimed for the following balance:

- Demographic questions (10 questions)
- Domain-oriented questions
  - Economics (10–20 questions)
  - Ecology (10–20 questions)
  - Politics (10–20 questions)
  - Culture (10–20 questions)
- Domain in relation to theme-oriented questions (at least one question relating to each permutation)
- Domain in relation to the Capabilities approach (a broad spread across the different ‘capabilities’)
- Domains in relation to beliefs – a threefold orientation around the following perspectives:
  - beliefs in relation to one’s self
  - beliefs in relation to one’s community or locality
  - beliefs in relation to one’s values (at least one question relating to each permutation)

Notes

1 The authors of this chapter were Liam Magee and Andy Scerri with Paul James. Numerous people contributed to developing the questionnaire, including, most important, Martin Mulligan. To give a sense of the reach of our indebtedness to others we list the researchers who were involved in the Papua New Guinea (PNG) project: Albert Age, Sama Arua, Kelly Donati, Jean Eparo, Beno Erepan, Julie Foster-Smith, Betty Gali-Malpo, Andrew Kedu, Max Kep, Leo Kulumbu, Karen Malone, Ronnie Mamia, Lita Mugugia, Martin Mulligan, Yaso Nadarajah, Gibson Oeka, Jalal Paraha, Peter Phipps, Leonie Rakanangu, Isabel Salatiel, Chris Scanlon, Victoria Stead, Pou Toivita, Kema Vegala, Naup Waup, Mollie Willie, and Joe Yomba. In addition, given the issue that the PNG project involved many languages across fifty villages in five provinces, we need to thank in particular, Gerard Arua, Vanapa, Central Province; Monica Arua, Yule Island, Central Province; Viki Awei, Boera, Central Province; Sunema Bagita, Provisional Community Development Advisor, Milne Bay Province; Mago Doelegu, Alotau, Milne Bay Province; Clement Dogale, Vanagi, Central Province; Jerry Gomuna, Alepa, Central Province; Alfred Kaket, Simbukanam/Tokain,
Developing methods and tools

Madang Province; Yat Paol from the Bismark Ramu Group, Madang Province; Joseph Pulayasi, Omarakana, Milne Bay Province; Bing Sawanga, Yalu, Morobe Province; Alexia Tokau, Kananam, Madang Province; and Naup Waup, Wisini Village, Morobe Province. They became our formal research leaders in their respective locales and guides to language nuances.

2 This initial project was led by Martin Mulligan, Paul James, Kim Humphery, Chris Scanlon, Pia Smith, and Nicky Welch, culminating in the report, *Creating Community: Celebrations, Arts and Wellbeing within and across Local Communities* (2007).

References

