

# GCRO'S QUALITY OF LIFE SURVEY: QUESTIONNAIRE AND INDEXING WORKSHOP BRIEFING DOCUMENT

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## Briefing document

This document was prepared as part of the Gauteng City-Region Observatory's Quality of Life survey ten year review process. It is a lightly edited version of the document provided to participants in preparation for the questionnaire and indexing workshop hosted on 5 June 2019.

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# 1 Background

## 1.1 GCRO's Quality of Life Survey

The GCRO's Quality of Life Survey (QoL) was launched in 2009, measuring the self-reported well-being and satisfaction of adult residents of the Gauteng City-Region (GCR), and has been repeated every two years since. The first iteration of the survey (2009) collected data from 6 639 randomly selected adult respondents, distributed across the entire GCR, including areas falling outside of the Gauteng province. The sample was representative at the municipal level. The second iteration of the survey moved towards a ward-representative sample, restricted to Gauteng province only. This required a substantial increase in sample size to 16 729 respondents. Subsequent surveys remained limited to Gauteng, and continued to pursue a ward-representative sample for all wards in Gauteng. All had sample sizes over 24 000, with a peak of 30 002 in 2015/16.

QoL is now recognised for providing high quality data at extremely low levels of geography. It represents an invaluable resource for provincial and local government in the province, as well as for numerous academic and non-profit research projects. Given the scale of the survey, the broad spatial distribution of completed surveys, and GCRO's commitment to ensuring exceptionally high quality data, implementation of the survey has become increasingly challenging over recent iterations. This is exacerbated by the relatively limited resources (financial and human) available for survey implementation. Given available resources, implementation of the survey as currently conceptualised has become unsustainable. In light of the value of the project, a careful review of all survey parameters is critical to finding the strongest path to return it to sustainability. This is a core part of the motivation for the GCRO's internally-driven ten year review of the survey.

## 1.2 Technical review workshops

As part of the ten-year review, the GCRO is implementing a series of three technical review workshops, focussed on reviewing key aspects of the survey. These are (1) sampling; (2) survey management; and (3) questionnaire content. Prof Mark Orkin has been appointed as the external technical chair of the workshop process, to provide guidance to the process, and to assist the GCRO by synthesising recommendations informed by the three workshops. Each workshop is being externally facilitated, by Dr Tara Polzer-Ngwato, and will be attended by a small group of 3-4 external experts, as well as core GCRO team members.

The objective of the series of workshops is to support the GCRO in revisiting sample size and distribution, field processes, questionnaire composition, duration of data collection, indexing, and requisite resources in such a way as to facilitate survey sustainability over the next ten year, while also protecting as far as possible the continuity and value of the survey. Participants in each workshop will work towards generating of a series of considerations for the GCRO.

## 1.3 Purpose of this document

This document aims to prepare questionnaire and indexing workshop participants for the questionnaire and index technical review workshop. It:

- Provides a problem statement, and highlights key issues that the GCRO is grappling with;

- Provides an overview of GCRO's questionnaire and approach to indexing for the QoL survey over the years, highlighting areas in which particular challenges have been identified. These include questionnaire length, questionnaire focus, balancing the need for consistency over time with the need for new content, and challenges in adjusting the approach to indexing;
- Discusses in more detail potential approaches to resolving issues which have been challenging, drawing in part on the strategies adopted by other broadly similar surveys; and
- Poses key discussion questions for the workshop.

Appendices to this document include:

- **Appendix 1:** Spreadsheet documenting questionnaire content over the 5 iterations of the survey. This includes one tab identifying all 'common' content across survey iterations, and one tab listing all other content that has been included in any survey to date. This spreadsheet was prepared by Sandiswa Sondzaba and Kiera Crowe-Pettersson.
- **Appendix 2:** Each of the questionnaires to date (QoL I - 2009, QoL II - 2011, QoL III - 2013/14, QoL IV - 2015/16, and QoL V - 2017/18)
- **Appendix 3:** Breakdown of QoL and marginalisation indices into constituent variables and dimensions, with scores over time. These documents were prepared by Christina Culwick, and updated for QoL V by Alexandra Parker.
- **Appendix 4:** Journal article documenting the origins and structure of the QoL index: Everatt, D. (2017) Quality of Life in the Gauteng City-Region, South Africa. *Social Indicators Research* 130(1): 2017, 71-86. <https://doi.org/10.1007/s11205-015-1127-y>
- **Appendix 5:** Vignette illustrating the process by which the QoL index is calculated: Culwick, C (2018). Quality of Life in Gauteng. Available at [http://www.gcro.ac.za/media/reports/Vignette\\_37\\_-\\_Quality\\_of\\_Life\\_Gauteng\\_June\\_2018.pdf](http://www.gcro.ac.za/media/reports/Vignette_37_-_Quality_of_Life_Gauteng_June_2018.pdf)
- **Appendix 6:** Publication on alternative approach to QoL index using QoL I data: Construction and analysis of a composite quality of life index for a region of South Africa. T Greyling, F Tregenna, *Social Indicators Research* 131 (3): 2017, 887-930. <https://link.springer.com/article/10.1007/s11205-016-1294-5>

Appendices can be accessed through the Quality of Life survey 10 year review website at <https://gcro.ac.za/research/project/detail/quality-life-survey-10-year-review/>.

## 2 QoL questionnaire and index: Problem statement

### 2.1 Key concerns

#### 2.1.1 Questionnaire

- Questionnaire length has been reported as a challenge by each service provider to date. Average questionnaire duration has been over 45 minutes, and poses a significant challenge to fieldworkers in the field. Further, many surveys are completed implausibly

quickly, suggesting that fieldworkers take shortcuts in implementation. Some content has been discarded after each survey iteration, but this has typically been balanced or outweighed by the inclusion of new questions. In addition, the need to retain all questions which feed into the QoL index, together with those essential to government and stakeholder reporting, has placed a firm lower limit on what must be retained.

- Understanding the ‘core’ content of the questionnaire is challenging. Content which has been retained across all or most survey iterations includes those questions thought from the outset to be essential to generating the QoL index, and those essential for government purposes. Once questions have been included in the questionnaire a few times, their retention is increasingly appealing because they allow for longitudinal comparability. However, a clearly defined ‘core’ would be helpful in streamlining questionnaire development.
- Beyond the ‘core’, selecting questions for inclusion is challenging. Historically, the GCRO has engaged with key stakeholders, internal and sometimes external researchers regarding areas of interest and potential questions. This can result in a large number of potential questions. In many instances, questions are not well suited to inclusion in the instrument, or are submitted without clear planning around data use. This makes the finalisation of the questionnaire extremely challenging.
- Inadequate piloting of proposed content is also a challenge, largely due to tight timelines. In QoL V, this resulted in some questions which did not work well being carried through the full survey.

### 2.1.2 Indexing

- Following the completion of data collection for the first iteration of QoL (2009), two indices were developed: the quality of life (QoL) index and the marginalisation index (Everatt, 2017). These indices have been useful in illustrating shifts in well-being over time, but pose challenges too.
- While the current indices are easy to explain to stakeholders, their generation is not in line with methodological best practice (OECD, 2008). Revisiting the approach taken in generating the GCRO’s current indices has the potential to make them more meaningful and increase their value. However, the trade-off between scientific best practice and communicability of information needs to be carefully considered.
- Additionally, the current QoL index makes use of 57 questions, which have needed to be retained without change over time. Many of these variables are highly correlated. An equivalently meaningful index with fewer variables could assist in managing questionnaire length and focus.
- Any adjustment to the indices will need to be carefully managed, as the QoL index in particular has been widely used by GCRO’s stakeholders, as well as GCRO itself.

## 3 Overview of the QoL Questionnaire

The questionnaire for the first iteration of QoL has guided all subsequent questionnaires. Initial questionnaire development was informed by an extensive review of broadly similar surveys, locally and internationally, as well as engagement with various stakeholders. The QoL I service

provider prepared a literature review of approaches to measuring Quality of Life locally and internationally, which fed into the design of both the questionnaire and index. In particular, key demographic questions were aligned to questions in Census 2001 and the General Household Survey. An additional review of Gauteng-based citizen service satisfaction surveys was conducted 2011/2012, which guided the strengthening of the ‘customer satisfaction’ aspects of the QoL survey (Jennings, 2012).

The number of questions asked of participants has varied over time, as detailed in Table 1 below. The total number of questions included in the survey has gradually increased over time.

Table 1: Number of questions per survey iteration

	QOL I	QOL II	QOL III	QOL IV	QOL V
<b>Common content</b>	123	123	123	123	123
<b>Additional questions</b>	64	75	96	108	125
<b>Total questions</b>	187	198	219	231	248

### 3.1 Common content across all surveys

Over the years, all questionnaires have included common content, comprising of 123 questions. 68 of these have gone through some changes to wording or the way in which they have been asked. These changes have been a mix of intentional adjustments to questions which did not work well, changes necessitated by the particular data collection system used, and accidental alterations.

This common content is not structured as a single module, and is distributed across the questionnaire. This introduces an additional level of complexity in ensuring that common content is retained consistently, and there have been challenges in this regard in most iterations of the survey. Furthermore, in some instances, while questions have been retained unchanged, their ordering has shifted, which can have implications for the comparability of responses over time.

Appendix 1a lists the questions which have been held largely constant over the past 10 years. While a fair number feed into the QoL index, there are also many that constitute a basic demographic background, including access to basic services.

Since QoL II, there is also a bank of questions on access to and satisfaction with a range of government provided services. This stems from a recognition that QoL could function as a Customer Satisfaction Survey (CSS) for municipalities and government (Jennings, 2012). This constitutes an additional 15 questions.

### **3.2 What the survey covers**

Questions have been categorised in different ways over the years, but for comparability in the review process we have allocated them to fourteen different categories: community; community services; demographics/household; education; employment and business; finances and household resources; headspace, personal well being, and quality of life; health; household services and needs; housing; migration; public participation, governance, and democracy; safety and crime; and transport.

Appendix 1 includes the categorisation of each question - the 'common content' in Appendix 1a, and all other questions in Appendix 1b. Figure 1 below provides an illustration of how the distribution of questionnaire content has shifted over iterations of the survey.

Reasons for shifts in survey content have varied. In some instances this has related to requests from government for additional content in particular areas - sometimes supported by financial resources. An early example of this was the inclusion of the CSS content, which was essential in obtaining financial support for the survey from the municipalities. A more recent example was the inclusion in QoL IV of a bank a health related questions for the Gauteng Department of Health, for which additional survey funding was provided. At a smaller scale, draft questionnaires are also shared with various parts of provincial and local government, and requests for the inclusion of a small number of questions is often accommodated. Examples from QoL V include the questions on reasons for dissatisfaction with dwellings and roads, and the question on the respondent's religion.

In other instances, the inclusion of additional content is driven by the interests of specific researchers, either internal or external. In QoL V, examples of content inclusion prompted by external researchers were perceptions of local government, and HIV testing history. Examples of content inclusion in response to internal researchers were additional questions on water use and water saving strategies, additional questions on transport and particularly BRT, and questions on household structure and education.

The openness to inclusion of new content is valuable in terms of shaping the breadth of the questionnaire, as well ensuring that survey content remains relevant amidst shifting governmental and societal priorities. However, it also adds burden and risk to the process of questionnaire design. The relative costs of adding additional questions (such as greater length, participant burden, and loss of other content) need to be carefully weighed relative to the benefits of the new content. This is a challenging exercise. In the absence of clear criteria to guide decision making, not all requests for content are treated consistently. Furthermore, the process places a substantial burden on the staff members responsible for reconciling competing demands.

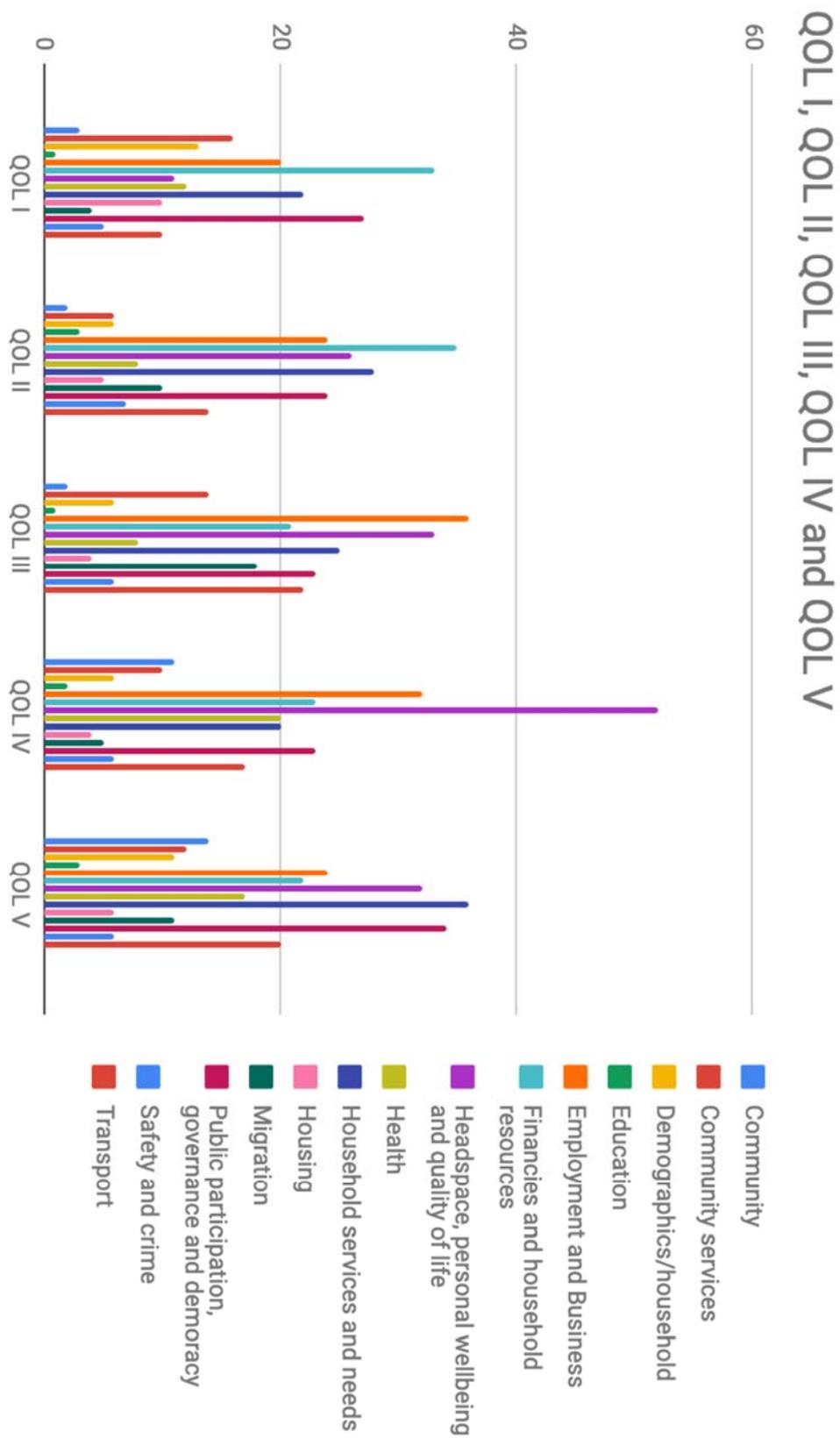


Figure 1: Number of questions in each category for each iteration of the QoL survey

### **3.3 *Piloting and finalisation***

Limited piloting is also regularly reported as a challenge by service providers. Typically, the questionnaire is subjected to several rounds of internal piloting by the service provider as well as the GCRO. However, in-field piloting has typically been more limited. In QOL V, despite plans for in-field piloting, this was limited in practice. More importantly, due to tight timelines and challenges with programming of the survey instrument, questionnaire design issues uncovered relatively early in fieldwork could not be rectified.

## **4 The Quality of Life (QoL) and Marginalisation indices**

This section focuses primarily on GCRO's QoL index, as the marginalisation index draws on a subset of the variables in the QoL index. Appendix 3 maps out exactly how the variables feeding into each index are distributed across the ten component dimensions. It also provides the overall scores for each variable, dimension and the overall indices across all iterations of the survey to date.

Further background and detail around the generation of the current QoL index is provided in Appendices 4 and 5. The marginalisation index is not covered in detail in these resources, but this index is calculated in the same way, using a subset of the QoL variables.

### **4.1 *Preliminary work to explore an alternative QoL index***

Some preliminary work to explore an alternative approach to the generation of the QoL index has been undertaken. This work makes use of a data driven approach, using Exploratory Factor Analysis (EFA) to identify variables which form empirically and theoretically coherent. Emergent models are then tested using CFA.

Further details on this work will be presented during the workshop. In the interim, Appendix 6 provides an overview of how a similar approach has previously been applied using the QoL I data.

### **4.2 *Implications of adjusting the QoL index***

While the QoL survey provides a wealth of data, the QoL index is one of the survey's most widely used outputs. Government in particular draws very heavily on the final QoL index scores. City of Johannesburg has gone so far as to incorporate it into their performance targets.

This extensive use by government means that it is essential we are confident that our index is as methodologically sound as possible. However, it also means that any changes to the index need to be made with extreme caution, and consideration of the impact that the shifts may have on the users of the index. It will be critical to back-calculate any new index, to explore whether this results in the same broadly positive trend over time as the current index. Conversations with stakeholders will also be critical.

## 5 Quality of Life data use

Clearly, understanding the ways in which QoL data and results are used is essential to understanding the impact of changes to the questionnaire, as well as to the index. This section provides an overview of how key stakeholders have drawn on both the raw data and the GCRO's analysis to date.

### 5.1 *Government policy support*

As part of the QoL review process, interviews were conducted with a number of stakeholders and data users in various levels of government, to better understand how the QoL data is received and used.

Interviews were held with the City of Johannesburg, the City of Ekurhuleni, Gauteng Department of Agriculture and Rural Development, and individuals within the Premier's office. Data users report that they see a lot of value in the QoL data. The metros in particular report that QoL provides them with excellent value for money, particularly in regard to the extent to which it can act as a Customer Satisfaction Survey. QoL is furthermore seen as objective, adding to its value.

Despite the perceived value of the data, actual use of the raw data appears to be relatively limited within government. Reasons provided for this include difficulty obtaining statistical software, and limited internal capacity and time. Stakeholders were generally enthusiastic about expanding their use of the data, but indicated that this would require support. There is particular interest in the Customer Satisfaction components of the dataset, over most other content. There was a preference for the preparation of more extensive written reports by the GCRO. This would include analysis at lower levels of geography, including the ward level. This would enable government to draw on survey results more easily. However, this would also place a substantial additional burden on the GCRO. While the GCRO has not provided formal written reports to government, in recent years City Benchmarking reports have been provided to support the needs of the metros (Culwick, 2018; Gotz, 2015).

The QoL index receives extensive attention from government, in large part because it is a single score, which is felt to be relatively easy to interpret. The score receives attention from the Premier's office, and is also drawn on by other levels of government. The City of Johannesburg has included improving QoL index scores as a performance measure for City employees.

### 5.2 *GCRO websites usage information*

Looking specifically at QoL page visits between 1 Jan 2017 to 21 March 2019, there have been 84 unique page views for QoL I, 87 for QoL II, 248 for QoL III, 34 for QoL IV, and 1 981 for QoL V. When broadening the period considered to start from 31 October 2012, there are significant spikes in numbers of users around the launch periods of each QoL, indicating particular interest and engagement with the QoL data at these times. The majority of the users come from South Africa, France, and the United States.

### 5.3 Data use requests

Despite substantial reliance on GCRO’s own analysis of the QoL data, particularly from within government, there is evidence for quite extensive use of the raw data. The largest group of users are academic, and the data is used for academic research, postgraduate research including PhDs, and for teaching purposes. However, data is also used by government, and the private sector. Private sector use is typically to enable service provision to the GCRO, or for the provision of consulting services to government.

The raw QoL data is shared with data users in two ways. Firstly, the datasets are made available through UCT’s DataFirst portal. Secondly, the data is available directly from the GCRO on request. The table below illustrates the number of requests for each QoL dataset to date, indicating whether the request came from a South African or international user. The large majority of requests for QoL data have come through the GCRO (n=259), although many users have relied on DataFirst for QoL IV. QoL V has not yet been loaded onto the DataFirst platform, but will be.

Table 2: Quality of Life data requests (DataFirst and internal)

QoL Iteration	SA requests	International requests	Total requests
Quality of Life Survey I 2009	43	17	60
Quality of Life Survey II 2011	47	22	69
Quality of Life Survey III 2013-2014	43	23	66
Quality of Life Survey IV 2015-2016	66	36	102
Quality of Life Survey V 2017-2018	16	8	24

Internally at GCRO and in academic publications, consistent use is found of questions related to basic services (access to water, electricity, etc.), dwelling information, employment status, business ownership, participation in the informal economy, migration, and health services. At GCRO use related to QoL has generally increased over time, with 13 outputs for QoL I, 17 for QoL II, 15 for QoL III, 29 for QoL IV, and 5 for QoL V since its recent release. These outputs include occasional papers, research reports, data briefs, maps of the month, and presentations. Overall

there have been 92 academic publications that use QoL data, including a handful of reports published by GCRO staff. The most common themes in academic use are governance, politics, service delivery, income, poverty, and the economy.

## **6 Discussion questions**

### **6.1 Questionnaire:**

- Is there value in moving towards a more formally structured ‘core’ questionnaire? And if so, what content should constitute the core, and how should individual questions be evaluated?
- Is there value in supplementing the core with rotational modules? If so, what types of modules might be most useful? What criteria could be used to identify the most appropriate modular focus and frequency of rotation?
- How else could the GCRO streamline questionnaire preparation? What criteria should be used in evaluating new content?

### **6.2 Indexing:**

- What are the relative costs and benefits to shifting the way in which the QoL and marginalisation indices are calculated? Is there actually a choice? If so, are the relative benefits adequate to justify the creation of a revised index?
- How best can the need for methodological rigour be balanced with the need to ensure that the index remains relatively easy to explain and interpret, particularly with regards to key stakeholders in government?
- What strategies can the GCRO use to mitigate potential risk related to the replacement of the current QoL index?

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