Individual Deprivation Measure

EXPLORING MULTIDIMENSIONAL POVERTY IN FIJI

FINDINGS FROM A STUDY USING THE INDIVIDUAL DEPRIVATION MEASURE

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IWDA INTERNATIONAL WOMEN'S DEVELOPMENT AGENCY

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EXECUTIVE SUMMARY

Background

Currently, poverty data in Fiji is derived from household income and expenditure data, collected via periodic Household Income and Expenditure Surveys (HIES). Given gender inequality within households can be significant, assessing individual poverty by using household data and then assuming all household members have the same access to resources and opportunities is problematic. Household-level measurement also means accurate disaggregation of data is impossible. This makes the work of policy makers and advocates harder, masking differences rather than revealing them so they can be addressed. Individual-level measurement is essential to fully understand poverty and inequality, and the relationship between gender and poverty.

In September 2015, 193 countries agreed to the Global Goals for Sustainable Development, committing to 'leave no one behind' in achieving the Goals by 2030. Realising this commitment requires data about individuals, in order to see how factors such as sex, age, disability, geography and more effect outcomes, so barriers and gaps can be identified and addressed.

The Individual Deprivation Measure (IDM) is a new, gender-sensitive and multidimensional measure of poverty. The measure assesses deprivation at the individual level, in relation to 15 key dimensions of life, making it possible to see who is poor, in what way and to what extent. It was developed through a four-year (2009-2013), three-phase multidisciplinary international research collaboration involving thousands of participants across 18 sites in six countries: Angola, Fiji, Indonesia, Malawi, Mozambique and the Philippines. The research was led by the Australian National University, in partnership with the International Women's Development Agency (IWDA) and the Philippine Health and Social Science Association, University of Colorado at Boulder, and Oxfam Great Britain (Southern Africa), with additional support from Oxfam America and Oslo University. It was funded by the Australian Research Council and partner organisations (LP 0989385).

For any new measure to gain traction, it needs to be tested and learning documented to inform refinement and subsequent use. This requires initial users that are willing to take informed risks and recognise that potential can only be realised by taking a first step.

In 2014, the Australian Government funded the first IDM study beyond the initial proof of concept trial in the Philippines, to explore what additional insights into deprivation in Fiji could be gained by individual-level, gender-sensitive poverty measurement. This work was undertaken by the IWDA, working with the Fiji Bureau of Statistics (FBoS).

In 2016, the Australian Government made a further investment in the IDM as part of a wider focus on closing the gender data gap, supporting a four-year program to ready the IDM for global use by 2020. The IDM Fiji study has ensured that the IDM Global program, implemented in partnership with the Australian National University (ANU) and IWDA, is informed by circumstances in the Pacific.

The IDM Fiji study and its limitations

The Fiji Bureau of Statistics (FBoS) designed the study sample in consultation with IWDA and the Australian Department of Foreign Affairs and Trade in Suva (DFAT Suva). FBoS conducted the enumerator training in collaboration with IWDA, piloted the survey, and implemented the study design, collecting and cleaning the data and facilitating a reflection session with enumerators on conclusion of fieldwork. Preparatory work and implementation of the survey was undertaken between February and September 2015. Given capacity constraints, FBoS determined to limit its engagement in the study to the above contribution, and data was analysed by IWDA.

Participants at a two-day stakeholder workshop in Suva in February 2016 reviewed the initial data analysis, and urged a focus on the IDM's ability to reveal how deprivation varies – within households, by sex, across social groups and settlement type, and by Tikina. Stakeholders considered that the process of aggregating dimension data into an overall IDM score hid the differences that were of most interest and policy relevance. This report reflects this guidance.

Once Australian Government funding for the IDM Global program was confirmed (May 2016), peer review of the initial scaling, weighting and aggregation of data used in the proof of concept trial in the Philippines and the Fiji data analysis revealed some reliability issues. For this reason, overall IDM scores are not reported here. Further specialist work is being undertaken on the approach to scoring, weighting and aggregation as part of the IDM Global program. When the approach to aggregation is finalised we will calculate and report overall IDM scores for Fiji. This will include analysis of overall results by factors including sex, age, settlement type, Tikina, sociocultural background, disability and their intersections where possible. This work will be undertaken as part of the IDM Global program. Arrangements for publication and communication of this subsequent work will be discussed with key stakeholders including consideration of how best to communicate research findings more widely, including to communities in enumeration areas surveyed for the IDM Fiji study.

Key findings

Gender matters

The IDM Fiji study confirmed the measure's potential to reveal gender differences within the household and the impact of intersecting factors on individual outcomes. Gender differences were found across most of the 15 IDM dimensions.

Even for dimensions usually only measured at the household level such as type of cooking and heating fuel, individual differences were revealed by the IDM. For example:

- Some 91% of women reported exposure to fumes related to cooking and heating, compared to 65% of men.
- Women on average were exposed to 1 hour 45 minutes per day of fumes related to cooking and heating, compared to an average of 24 minutes per day for men.
- Women suffered health problems linked to unclean cooking and heating fuel at twice the rate of men (25% cf. 12%), and these problems were more likely to be severe.

These findings reflect not just household variables such as location/type of kitchen and fuel used, but also the implications of a gendered and unequal distribution of household responsibilities, with women having primary responsibilities for unpaid household work in Fiji.

Women were more likely than men to be extremely deprived and very deprived in Voice (the ability to raise concerns and effect change in their community). Men were twice as likely to be not deprived at all in this dimension. The gender difference in Voice was largest in urban areas (Figure 47).

Measurement inside the household matters

Overall, the majority of study participants (72%, or over 2000 people) had Water piped into their dwelling (Figure 17), and travelled less than 10 minutes to their water source (Figure 18). Looking inside the household, the IDM study highlighted that individuals may have different needs for water, linked to different responsibilities and requirements. Assessing water access at the household level cannot reveal the full extent of individual deprivation. Measuring individual use in a way that reveals any variation among household members enables assessment of who has enough water to meet their needs, given roles and responsibilities.

While deprivation in the Water dimension was limited overall in the Fiji study sample, it was evident, and notable in some areas and among some populations. Respondents in informal settlements struggled most with having sufficient water; nearly 40% reported that they 'rarely' or 'never' had enough water to meet their personal needs (Figure 21). There was a statistically significant difference between men and women, with women more likely to report that they did not have enough water to meet their needs (Figure 20).

This difference likely reflects women's primary responsibility for cooking, cleaning, and washing, which require water beyond that needed for personal drinking and bathing. Men were more likely than women to report that they 'always' (57% cf. 52%) or 'often' (12.5% cf. 11%) had enough water. Almost double the number of women reported 'rarely' having enough water (12.2% cf. 6.1% of men); however, slightly more men (4%) than women (3%) reported 'never' having enough water.

Inequality matters

The IDM measures the intensity of deprivation in each dimension and overall. This makes it possible to capture information about inequality, which can inform targeting of policy and programs.

Any deprivations in Shelter materials and quality are shared by a household, and therefore gender differences in shelter were not observed in this study. However, differences in the Shelter dimension were observed by settlement type, Tikina, and sociocultural background.

The study found more low quality materials and dwellings in Suva and Nasavusavu, and more high quality materials and dwellings in Nadi and Malomalo (Figure 5). Data about condition of dwellings in urban areas was more polarised: dwellings were more likely to be rated as 'excellent', and more likely to be rated as 'poor', than houses in rural areas, reflecting greater inequality in urban areas. Housing in rural areas was more consistent, with over 40% rated as 'good'.

This inequality and variation was also found in social dimensions such as Personal support. Respondents in informal settlements experienced less average support than those in either urban or rural areas – but respondents in urban areas were more likely to report *both* full personal support and no personal support, indicating more inequality in personal support for individuals living in urban areas (Figure 43).

Unless we measure the scale or intensity of deprivation, we miss information about inequality – and consistently moderate deprivation requires a different policy response than high levels of both extreme deprivation and advantage.

Multidimensionality matters

Participants in the IDM Fiji stakeholder workshop in Suva in February 2016 highlighted that results in many IDM dimensions were related.

The Water and Sanitation dimensions were correlated at 0.25, a statistically significant correlation indicating that citizens who were deprived in the water dimension were also likely to be deprived in the sanitation dimension.

Each IDM dimension is measured using multiple indicators. At the indicator level, citizens with rudimentary water sources were also more likely to use rudimentary toilet facilities.
Over 80% of citizens who had water piped into their dwelling also used a private flush toilet, whereas only 45% of those who used unprotected surface water had a private flush toilet.

Water access was also linked to Time-use in a way that is gendered. Primary responsibility for water collection in Fiji (and elsewhere) rests with women and children. In rural settlements, distance travelled to access water was up to 90 minutes each day (Figure 23). Walking a longer distance to a water source takes time away from other productive activities, and potentially exposes an individual to increased risk of violence.

Collecting information about 15 dimensions of life from the same individual makes it possible to see relationships between deprivations, and highlight related priorities for policy makers. This helps to identify where integrated responses have the potential for real impact.

Intersectionality matters

Intersectionality refers to the way in which multiple identities intersect to produce, and often deepen, deprivation. For example, gender difference in exposure to fumes intersected with settlement type to influence the amount of time an individual was exposed. Women in informal settlements spent most time exposed to fumes (Figure 14).

The IDM assesses deprivation in Clothing in terms of social acceptability (the ability to meet the dress standards of the community) and physical protection from the elements. Results were influenced by disability and gender: women with high levels of disability were most deprived in the clothing dimension. The intersection of disability and deprivation is well noted in poverty literature.

The IDM Fiji study provides initial evidence that disability, in the form of general functional and cognitive difficulties, is related to more severe deprivation across many of the 15 IDM dimensions and indicators, and that sex and disability appear to interact to produce varying levels of deprivation (Chapter Nine).

There was a strong correlation between functional difficulty and age in this sample. The majority of respondents who reported higher levels of disability were in the oldest age group sampled (66+) (Figure 54). This highlights the importance of disability inclusion and inclusive design approaches: many people will live to experience some functional limitations linked to age. Further clarity about the relationship between disability, age and deprivation may be achieved with a larger sample or working with disability organisations to implement a targeted IDM survey.

Social deprivation matters

Poverty is not just material, but relational. Social dimensions of poverty include the ability to control personal decisions (whether to leave the house, seek health care, and freely associate with others); connectedness and social support (being able to depend on others, and being depended on); the ability to present to the standards of one's community; and voice – the ability to make changes and influence decisions in one's community or society.

Some 37% of the sample considered they had full control over personal decision-making, and 47% perceived full support from friends and family. However, further disaggregation reveals that social deprivation was highly gendered.

Nearly half the men in the sample (48%) reported full control over personal decisions, compared to only 25% of women (Figure 38). Women were more likely than men to report no control over personal decisions (5% cf. to 1.4%).

Young people, and young women in particular, perceived the least control over their personal decision making (Figure 40).

While men were more likely than women to report full personal support from friends and family in times of trouble (50% cf. 45%), men were also more likely to report no personal support (6% of men compared to 3.6% of women). Women were more likely to report moderate amounts of personal support (Figure 39).

Voice also varied by geographic location, with gender inequality in Voice markedly higher in Bau, Malomalo, and Cakaudrove (Figure 49).

Overall, participants perceived more control over decisions and support at the familial and immediate social group level than ability to raise issues and affect change at the community level.

Decomposition of indicators matters

Each IDM dimension is measured using multiple indicators. Analysing results at the indicator level shows what is driving dimension results, and the value of using multiple indicators.

Looking at Water, urban settlements were the least deprived because the majority of residents had water piped into their dwellings, individuals always or often had enough water to meet their needs, and if travel was required to water sources, it was not far. However, the nature of deprivation in rural and informal settlements differed: residents in informal settlements struggled with water reliability, and residents of rural areas struggled with travelling long distances to access water.

Women were more deprived overall in the Health dimension. Examining results at the indicator level helps to understand why. Approximately 50% of participants experienced an illness in the last year. Of these, 60% of men and 50% of women reported that their last injury or illness made it difficult or impossible for them to perform their usual paid or unpaid activities (Figure 31).

Men were more likely than women to have received health care the last time they experienced an injury or illness that required it (70% cf. 60%). There were also differences by sex and age, with younger women less likely to access health care than both younger men and older women. In contrast, men's reported rate of health care utilisation did not vary by age.

Of those who sought medical care, 92% of men saw a doctor compared to 84% of women. More women than men saw a nurse (12% cf. 4%). This difference was particularly pronounced between younger men and women.

The most common problem with health care quality was waiting time; 30% of respondents indicated a problem in this area. Few gender differences were observed in health care quality, although women were more likely than men to report problems with the skill of the provider (7.4% cf. 3.4%).

Next steps

Measure development and refinement

Exploring and resolving technical issues and questions outlined in this report is a primary focus in the next phases of the IDM Global program. Use of the IDM will also be tested in various contexts; this may include further data collection in partnership with National Statistics Offices, using the IDM as a tool for impact evaluation, and working with civil society organisations to assess the IDM as a tool to inform programming priorities. This work will sit alongside targeted IDM studies with focal minority populations, to strengthen intersectional insights and assess the sensitivity of the IDM for capturing the specific deprivations experienced by minority communities.

For example, gender sensitivity requires going beyond binary categories of women and men. However, simply including additional questions about gender identity in survey instruments will not necessarily generate reliable data. In this study, an 'other' category was initially included in the survey to provide participants an option for non-binary identification but was dropped by FBoS following the pilot. This report has opted to refer to 'sex' rather than 'gender' when disaggregating data to make this limitation visible. Better ways to capture gender diversity are being tested in subsequent IDM studies. Beyond concerns with improving the inclusiveness of demographic information, we are planning to expand the representation of LGBTI communities in IDM data collection and develop associated study methodology, working closely with advocacy organisations to undertake an IDM study with their constituents. Some of this work is planned in Fiji, providing an opportunity for findings to be compared with this present study.

Further, as discussed in Chapter Nine of this report, deprivation is highly associated with disability, but disability (as measured in terms of functional difficulty by the Washington Group

Short Set of questions) was highly associated with age in this Fiji sample. Future IDM studies will look at ways to improve the ability to capture the relationship between disability and deprivation, and expand disability screening questions to include cognitive impairment and mental health, working with the Washington Group on Disability Statistics. We will also explore targeted sampling of people with disabilities, working with Disabled People's Organisations (DPOs) to ensure a diverse and representative sample and data quality, and test the sensitivity of the IDM for capturing the specific deprivations experienced by people with disabilities.

From research to use

The combination of individual level collection, demographic information and 15 dimensions has generated a rich data set that warrants further exploration. It can provide evidence, insights and learning for researchers, policy makers, advocates and development practitioners with diverse interests.

FBoS' role in implementing the study brought the experience of Fiji's national statistics office to this first post-trial study. It also provided FBoS with a unique perspective on this new measure. This position, as the first national statistics office to work with a new global poverty measure, creates a potential opportunity for FBoS to play a leadership role in regional and international statistical spaces. What are the strengths of this new measure? What challenges does it present for a national statistics agency? How could these be addressed? The IDM team is keen to explore the potential to collaborate further with FBoS as the IDM Global program works to ready the IDM for global use. Work is underway with DFAT Suva to broaden and deepen engagement with relevant Fiji Government departments and agencies around the IDM Fiji insights and initial findings to date, and the further IDM work planned over the next couple of years.

As noted earlier, we will calculate and report overall IDM scores for Fiji once a revised approach to aggregating dimensions is agreed. This will include analysis of overall results by factors including sex, age, settlement type, Tikina, sociocultural background, disability and their intersections where possible.

The IDM Global program is also investing resources to reduce barriers to data collection and analysis, with the aim of developing an integrated IDM technological platform which can be used to collect, store, analyse and visualise data. The aim of this work is to facilitate use of IDM data by non-statisticians.

The IDM Fiji study has been integral to the development of the IDM as a tool for multidimensional poverty research. It will continue to provide a valuable source of insight as we address the complex technical challenges outlined in Chapter Eleven of this report, to create a genuinely gender-sensitive multidimensional deprivation tool for global use.

Summary reflections on the IDM Fiji study
Vanisha Mishra-Vakaoti

A significant strength of the IDM Fiji Study is its grounding in participatory research in Fiji, and the integration of feedback from academics, content experts, researchers, organisations, Government departments and stakeholders at various stages of the study. When developing a new measure for any issue, especially one as sensitive as poverty, a collaborative approach is vital. The IDM Fiji Study has demonstrated this, and sought feedback, advice, and conversation as the study progressed. The result is a study to which individuals, communities, local and national organisations and international partners have all contributed. The IDM Fiji Study in its nature, process, delivery and documentation has been participatory, collaborative and encompassed the values of multidimensionality, inclusivity and gender sensitivity. While this is commendable, it must be remembered that this new measure will continue to need further refinement in light of performance in different contexts. Ultimately, no measure can be perfect but acknowledging limitations, integrating feedback and maintaining the flexibility required for localisation increases the likelihood of a measure that is practical and reliable.

At a theoretical and conceptual level, the IDM Fiji Study places Fiji, and its Pacific positionality, at the forefront of the development of new global approaches in poverty research. Fiji's involvement in the underlying research to develop the IDM, and then in testing the measure and contributing to its refinement and development, is a step towards ensuring that the values and realities of Pacific people and communities are considered in global approaches: something which for the most part has been lacking.

The data from the IDM is not intended to replace other national surveys or research. Rather, it offers additional information to complement existing and on-going work on poverty and deprivation. National surveys and census data provide wide-ranging comprehensive data on households in the country, while the IDM offers new data on who is poor, in what ways and to what extent. It provides high-quality data on the extent and depth of individual deprivation which has the ability to foster greater discussion on what the lived experience of poverty looks like for both men and women.

The measure and the data it generates illustrate gender differences in a manner that is respectful and does not diminish the reality or value of either gender. The grounding of the IDM in feminist methodology and research methods has guided the approach to individual questions, the treatment of data and presentation of information. All done from a gender-sensitive point of view that does not prioritise one gender over the other. This allows men's experiences to be treated as equally important and valuable as women's and does not diminish the experience of women. The IDM Fiji Study is a real effort in gender equality and sensitivity.

Some significant contributions of the measure include, but are not limited to:

- Moving beyond a binary understanding of poverty (people being defined as either poor or not poor). The IDM ascertains the level, or intensity of poverty and the vulnerability of the individual to poverty and deprivation.
- Addressing assumptions about household structures, such as household income being pooled with household members having equal access to household assets and income, or that all members of the household have the same experience of living in a dwelling. The IDM allows researchers to identify and explore the experience of the least and most deprived members of households.
- Exploring factors that contribute to poverty beyond income and income-based measures. The IDM makes it possible to explore the relationship between monetary and non-monetary poverty, which is not currently explored by poverty research and data in Fiji.

- Relatively easily administered and does not require specialist equipment and can effectively be administered by enumerators from organisations already engaged in research in the country, such as the Fiji Bureau of Statistics.

While the IDM is intended for global use and comparisons, it has enabled individuals to contribute to defining what being poor entails, and to consider 'what is most important for being *not* poor'.

Limitations

The IDM – as measure and multitopic survey – has limitations. Throughout the report attention is drawn to areas where further investigation is required to better understand deprivation.

As currently designed, the IDM only covers adults over the age of 18. The report notes that funding constraints, ethical considerations, and different methods of data collection required to involve children in research meant that the underlying research to develop the IDM was focused on adults and consequently, the current measure is limited to use with adults.[2]

Issues related to aggregation and weighting

Weighting relates to decisions about whether one dimension is more important, or 'counts' for more, than others – or not. The initial weighting approach proposed for the IDM was based on the relative priorities given to dimensions by participants across six countries during the research to develop the IDM. The report notes that '[i]n the context of the IDM, this means that deprivation in a dimension necessary for basic survival (e.g. water) may be weighted so that it is 'worth' more than deprivation in a more social dimension (e.g. voice).' There is potential for the weighting of dimensions to be context specific. Even within a country, different communities may 'value' different dimensions and what might appear to be a clear choice between a basic survival need over a social dimension may not be as straightforward as expected. A greater understanding of what communities view as being 'worth' more or 'counting' more would assist researchers with aggregation and weighting. The report considers this, suggesting two possible methods that rely on information provided by participants: subjective welfare weighting and stated preference weighting.

Gender inclusive and 'vulnerable group' sampling

The report refers to the 'sex' of participants because the demographic module used in the Fiji IDM Study asked about whether individuals were male or female, rather than a wider question regarding sexual orientation and gender identity and expression. It was initially proposed to include an additional option in this module, but this was not included in the final questionnaire. Use of the language of sex, while still problematic, was intended to acknowledge that a limited and binary question was asked, rather than a broader question going to sexual orientation, gender identity and expression. While this was addressed in a subsequent IDM study in Nepal, work with advocacy organisations is planned to develop the approach to targeted sampling with LGBTI communities. The extent of understanding about the difference between sex and gender also needs to be considered. Not captured in the study are individuals who identify as being LGBTI and those individuals who are homeless. Efforts to include vulnerable groups in society will provide a more comprehensive understanding of deprivation in the country.

Screening for disability

Disability in the IDM is identified using the Washington Group Short Set of questions. These are recommended by disability statistics specialists for inclusion in a census or similar multitopic survey where only a small number of questions can be asked on each topic. In this sample, functional disability largely manifested itself among the older age group, probably as part of the natural ageing process (of course, this is not always the case). By expanding questions on disability to include cognitive and mental functioning, the measure will be better able to identify the realities for people living with disability and their experience of deprivation and poverty.

[2] Research towards a companion IDM for use with children has been funded by the Australian Research Council and will get underway shortly, led by Associate Professor Sharon Bessell, co-team leader of the IDM Global program at the. Australian National University.

IDM FIJI STUDY: INTRODUCTION AND OVERVIEW

Initial discussions about undertaking an IDM study in Fiji commenced in 2012, before the original research to develop the IDM was completed. If funding had been secured at that time, this study would have formed a second trial to enable the final research report to be informed by the results from the Philippines and Fiji. This did not prove possible, and the ARC Linkage Grant Research was completed before funding for the IDM Fiji study was confirmed.

An agreement between the Australian Government through the Department of Foreign Affairs and Trade and IWDA was signed in June 2014 to undertake a study of poverty using the IDM in Fiji. The study was funded through the Pacific Women Shaping Pacific Development program and implemented by the Fiji Bureau of Statistics (FBoS) and IWDA, with collaboration from researchers at the University of the South Pacific (USP) and ANU.

In scoping the study in September-October 2014, FBoS decided it would contain its involvement in the IDM study to designing the sampling frame, undertaking enumerator training, piloting the survey, and collecting and cleaning data. Work on preparing for the survey commenced in February 2015 and was completed in September 2015. Data was then analysed by Dr Kylie Fisk at IWDA. We look forward to engaging further with FBoS on the findings of this report and subsequent additional analysis of the Fiji data, including the potential role for the IDM in Fiji's statistical landscape.

A stakeholder workshop in February 2016 reviewed and discussed initial data analysis, drawing in participants from the Fiji Government, intergovernmental agencies including United Nations agencies and regional bodies, and civil society. This workshop provided key input to shape the approach, priorities and contents of a final study report. In particular, stakeholders were strongly of the view that the report should focus on highlighting what the IDM illuminates at a more granular level, especially its ability to reveal how deprivation varies – within households, among individuals who are equally poor, by sex, across social groups and settlement type, and by Tikina. Stakeholders were clear that the process of aggregation of dimension data into an overall IDM score hid the differences that were of most interest and policy relevance. This feedback informed the shape of this report, and the connections that have been made between particular dimensions. Academic Claire Slatter (University of the South Pacific, Suva) and research consultant Vanisha Mishra-Vakaoti have contributed to many of the chapters, situating the findings within existing research and debates.

The contribution of the Fiji IDM study

A key contribution of the Fiji study has been generating learnings about the IDM *as a measure*, the potential of the data it generates, and how to most effectively analyse, use and present IDM data. The IDM Fiji study, working with FBoS, and with valuable input from stakeholders, has informed understanding of the IDM as a tool, including confirming where further conceptual and technical work is needed to improve the performance and reliability of the measure. In particular, by providing a second data set, using a survey instrument similar to that used in the Philippines trial, the Fiji study confirmed that some of the issues identified in the Philippines trial and data analysis were associated with the survey instrument and measure rather than the country context. Consequently, an important role of this report is to document the issues and uncertainties that the Fiji study has made evident and which need to be further explored. Such issues and uncertainties are a feature of the point in time at which this study has been undertaken. The learning it made possible, particularly regarding technical aspects of the measure and methodology, is informing the work underway through the IDM Global program, to refine and strengthen the IDM.

Work undertaken through the IDM Global program, which commenced in 2016, has also informed this report. The detailed measure review being undertaken as part of this current program, including peer review of the survey instrument and methodology, have confirmed the need for further thinking and exploration in a number of areas, including the aggregation of dimension scores into an overall measure. Associated technical work and a further IDM country study in Nepal have improved our knowledge of how the IDM survey can be revised, data scored, aggregated, and weighted. The IDM Global program is providing a mechanism to directly translate learning and insights from the Fiji study into improvements to the IDM as it is readied for global use.

An area of focus for the IDM Global program is careful consideration of the most appropriate, sensitive, and robust method of building a composite index. Creating composite indices is notoriously difficult and requires extensive validation involving both statistical and conceptual judgments. Initial scaling, weighting and aggregation of the IDM data in Fiji revealed some issues with the reliability of the methodology. For this reason, results at the highest aggregate level are not included in this report. Following further investigation of approaches to composite index construction, their impact on results, and agreement on how IDM dimension data will be aggregated going forward, we will return to the IDM Fiji data and apply the revised approach to generate aggregate IDM scores for Fiji. This will also be the opportunity to explore overall deprivation and analyse variation by demographic characteristics and geography. These findings will be shared in a subsequent report. It is important to note, however, that this aggregation will not provide a national poverty estimate. The IDM Fiji study sample was designed by FBoS to build on existing evidence by focusing on poverty 'hotspots' identified through the World Bank's poverty mapping study in Fiji (2011), providing further information about how poverty varies by sex, age, disability and other factors. The data provides new information about the nature and extent of deprivation in areas with a high concentration of poverty – who is poor, in what ways, to what extent – and about the geography of multidimensional poverty. The IDM Fiji data also provides insights into how disadvantage in different areas of life combine to deepen deprivation for particular populations.

Discussion of the findings in this report is encouraged, and will contribute to the ongoing development of this new measure and understanding of how it is best used. Insights into the data presented here will be further informed by comparative analysis of data from additional countries as the IDM Global program progresses. This iterative process of refinement and development is an essential part of readying the IDM for global uptake and use.

The focus of this report

This report presents information across the IDM dimensions and indicators, and highlights examples of how IDM data can be presented and used. The report also includes two chapters reflecting on methodological learnings gleaned from the IDM Fiji study, and how these are informing IDM research moving forward. Measuring multidimensional poverty and creating composite indices is complex. The IDM will continue to be revised as new data and comparative analysis is available.

There will no doubt be more to be written about the Fiji IDM data, to inform thinking and action at local, national, regional and global levels. De-identified data from this and subsequent studies will be made available to enable further analysis (investment in a common web-based platform for IDM data storage and analysis is a one of four focus areas to ready the IDM for global use).

Finally, the results presented in this report are not intended to replace the high-quality national surveys already being conducted in Fiji. Rather, the IDM data from Fiji offers additional information to complement existing research and national statistics from Fiji concerning the lives of men and women.

The results illustrate the importance of measuring deprivation multidimensionally and at the individual level. By revealing the varying circumstances of individuals within households, IDM data adds to existing knowledge of who is deprived, to what extent and in what ways. The results demonstrate the potential of the IDM to provide brief relevant information in key dimensions of life between larger, less frequent surveys such as the Census (every 10 years) and Household, Income and Expenditure Surveys (HIES, every five years), and to explore more deeply individual experiences of poverty in Fiji.

The relevance of the IDM data has been amplified by agreement in 2015 of the Global Goals for Sustainable Development. Multidimensional measurement at the individual level is necessary for tracking progress towards the Global Goals. The IDM aligns with and provides a method of assessing the indicators of Goal 1 ('End poverty in all its forms everywhere'), which call for disaggregation of multidimensional poverty data by gender, age, disability, and geography.

How this report is organised

The report begins by introducing the Individual Deprivation Measure – the concerns that informed its development, the participatory research that underpins the IDM, undertaken in six countries including Fiji, and the strengths and features of the resulting measure (**Chapter 1**). **Chapter 2** is designed to contextualise the findings that follow. Written by Claire Slatter, a specialist in gender and development, politics and governance at the University of the South Pacific in Suva, this section provides background on the approach to, measurement of and factors influencing deprivation in Fiji. It examines findings from the last three Household Income and Expenditure Surveys (HIES) which are used to develop the Fiji Basic Needs Poverty Line (BNPL). **Chapter 3** outlines the methodology of the IDM Fiji survey, developed by FBoS, in conjunction with IWDA, working with Priya Chattier (formerly of USP and ANU). This is complemented by **Appendix A**, which provides the detailed sampling frame.

Chapter 4 explores the potential of individual-level measurement and of sampling in a way that allows for investigation of intrahousehold differences. It presents a case study of a household with large variation in deprivation among its members, illustrating the importance of being able to examine the situation of individuals within a household. Two further case studies illustrate that individuals at similar levels of deprivation may be deprived in very different dimensions – equally deprived people are not necessarily deprived in the same way. We highlight two participants suffering quite profound deprivation, and two participants who are largely not deprived, to illustrate that such differences between individuals become more important at more severe levels of deprivation. This is consistent with the nature of the IDM as a deprivation-focused measure.

Next, **Chapters 5 to 8** explore deprivation within dimensions. They illustrate the detailed examination of deprivation made possible by individual level measurement in relation to 15 dimensions of life that poor people consider important to defining and assessing poverty. These results have been grouped thematically, to explore household-relevant dimensions (Shelter and Energy), gender and WASH (Water, Sanitation, and Hygiene) in Fiji, and the 'social' IDM dimensions (Relationships, Voice, Clothing, Respect for work). As an overall aim of the IDM is gender-sensitive poverty measurement, data for most dimensions is analysed by sex. Results are also explored by other demographic characteristics, including age, settlement type (urban, rural, informal), Tikina, and sociocultural backgrounds, and the intersections between these are examined.

The nature and extent of variation varied with the types of dimensions. Deprivations in shelter materials and quality, for example, are shared by a household, and therefore gender differences weren't observed. However, differences in shelter were observed by settlement type, Tikina, and sociocultural background. The materials and quality of dwellings were very low in Suva and Rakiraki, and very high in Nadi and Malomalo. As in many other dimensions, data about the condition of dwellings in urban areas was more polarised, in that they were more likely to be rated as 'excellent', *and* more likely to be rated as 'Poor', than houses in rural areas. Housing in rural

areas was more consistent across the sample, with over 40% of houses in rural areas rated as 'good'. Shelter was one of the few dimensions where there were differences between ethnic groups and by Tikina areas. Claire Slatter[3] contributes her expertise to interpreting these findings.

A number of indicators are used to measure each IDM dimension. Analysis at the indicator level can help explain dimension-level deprivation. To take the example of energy, type of cooking fuel used, and access and reliability of electricity showed no gender differences, but women were disproportionately affected by spending more hours exposed to fumes from cooking fuels and resultant health issues. Further cross-sectional analysis shows that women in informal settlements are particularly affected by exposure to smoke inhalation through domestic stove use. These results are presented in **Chapter 5**.

Results from the WASH analysis presented in **Chapter 6** revealed relatively low overall levels of water and sanitation deprivation in Fiji. Most survey participants have water piped into their dwelling, do not have far to travel for water, have enough water for their needs most of the time, and use a private flush toilet. There were also the expected overlaps between the water and sanitation indicators. However deprivation differed according to sex, settlement type, Tikina, and overlaps between sex and geography. For example, urban and informal settlements differed in terms of reliability of water and distance to travel for water. An overall pattern was observed wherein rural settlement types rely on a broader variety of facilities for their WASH needs, and women are generally more restricted in WASH in terms of access to water and secondary hygiene facilities. Research consultant Vanisha Mishra-Vakaoti reflects on these findings, including where they support or extend existing research.

The women and health care analysis (**Chapter 7**) revealed the overall patterns and detailed form that gendered deprivation in health care takes in Fiji. We found that although men were more likely to have experienced an injury or illness that prevented them from participating in paid or unpaid work, when women experienced an illness, they were less likely to receive health care. Examining results across the age groups, it was younger women who were experiencing this form of deprivation, with only 50% of women in the younger age groups accessing health care for their injury or illness. Older women, on the other hand, were more likely to access health care than either older or younger men. Overall there were few differences in terms of experience in the quality of health care, though women were more likely to encounter deprivation in the form of the skill of the health care provider. Claire Slatter contributes to this chapter.

Social deprivation was heavily gendered**.** Data presented in **Chapter 8** shows that women were more deprived than men in each of the dimensions of Relationships (control over personal decision-making and personal support), Voice (participation and influence within a community), and Clothing (protection from the elements and ability to dress in a way that is acceptable by the standards of your community). Voice, in particular, was a dimension in which we found high levels of deprivation overall in the sample, and in which results were the most gendered, with women reporting significantly less ability to speak out and influence their community (this was particularly pronounced in urban areas). The social dimensions were also correlated with respondents' perceived community respect for their paid and unpaid work. Vanisha Mishra-Vakaoti contributes an accompanying section contextualising these findings.

Finally, **Chapter 9** on disability and deprivation provides initial evidence that disability, in the form of general functional and cognitive difficulties, is related to more severe deprivation across many of the IDM dimensions and indicators, and that sex and disability appear to interact to produce varying levels of deprivation. Further, there is a strong correlation between functional difficulty and age in this sample. Young people with disabilities face unique challenges that are worthy of investigation. However, at this stage, results in this section should not be over-interpreted as the sample size was insufficient to enable intersectional analysis for varying degrees of disability. We conclude that future IDM research should aim to access these populations, whether by increasing the sample size in general, or utilising purposive sampling through snowballing and local disability

[3] Claire Slatter is an academic at the University of the South Pacific.

advocacy organisations, in order to provide an adequate sample of people with disabilities and draw conclusions regarding the implications of intersecting factors on their poverty. Vanisha Mishra-Vakaoti provides reflections on the landscape of disability research and statistics in Fiji.

Some measurement issues were observed during the analysis of the IDM Fiji data, especially regarding sensitive issues such as violence and contraception, with data patterns suggesting underreporting by women, along with high levels of missing data that appear to have a gender bias. These methodological issues are discussed in **Chapter 10**, including potential reasons underpinning the results, and suggestions for improvement. Vanisha Mishra-Vakaoti provides commentary, highlighting the potential role that intensive consultation, including participatory methods, could provide in setting up, interpreting and using an IDM study.

A final chapter, **Chapter 11** reflects on the IDM survey, index, and methodology, and suggests avenues for future research to increase the reliability and validity of IDM measurement. This includes a discussion of composite index construction (including issues of indicators, transformations, weights, and identification); the IDM survey; sampling; missing data; and data analysis. This chapter concludes by outlining the next phases of IDM research.

Overall, this report highlights the necessity of measuring poverty at the individual level in order to capture the extent of gender disparity, and explore the interactions between sex and other demographic characteristics. The different levels at which IDM data can be explored—from districts to cultural groups, social groups, familial groups, households, and individuals—paints a nuanced portrait of poverty in Fiji. These results are relevant to policy makers, activists, civil society and intergovernmental organisations seeking to target interventions aimed at poverty relief to those who need them most, tailored to their unique needs.

CHAPTER ONE
A NEW WAY TO MEASURE POVERTY

1. A NEW WAY TO MEASURE POVERTY

Introducing the Individual Deprivation Measure

The IDM was developed in order to address four major concerns about the way poverty is currently conceived and measured:

- Existing measures of poverty and gender disparity fail to reveal properly the extent and depth of individual deprivation.
- Poor women and men should be instrumental in developing and setting the way poverty is measured through inclusive and participatory research processes.
- A large body of evidence suggests that gender is a determinant of whether a person is deprived, the form their deprivation takes, and how that deprivation is experienced.
- Feminist methodology and research methods are necessary for the construction of a morally justifiable, gender-sensitive measure of deprivation.

Seeking more inclusive understandings of poverty grounded in lived experience, the IDM research team asked poor women and men across 18 sites in six countries—Angola, Fiji, Indonesia, Malawi, Mozambique, and the Philippines—how they would define and measure poverty. Three types of field sites were selected in each country, urban, rural and highly marginalised, to allow for the fact that people may experience and define poverty differently in different settings, and with the aim of developing a measure that could be used universally.
Local research teams also sought field sites that would include people situated differently on a range of social dimensions such as ethnicity, religion and age. In investigating how people's social identities influence the ways in which they experience poverty and shape their understandings of who is impoverished, who is not, how and why, special attention was given to investigating the impact of gender on this reporting.

This initial participatory phase of the IDM project involved key informant interviews, guided group discussions, brainstorming sessions, household mapping, and in-depth individual interviews with around 1800 participants across the three field sites in each of the six countries listed above. These results were analysed and integrated in workshops with local research teams, project researchers, and project staff. The most frequently cited and overlapping facets of poverty unearthed from this phase were drawn together into twenty-five commonly identified dimensions. These dimensions were then returned to participants for participatory ranking in terms of the most relevant for determining whether an individual's life is free from poverty and hardship. Finally, a series of criteria were applied to assess the dimensions for inclusion in the IDM, such as: conceptual plausibility, or face validity (whether the dimensions appear to assess what they are intended to assess); moral importance; ease and reliability of measurement; suitability for institutional response (i.e. institutions can act to address the deprivation); comprehensiveness of the set of dimensions; and usefulness and purpose for the overall goals of IDM measurement. Indicators were then selected for each dimension, drawing on existing well-validated measures where feasible and informed by the results of the participatory research phase, along with normative criteria for inclusion as an IDM indicator.[4]

This process culminated in the selection of fifteen IDM dimensions that are presented throughout this report: food, water, shelter, health, education, energy and fuel, sanitation, relationships, clothing, violence, family planning, environment, voice, time use and work.[5]

[4] For a full accounting of this process, see Wisor S et al (2014) The Individual Deprivation Measure: A gender-sensitive approach to poverty measurement.
[5] Dimensions and indicators are discussed more fully in the Methodology section of this report, at the outset of each section, and in Appendix B: the IDM Fiji Codebook, which presents descriptive data for each item (question) administered during the IDM interviews

A proof-of-concept pilot was conducted in the Philippines with 750 households comprising 1,910 participants. The results were found to be broadly consistent with existing measures of poverty in the Philippines, including the World Bank's International Poverty Line (IPL), the MPI in the Philippines, the Philippines National (food) Poverty Line, and the Philippines National (food plus basic needs) Poverty Line. The IDM Philippines results displayed a moderate correlation with an assets index (used as a proxy for financial deprivation). The IDM captured significant intrahousehold variation in the Philippines, validating the core IDM concept that household measurement is insufficient for accurately assessing individual poverty. While analysis of the trial data identified a range of issues requiring further investigation, the study results confirmed the feasibility of the IDM as an individual-level, gender-sensitive, measure of multidimensional poverty.

In summary, the IDM aims to be a measure of poverty and gender inequality that is more inclusive, accurate, just, and better justified than previous metrics, and seeks to achieve this by being participatory and gender-sensitive in its construction, individual in its measurement, and multi-dimensional in its design. Measures of poverty and gender equality are used for a variety of important purposes, including advocacy for scarce resources, providing a method of allocating those resources, evaluating the impact of policies, projects, programs, and institutional designs, and analysing the determinants of poverty and gender equity. The IDM Fiji is the first study of poverty using the IDM following completion of the research to design the measure.

The IDM improves on existing approaches to measuring poverty and gender equity in important ways.

- It assesses poverty at the individual level, rather than the household level, enabling disaggregation by various characteristics (including age, sex, disability, ethnicity, religion, geographic location). Rather than make assumptions about how household resources are shared, the IDM assesses how this happens. This is important given evidence that gender inequality within households can be significant.
- The IDM considers a wider range of factors as relevant to defining and measuring poverty, assessing 15 key economic and social dimensions. The IDM includes some dimensions that are especially important for revealing gender disparity (voice in the community, time-use, family planning, personal relationships).
- It is the first poverty measure that is grounded in the views of those with lived experience of poverty regarding how deprivation should be defined and measured, and what is most important for being not poor, while also being comparable across contexts and over time.

- The IDM is a scalar rather than a binary measure, moving beyond categorising people as 'poor' or 'not poor' to help reveal both intensity of poverty and vulnerability to deprivation. Poor people are not all poor in the same way, which influences what it takes to move out of poverty. Some people who are not poor today are just an accident or weather event away from poverty. Knowing how poor individuals are, in what dimensions, matters for policy and programming and assessing the effectiveness of action.
- The IDM reveals variation within households in the fifteen dimensions, by using a sampling approach that involves randomly selecting households and then seeking to interview all adult members of the household.[6]
- Because the IDM can be sex-disaggregated across 15 dimensions of life relevant to poor women and men, it enables construction of a gender equity measure more relevant to poor people than existing composite gender equity measures.
- The survey used to populate the IDM is relatively straightforward to administer and does not require specialist equipment. This puts the IDM within reach of donors, governments and non-government organisations, with particular value in data-poor contexts given its coverage of both economic and social dimensions.
- Because the IDM collects data on 15 dimensions from each individual, it can reveal the impact of intersecting deprivations. In addition to illuminating intersectionality, the IDM can assist policy makers to target key economic and social deprivations impacting particular populations.

[6] Note that work is currently underway to test the impact of interviewing all, most or some adults on IDM data. While the ability to assess intrahousehold difference is a key advantage of the IDM, it comes at a practical cost.

CHAPTER TWO
CONTEXTUALISING THE IDM FIJI STUDY

2. CONTEXTUALISING THE IDM FIJI STUDY

CLAIRE SLATTER

Background and landscape of deprivation in Fiji[7]

The early 1980s in Fiji was marked by 'visible signs of economic stagnation'[8] following the 1979 oil price shock and unstable international prices for sugar, Fiji's main export. The Fiji Government imposed a wage freeze in November 1984, part of a wider policy of structural adjustment, prompting organised labour to move into the political arena, with the launch of the Fiji Labour Party (FLP) in 1986. The FLP won the 1987 Fiji national elections in coalition with the National Federation Party, however were deposed shortly after by Fiji's first military coup. The ensuing economic crisis saw the introduction of a raft of austerity policies aimed at achieving economic recovery and growth. The policies, which included, inter alia, currency devaluation, taxation reforms, economic and labour market deregulation and wage controls, favoured the private sector or employers at the expense of ordinary workers. This, combined with Fiji's political instability (1987, 2000 and 2006) adversely affected Fiji's economic and social development, in areas such as loss of skilled workers due to migration and in private sector or investment growth.

Narsey (2006: vii-iii) highlights the effects of the 1987 and 2000 coups on 'increasing the risk of doing business in Fiji', discouraging reinvestment and 'encouraging employers to maintain wages as low as possible', among the consequences of which was a decline in real wages and an increase in poverty. According to Narsey, by 1999, 71% of all wage earners in Fiji were earning below the 1997 Basic Needs Poverty Line. The worst hit of all wage earners were unorganised workers, whose wages and working conditions should have been protected by Wages Councils, but were not.

Despite the introduction by the post-2006 regime of targeted pro-poor policies intended to benefit vulnerable Fijians of all sociocultural backgrounds (e.g. abolition of school fees, subsidisation of school bus fares, a raised tax threshold, partnership with a community- based organisation to build secure self-owned homes for low income families formerly living under insecure tenure in informal settlements, and providing loan schemes for students attending tertiary institution), cost of living increases, erosion in the purchasing power of wages, wage restrictions, lowering of the compulsory retirement age for civil servants to 55, and pension reforms which almost halved monthly pension payments, have all combined to hit middle income and low wage earners hard.

Disadvantage and deprivation in Fiji have tended to be viewed through ethnic lenses. Some background to provide an understanding of this point is needed. Until 2006, Fiji's post-independence experience was marked by racial politics. A race-based representation and voting

[7] There is considerable qualitative and quantitative literature on poverty in Fiji. Quantitative studies include Stavenuiter (1983), Cameron (1983), the UNDP/Fiji Government poverty report (1996), Cameron (2000), Narsey (2006, 2007, 2008, 2012); and World Bank (2011). Qualitative studies of poverty include Barr (1991; 2007); Bryant (1993); Chung, (2007); Naidu et.al (1999); Walsh, (2002). Many recent studies have used participatory methodologies to document poor people's stories of hardship in urban areas and informal squatter settlements, for example, Bryant-Tokalau (2012); Clery and Nabulivou (2011); Naidu and Matadradra (2014). The 2013 qualitative study conducted by the Market Development Facility (MDF) provides a deeper understanding of poverty and gender in the horticulture and tourism sectors and how gender roles and responsibilities affect the pathways available for women and men to move out of poverty (Jones et.al, 2013).

[8] Ganesh Chand, 'Labour market deregulation in Fiji', in A. Haroon Akram-Lodhi (ed) (2016) *Confronting Fiji Futures* p.156

system adopted in the 1970 Constitution (but with colonial origins), and seemingly contrived to guarantee ethnic Fijian rule in perpetuity, fostered communalism and competitive racial politics. It also fostered intolerance within dominant indigenous (now termed *iTaukei*) political organisations of electoral outcomes favouring non-indigenous parties, or perceived to have been determined by Indo-Fijian votes.

In 1987, the first military coup toppled a coalition government led by indigenous Prime Minister, Dr Timoci Bavadra, but formed by two Indo-Fijian led parties, the newly formed Fiji Labour Party and the longstanding party of cane farmers and sugar workers, the National Federation Party. The post-coup regime introduced affirmative action policies aimed at advancing indigenous Fijian development, which continued after the 2000 coup.

While it was certainly true that indigenous Fijians were historically held back by 'protectionist' colonial policies, more than two decades of indigenous-led government post-independence had brought little improvement in conditions of life in rural villages, as was pointed out by the People's Coalition Government led by Mahendra Chaudhry, which came to power in the 1999 elections. Affirmative action policies have been shown to have primarily benefited a minority of upwardly mobile indigenous Fijians (Ratuva, 2000).

Perceptions of historical disadvantage have been matched by corresponding perceptions among many Indo-Fijians of their own historical disadvantage. Acknowledging the reality of poverty in Fiji however has long been a problem, and counting the poor and accurately assessing the extent of poverty among Fijians remain challenges. Today, poverty cannot be denied as it is very visible, and the reality of social inequality, low incomes and poverty is manifested in continuing rural-urban migration and the growing proportion of people living in informal settlements around urban centres. In Suva alone, an estimated 20% of the people live in informal settlements. Official statistics show poverty rates are highest in informal settlements, across all divisions.[9]

Household income and expenditure surveys in Fiji

Household income and/or consumption is the most commonly used method for providing national poverty estimates in Fiji, reflecting an emphasis on material deprivation in the conceptualisation of poverty. Household Income and Expenditure Surveys (HIES) are periodically conducted by the Fiji Bureau of Statistics (FBoS) and inform the majority of recent quantitative analyses of poverty in Fiji, and estimation of the national poverty line.[10] The HIES is based on a nationally representative sample of households. The most recent HIES (2013-14) involved a representative sample of 6020 households while the 2008-09 HIES covered about 3573 households. The HIES measures the income and expenditure of households, and draws assumptions about individual circumstances based on these metrics. Schreiner's (2014) simple poverty scorecard similarly focuses on core household circumstances, using ten indicators[11] from the 2008-09 HIES to estimate the likelihood that a household has income below a given poverty line.[12]

Aggregation of HIES data forms the basis for setting national poverty estimates in Fiji. Identification of poverty thresholds utilises a consumption-based basic needs approach that estimates a household's ability to afford goods that achieve a basic quality of life (World Bank, 2011). The current poverty line in Fiji is defined as the monetary value of a minimum basket of

[9] Asian Development Bank, *Country Partnership Strategy: Fiji, 2014-2018: Poverty Analysis (Summary),* accessed 17 May, 2017, https://www.adb.org/sites/default/files/linked-documents/cps-fij-2014-2018-pa.pdf.
[10] The earliest HIES was conducted in 1943, with more comprehensive studies in 1965, 1968, 1972, 1973, 1977, 1983, 1990-91 (deemed unreliable by FBoS), 2002-3, 2008-09 and 2013-14.
[11] Indicators are number of household members; in the last 30 days, the number of household members over 10 years old that worked for money, whether the male head/spouse worked for money, whether the female head/spouse worked for money; level of education of male head/spouse; dwelling construction; availability of gas/electric stove; cooking fuel; washing machine; video/tv.
[12] http://www.simplepovertyscorecard.com/FJI_2008_ENG.pdf

goods and services that meets the minimum level of a household's living standards (World Bank, 2011: 7). The Basic Needs Poverty Line (BNPL) defines the threshold for being classified as poor in Fiji, determining the minimum household income required to meet the minimum basic needs of the household at a particular point in time (Narsey, 2008). The HIES and the BNPL assume household income is pooled and that all members of the household have equal access to household assets and income and benefit from household expenditure. Table 1 summarises poverty incidence in Fiji by location and districts using the BNPL, across the last three HIES rounds.

Table 1: Incidence of poverty by location and districts, 2002-03 to 2013-14 HIES

Location	2002-03	2008-09	2013-14
	Fiji		
Total	35	31	28.1
Central	26	21	22.4
Eastern	35	37	41.0
Northern	53	47	47.9
Western	36	32	24.5
	Urban		
Total	28	18	19.8
Central Urban	24	16	16.9
Eastern Urban	42	30	29.4
Northern Urban	39	38	33.8
Western Urban	33	17	21.6
	Rural		
Total	40	43	36.7
Central Rural	29	36	36.9
Eastern Rural	35	40	42.1
Northern Rural	57	51	52.6
Western Rural	38	43	26.6

The 2008-09 Household Income and Expenditure Survey (HIES), appeared to contradict widespread perceptions of deteriorating living conditions.[13] The HIES data indicated that in aggregate the incidence of poverty had decreased, from 35% in 2002-2003 to 31% in 2008-2009, "an overall decline in the incidence of poverty by 10% between the two HIESs (Narsey et al 2010: vi). However, this national figure masked trend differences between urban and rural areas; while the incidence of poverty in urban areas fell from 24% in 2002-2003 to 15% in 2008-2009, rural poverty increased from 35% to 37% over the same period. Contributing factors may include increased rural-urban migration by Indo-Fijians that followed the non-renewal of agricultural leases especially from 2000 (Naidu and Reddy, 2004) as well as increased migration to urban areas by indigenous Fijians, lower returns to sugar cane farming following the expiry of preferential access to the EU market, and the almost annual extreme weather events such as droughts, flooding and cyclones. In a later report, Narsey highlighted the huge divide between rural and urban people "not just in incomes, but [in] virtually all other comforts of life", which he said had stimulated urban drift over the last five decades'. He assessed rural development as 'the biggest and most intractable challenge facing Fiji' (2012:4).

Preliminary findings from the 2013-2014 HIES[14] report a decline in the overall poverty rate, from 31% in 2008-2009 to 28.1% in 2013-2014, and a significant decline in the incidence of rural poverty, from 43% in 2008-2009 to 36.7% in 2013-2014, including a decline of 16.5 percentage points in the rural regions of the Western Division. Urban poverty was shown to have

[13] The 2008-2009 HIES showed a significant reduction in the percentage of households living in poverty, from 30% in 2002-2003 to 26% in 2008-2009. The data also indicated a decline in urban poverty from 24% in 2002- 2003 to 15% in 2008/2009, but a rise in rural poverty to 37% compared with 35% in 2002-2003. HIES data on the sociocultural background of poor households indicated that 31% of iTaukei households and 32% of Indo- Fijian households were living in poverty in 2008-2009, down from 35% and 36% respectively in 2002-2003 (Poverty and Household Incomes in Fiji in 2008-09).

[14] Fiji Bureau of Statistics, 2013-14 Household Income and Expenditure Survey, Preliminary Findings – Release 1, FBoS Release No. 98, 2015, 31 December 2015.

increased, from 18% in 2008-2009 to 19.8% in 2013-2014. The HIES data showed that more than one third of the poor population (33.9%) resided in the Central Division, with close to a further third (32.2%) living in the Western Division. While a little less than half of Fiji's population reside in rural areas, 62.6% of Fiji's poor population were in rural areas.

The HIES survey showed a considerably increased share of household income in 2013-2014 from permanent wages and salaries (61% in 2013 -2014, compared with 44% in 2008-2009). By contrast, the share of household income from casual wages declined from 10% in 2008-2009 to 7.3% in 2013-2014, with remittances and gifts accounting for 10.5% of household incomes.

Remittances have increased over time as a proportion of household income (4% in 2002-03, 9% in 2008-09 and 10.5% in 2013-14).

Table 2. Breakdown of Household Income Types *(Percentage in parenthesis)*

Income Sources	2002-03	2008-09	2013-14
Permanent Wages and Salary	851 (43)	1,344 (44)	2,143 (61)
Casual Wages	228 (11)	294 (10)	277 (7.3)
Agriculture Business	197 (10)	216 (7)	345 (9.1)
Commercial Business	145 (7)	126 (4)	171 (4.5)
Subsistence	151 (8)	158 (5)	187 (4.9)
Remittances and Gifts	84 (4)	259 (9)	402 (10.5)
Other Income	342 (17)	652 (21)	114 (3.0)
Total	1,998 (100)	3,049 (100)	3,639 (100)

The decile distribution of household income has remained fairly stable over the last three HIES. The 2013-14 HIES data showed the top earning decile, or the top 10% of households, receiving 31% of household income, down from 34.7% in 2008-2009, and the poorest 10% of households receiving 3.2% of total household income, up from 2% in 2008-2009.

Table 3. Decile Distribution of Household Income

DECILE	HIES		
	2002-03	2008-08	2013-14
1 – Lowest	2.3	2.0	3.2
2	3.6	3.4	4.6
3	4.5	4.4	5.3
4	5.5	5.4	6.0
5	6.8	6.4	6.8
6	7.9	7.6	7.8
7	9.6	9.2	9.3
8	11.9	11.4	11.0
9	15.4	15.5	14.9
10 – Top	32.5	34.7	31.0
Total	100	100	100

Table 4. Decile Distribution of Urban and Rural Household Income

DECILE	2013-14	
	Urban	Rural
1– Lowest	2.9	4.4
2	4.4	5.8
3	5.1	6.8
4	6.0	7.2
5	6.8	8.1
6	8.1	8.7
7	9.2	10.1
8	11.9	11.1
9	14.6	13.7
10 – Top	31.0	24.2
Total	100	100

Evidence of significant disparity in income distribution is seen in the fact that the top two deciles together (the top earning 20% of households) received close to 46% of total household income, while the lowest earning 50% of households (the first five deciles) received 25.9% of total household income. The extent of inequality in income distribution was shown to have improved since 2008-2009, when the bottom earning 50% of households earned 21.6% of total income, while the top earning 20% of households received 50.2% of total household income.
In the early 1970s, Professor Harold Brookfield and his colleagues observed that in terms of its structural underpinnings, inequality in Fiji was of Latin American proportions. Brookefield's observation has been echoed subsequently by scholars of inequality and poverty such as Fr Kevin Barr, Wadan Narsey, Neelesh Gounder and Vijay Naidu. The World Bank's latest Gini Index Estimates, a measure of income inequality across a population, show Pacific Island Countries (PICs) on average as having greater inequality in incomes than South East Asian countries. Fiji with an index of 42.78 (based on 2008-09 HIES data) is the third most unequal country in the region, after the Solomon Islands (46.1) and PNG (43.88). The 2013-14 HIES shows the Gini coefficient for Fiji as having declined to 0.38.[15]

More than two thirds of working age people in Fiji (and a number of Pacific Island Countries) engage in non-formal sector employment and livelihoods, are often paid below or around minimum wage rates, and have no access to social protection measures such as sickness and unemployment benefits or income support upon retirement. Reliance on the traditional social safety net of community support has historically been strong in Fiji, especially in rural areas, and private transfers, in particular remittances from family members working abroad, have become increasingly significant.[16]

Family and community support is very important for the growing population of the elderly, and especially among *iTaukei* or indigenous Fijians. According to Seniloli and Tawake (2015) the proportion of the population aged 60 years and over has increased four times since the 1956 Census. The ADB country partnership strategy for 2014-2018 noted that "about 70% of the elderly population aged 60 and above are not covered by either the FNPF pension or the Family Assistance Programme".[17]

World Bank (2014) figures show a substantial fall over time in the 'hardship differential' for female- headed households in Fiji, "from 18.6% higher than the national average in 2003 to 6.2% lower in 2009". The authors say this change merits further study and may be linked to the availability of economic opportunities for women as well as to migration and remittances.

[15] http://www.fijitimes.com/story.aspx?id=370241 .Note, however, that the preliminary findings for the 2013-14 HIES does not include a reference to the Gini Coefficient, so the basis for the Fiji Times reference is not clear.
[16] http://www.adb.org/sites/default/files/linked-documents/cps-fij- 2014-2018-pa.pdf
[17] https://www.adb.org/sites/default/files/linked-documents/cps-fij-2014-2018-pa.pdf, p.2

CHAPTER THREE
IDM FIJI STUDY: METHOD

3. METHOD

Fieldwork preparation commenced in February 2015 and fieldwork was completed in September 2015, a total duration of eight months. This period covered planning, updating the questionnaire to the Fiji context, questionnaire translation into iTaukei and Hindi, printing, recruitment and training of enumerators, a pilot exercise and final data collection.

Survey

The survey tool administered in Fiji comprised two surveys: a household survey with approximately 40 items including a household listing, demographic information, and basic household information such as shelter materials and household assets. This survey was administered to the individual nominated by the household as the 'most knowledgeable' regarding these topics. Next, an individual survey comprising approximately 100 questions was administered to each adult of the household. This survey covered topics relevant to the IDM dimensions and indicators (see Table 5 below). Some of the questions were objective (e.g. *How many years were you in formal schooling?*), and others were subjective (e.g. *To what extent do you feel you can raise issues in your community that affect you…?*). Most of the questions required categorical response (e.g. *From whom did you receive healthcare? a. doctor; b. nurse; c. traditional healer*), while some were continuous (e.g. *To what extent does your clothing protect you from the weather and from hazards in your environment? None, very little, some, fair, full*). See Appendix B for the IDM Fiji 'Codebook', a list of descriptive statistics for every item in the IDM Fiji study.

Table 5: IDM dimensions, indicators and scoring[18]

	Level of deprivation	Extremely deprived	Very deprived	Deprived	Somewhat deprived	Not deprived
Dimension & indicators						
1	**Hunger**	Severe hunger	Moderate hunger	Some hunger	Little hunger	No hunger
2	**Water-source (HH)**	Not improved, >30 minutes from dwelling (one way)	Not improved, ≤30 minutes from dwelling	Improved, >30 minutes from dwelling	Improved, ≤30 minutes from dwelling	Improved, in dwelling
	Water-quantity	Never enough to meet personal needs	Rarely (1-2 days per week)	Sometimes (3-4 days)	Often (5-6 days)	Always
3	**Shelter-materials & dwelling condition (HH)***	Very low quality shelter, materials (at best a mix of natural and rudimentary)	Mostly rudimentary housing materials	Mixed quality shelter (good materials but dwelling in poor condition or moderate materials but dwelling in good condition)	Moderate quality shelter (all finished materials, condition of dwelling moderate)	Good quality shelter (finished materials in good condition)
4	**Health care – access****	No treatment when needed or treatment not provided by a professional		Treatment provided by a community health worker, nurse or midwife		Treatment provided by a doctor
	Health care – quality**	3 or more significant problems	2 problems	1 problem		No complaints
	Health care-status	Unable to perform (un)paid work due to illness for more than 2 weeks in last 12 months	Unable to perform (un)paid work due to illness for 1 to 2 weeks in the last 12 months	Unable to perform (un)paid work due to illness for less than 1 week in the last 12 months		No illness/ time off (un)paid work due to illness in the last 12 months
5	**Education-completed**	Little or no schooling (completed grades 0-2)	Some primary (completed grades 3-5)	Completed primary	Some secondary schooling	Completed secondary or above

[18] Note that this describes the scoring used in the IDM Fiji study. The approach to scoring is currently being reviewed as part of the IDM Global program

	Education-achievement	Not able to read, write, do arithmetic	Minimal literacy and numeracy	Moderate literacy and numeracy	Adequate literacy and numeracy	Fully literate and numerate
6	**Energy-cooking fuel (primary & secondary) (HH) and harm from smoke**	No clean fuel		Clean fuel but health problems from smoke		All clean fuel, no problems from smoke
	Energy-access to electricity (HH)	No access	Up to 4 hours per day	5 to 9 hours	10 to 20 hours	More than 20 hours access
7	**Toilet-primary & secondary**	Not improved	Pit latrine without slab	Improved shared pit or latrine	Public flushing toilet	Private flushing toilet
8	**Family relations − decision making**	No control	Very little control	Some control	Fair amount of control	Full control
	Family relations − personal support	No support	Very little support	Some support	Fair amount of support	All the support needed
9	**Clothing-protection**	No protection	Very little protection	Some protection	Fair amount of protection	Good protection
	Clothing & personal care	Never presentable	Rarely	Sometimes	Often	Always
10	**Violence-experience and risk**	Multiple violent incidents	One violent incident	No incidents, but perceived risk		No incidents, and no perceived risk
11	**Family planning − access**	No modern methods		One modern method		More than one modern method
	Family planning − use	Severe barriers to use		Some barriers to use		No barriers to use
12	**Environment**	More than two environmental problems	Two environmental problems	One environmental problem		No environmental problems
13	**Voice−participation (ability to raise issues in the community)**	Not at all	With great difficulty	With some difficulty	Fairly easily	Very easily
	Voice− influence (ability to change things in the community)	Not at all	With great difficulty	With some difficulty	Fairly easily	Very easily
14	**Time use−labour burden**	Excess burden (16 or more hours per day)	Significant burden (14-16 hours per day)	Moderate burden (12-14 hours per day)	Slightly burdened (10-12 hours per day)	Not burdened (10 hours or less per day)
15	**Paid & unpaid work−status**	Extremely disrespected	Somewhat disrespected		Not disrespected	Highly respected
	Paid & unpaid work−risk	Extremely dangerous (injured at work, unable to work long-term)	Very dangerous (injured at work, long-term unable to work as before)	Somewhat dangerous (injured at work, no long-term impact but concerned about future injury)	Slightly dangerous (injured at work, but no long-term impact and not concerned about future injury	Not dangerous (no injury, no perceived risk)
A	**Assets**	Extremely poor	Very poor	Poor	At risk	Wealthiest

(HH) = dimension measured at the household level.

Sampling

In the first stage of sampling, high poverty incidence and prevalence Tikina (Areas) were identified from the World Bank (2011) Poverty Mapping study in Fiji. The Poverty Mapping study in Fiji provides a detailed description of the spatial distribution of income and expenditure poverty, at the national level and over smaller geographic areas beyond districts/divisions, such as Tikinas (areas)[19]. The World Bank used a methodology that estimates poverty for each province and Tikina, with a further level of disaggregation at a small area level. The poverty maps provide a visual depiction of poverty in highly disaggregated geographical units revealing pockets of poverty, even within relatively well-off divisions.

[19] In comparison, the HIES methodology estimates poverty at division or district level, and rural and urban strata. Whilst the Fiji HIESs can be informative about the geographical dispersion of poverty up to the level of a rural and urban division, it is not designed to estimate poverty at lower regional levels such as provinces or Tikinas.

Based on the poverty maps provided by the World Bank (2011) study, Tikinas with highest number of poor people were selected from each of the Provinces in Fiji. Some adjustments were made to this selection, taking into account geographical features and transportation difficulties, also ensuring geographical and representation of households from different sociocultural backgrounds, and including areas which were part of the IDM study in Phase 1 (2010) and Phase 2 (2012).

Next, a two-stage sampling strategy was used. In the first stage, the sampling frame was divided into seven strata and representative samples of Urban and Rural Enumeration Areas were then selected from these strata (see details in Appendix A). Within each stratum, the Enumeration Areas (EAs) or Primary Sampling Unit (PSU) were first selected, with probability of selection at the first being proportional to the size of the EA, measured in terms of total households in the frame. Within each EA, a fixed number of fifteen households (HH) were selected using systematic random sampling. Within all selected Tikinas, five EAs were selected with a random selection of fifteen households in each, and this generated the sample size of 1125 households across 75 EAs. Hence, developing a national poverty estimate is not possible from this IDM study as the sample was not nationally representative. Rather, the study sought to complement recent poverty studies and maximise the potential value of the IDM study in revealing new information about poverty in Fiji by focusing on areas already identified as having a higher incidence of poverty. Consequently, the sampling frame included a selection of EAs from the poverty "hot spots" identified in the World Bank Poverty Mapping study (2011).

Procedure

Field supervisors and enumerators conducted surveys with participants one-on-one at the household, men interviewing male participants, women interviewing female participants. The IDM instrument combines an individual survey, which takes approximately one hour to administer, and a household survey answered by one primary respondent in each household, which takes approximately 30 minutes.[20] The IDM survey consists of demographic questions, including sex, age, disability status, geographic location, and sociocultural background. A simple assets index is used to estimate financial deprivation. The survey then moves on to the dimensions of deprivation assessed by the IDM, including food/nutrition, water, shelter, sanitation, health care, education, energy/cooking fuel, sanitation, family relationships, clothing/personal care, violence, family planning, the environment, voice in the community, time- use, and respect and freedom from risk at work.

Participants

The sample consisted of 2966 individuals from 1125 households, consisting of 1481 men and 1485 women. The age range of the sample was 18 - 97, with an average age of 42.91. Most were married (2087), but others in the sample were single (543), widowed (247), divorced (44), separated (27) and defacto (18). The majority of the sample identified as Hindu (1073), with other participants identifying as Christian (378), Methodist (776), Muslim (212), Catholic (173), 7th Day Adventist (132), Assembly of God (135), and other (55). Relationship information in the sample is presented below.

[20] This timing is based on a paper survey administered by a professional data collection firm in the Philippines. The Fiji Bureau of Statistics found that sometimes the survey took longer than this, linked to novel aspects of the IDM. Moving to a digital format will address these issues, reducing the time to administer the survey and truncating data entry. Additionally, review of the survey tool as part of the IDM Global program is exploring the potential to simplify and shorten the survey.

Table 6: Frequencies of relationship to primary respondent

Relationship to primary respondent	Frequency	Percent
Primary respondent	1124	37.9
Spouse	799	26.9
Son/daughter	481	16.2
Son/daughter In law	125	4.2
Grandchild	27	.9
Parent	169	5.7
Sibling	92	3.1
Nephew/niece	19	
Nephew/niece of spouse	4	.1
Cousin	6	.2
Sibling in law	29	1.0
Parent in law	40	1.3
Cousin of spouse	1	.0
Other relative	37	1.2
Maid	1	.0
Other	12	.4
Total	**2966**	**100.0**

The majority of the sample spoke primarily *iTaukei* (1555) or Hindi (1353), while others spoke English (51), Rabi (2), Chinese (4), or Rotuman (1). This was also reflected in the sociocultural background identified, with 1543 *iTaukei* participants, 1380 Fijians of Indian descent, 23 part-European, 5 European, 5 Rotuman, and 10 who identified as 'other'.

Three sectors, or settlement types, were sampled (rural = 2054; urban = 757; informal settlement = 155), and an average of 2.63 individuals were interviewed in each household.

Table 7: number of individuals interviewed per household

No. of people interviewed per household	Frequency	Percent
1	124	4.2
2	1053	35.5
3	707	23.8
4	642	21.6
5	265	8.9
6	107	3.6
7	35	1.2
8	24	0.8
9	9	0.3
Total	2966	100.0

Notes on analysis and presentation

As much as possible, scales on charts have been presented consistently and with a true base, e.g. 0-100 for percentages, 0-10 for dimension scores. Often questions will be coded to a scale of 1-5, then converted to a scale of 0-10. It is also possible to magnify the scale to highlight differences (for example, present a scale range of percentage points between 40 and 50; previous versions of these results have taken this approach). Given that this report attempts to weave many narratives together, and to compare across dimensions and social groups, consistency has been attempted, such that the magnitude of an interaction in Chapter 5 can be directly compared to an interaction presented in Chapter 10. Where other scales have been used, this has been flagged.

Related to the above point, crosstabulation of, for example, sex and deprivation, produce multiple cells and multiple percentages for multiple perspectives, such as "the percentage of men who are in the category of 'Extremely deprived'', vs. 'the percentage of people in the 'Extremely deprived' category who are men', vs. 'the percentage of people in the entire sample who fall in the category of 'Extremely deprived' and are also men'. Raw counts that these percentages are calculated from are also available (and sometimes presented). As much as possible we have restricted the presentation of results to the figure that represents the percentage of [social group] who are in the category of [deprivation]. Doing so produces a percentage that controls for the number of participants sampled in each social group. In some places, other percentages have been used, and this has been flagged. Sometimes, raw headcounts are more appropriate (for example, the number of women who sought prenatal care from a midwife).

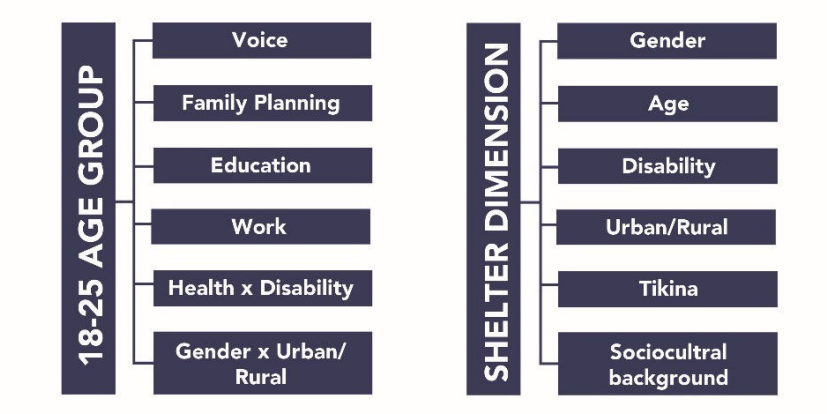
When a result such as 'men are less deprived than women in the voice dimension' is reported, it means that this result was tested for statistical significance, and found to reach statistical significance at a level of $p < .05$. However, statistically significant does not necessarily mean the difference is meaningfully or practically significant (due to the large sample size, sometimes a difference of 0.68 in IDM scores reaches statistical significance). IDM users may choose to designate the threshold of difference that is meaningful for their purpose (e.g. difference in scores must be a least a category of deprivation apart to be meaningfully significant).

This report is intended to be accessible for anyone regardless of statistical skill level. Consequently, we have limited the inclusion of detailed statistical data, including means, standard deviations, variance, model summaries, *t* and *F* values, degrees of freedom, effect sizes, and so on. These are available on request.

Increasing the number of variables crosstabulated to produce a more granulated view of the IDM results creates quite large, complex data matrices. Tikina analyses in particular, in which each of the 15 sampled Tikinas must be compared with every other Tikina, then divided again by, for example, gender, creates 450 pairwise comparisons. For reasons of space and coherence, not all of this information is presented. Therefore a degree of subjectivity has been involved in selecting the results to feature in this report. Selection of results was made on the basis of feedback from the stakeholder workshop in Fiji in February 2016 (discussed below), statistical significance, effect size, and on the grounds of public interest, such as results that are unexpected, confirm previously unmeasured common wisdom, are particularly policy-relevant, or seem especially useful for understanding the Fiji context.

Largely, the results here place the emphasis on the IDM, in that we analyse and present differences in IDM scores by demographic and sociocultural factors. For example, we focus on each IDM dimension and examine differences in each dimension according to gender, age, and so on. But local experts and stakeholders may also be interested in profiling deprivation among a particular subsection of Fijian society, such as Tikina, or age group (see Figure 1 below). In other words, the analyses we present here are neither exhaustive nor prescriptive.

Figure 1. Examples of ways of investigating IDM data at the dimension level



Note on analysis by sociocultural background

Claire Slatter noted in review comments on this report that:

> There is no explanation provided for doing inter-ethnic comparisons in deprivation and for restricting such comparisons in the IDM study to the two main ethnic categories. For most of the post-colonial period in Fiji, there has been a preoccupation in national statistical data production with showing inter-ethnic comparisons in every dimension of life (income, employment, education level), with particular focus on iTaukei and Indo-Fijian comparisons. Only in the last decade has there been a concerted policy to depart from the preoccupation with ethnicity. Schools were required to eliminate ethnic references in their names; the name 'Fijian' was extended to all citizens replacing the formerly ubiquitous official categories of Indian, Fijian, Rotuman, Chinese, European, Part-European etc.; and the formerly race-based electoral rolls, and parliamentary representation system were abandoned. It can be argued that to fully know who are the most deprived in any population, one cannot ignore the possibility of differences among demographic categories and such data needs to be collected and analysed with this in mind. It would also be useful to know how comparatively deprived those in the households of ethnic minorities are across settlement types and urban/rural locations, as well as what proportion within each ethnic category are among the most deprived. The 2013 MDF study included some interesting ethnic differences among rural households in respect to ownership of durable goods, some of which (e.g. washing machine and brush cutter) are labour-saving technologies that assist with gender assigned work and could be usefully included in the IDM tool.

We recognise that the influence of sociocultural background on outcomes is an area of sensitivity. The sampling process, described in this chapter and guided by FBoS, was structured at least in part around ethnicity, for representativeness. The following excerpt from FBoS' survey implementation report describes the process:

> The sample selection was made from the Final List re arranged for an unbiased and a representative selection as mentioned under the heading "Listing of EA" below. Basically the procedure of selection is made from the rearranged list by the main ethnicity, "ITaukei", "Indian" and others. Within each ethnic group, households are classified by size (number of normally resident members of the households) into three classes (4, 4-7, and more than 7), arranged in ascending order of size. The FBoS Household Survey Unit usual re-arranged worksheet was used. From the rearranged list of households of each selected Primary Selection Unit (PSU) the sample of 15 households would be drawn as a circular systematic sample with random start at an interval derived from the ratio of 15 (the required number of households) and the total number of households listed per PSU.'

The challenge for a relatively small sample size is that the number of survey participants in the sample from minority ethnic groups was small, making statistical analysis difficult.

Decision making with stakeholders

We have made prior references to stakeholder consultation guiding the analyses presented in this report. In this section we briefly outline the process of data selection and presentation involved in this process.

First, a technical report containing detailed preliminary analyses was compiled following an initial data analysis plan. This report contained overall results from the IDM Fiji study, disaggregating by sex, age, location, Tikina, sociocultural background, disability; all intersectional analyses; both parametric and non-parametric statistics; and comprehensive item-level frequency data.

This report was sent to a broader IDM research team for peer feedback.[21] Following this, a shorter report of key results was drafted. This report contained an initial attempt at aggregating dimensions into overall scores; then results by dimension, disaggregated, and finally, intersectional analyses. The second report was distributed to participants of a stakeholder workshop in Suva on the 2-3 February 2016.[22]

The workshop was opened by DFAT and provided background to the IDM concept and the participatory research leading to its development. FBoS presented the method followed for the IDM Fiji study, including the research objective, sampling strategy, geographic coverage, and implementation process covering training, trial, data collection, and data entry. IWDA provided an overview of dimension construction, results by dimension, survey items, and disaggregated and intersectional analyses. Over two days, participants worked in small groups and large groups discussing how the IDM results compared to their knowledge of available data from Fiji and regionally, providing insights from their areas of expertise, the policy implications of the results, and suggestions for technical and methodological improvements.

Many insights were gained regarding how local experts were perceiving and interacting with the IDM data. Key strengths of the IDM were identified as its ability to move beyond income measures of poverty and illuminate lived realities via dimensions experienced at the individual level. In this way, participants felt, IDM results acknowledged the *drivers* of poverty in a way that income-based measures did not. Participants also appreciated that collecting simultaneous information about asset wealth allowed exploration of the relationship between monetary and non-monetary poverty. Validating the sampling strategy was noted as important, such as comparing the number of informal settlements in Nadi with existing studies such as the HIES (noting that a purposive sample of poverty hotspots will produce results that will not directly align with regular household surveys).

In terms of the IDM data, participants generally felt they were reflective of the purposive sample employed for the IDM Fiji, but that as subject matter experts, results became more interpretable as they increased in granularity. This overall observation reflects two important strengths of the IDM: 1) the ability to disaggregate and analyse intersectionally (e.g. by sex; by sex/age); and 2) the ability to decompose (e.g. break data down to investigate dimensions, indicators within dimensions, and items within indicators).

In terms of the first capability, disaggregation and intersection, participants were especially interested in seeing the results presented by age and gender simultaneously. It was noted that the general patterns observed reflected the changing socioeconomic circumstances of women and men in Fiji in a way that aligned with participants' professional experience and personal observation. They underlined the need to further break down results to enable targeted investigation and analysis – for example, to focus on the circumstances of older women in rural areas. The ability to investigate deprivation by disability was another area that participants saw as a strength of the IDM, which led to the inclusion of a standalone chapter on disability and deprivation in this report (Chapter 9).

[21] Feedback on initial analysis was sought by the IDM team involved in the initial ARC research grant, including Scott Wisor, Keiran Donahue, Sharon Bessell, Janet Hunt, and Thomas Pogge.

[22] Individuals and organisations who participated in the consultation process included: FBoS (Fijian Bureau of Statistics); Joanne Choe (DFAT; Counsellor for Fiji and Tuvalu); Leaine Robinson (DFAT; Senior Program Manager, Gender and Inclusive Growth); Nilesh Goundar (DFAT; Program Manager Regional Gender); Fiji Government Ministry of Women, Children and Poverty Alleviation; Glenn Davies (Gender Advisor, Ministry of Women); Jennifer Poole (MSP; Executive Director Medical Services Pacific); Claire Slatter (USP/DAWN; Research Fellow/ Development Expert); Lanieta Vakadewabuka (researcher and consultant); House of Sarah (NGO/Violence Against Women services); Oxfam; Alisia Evans (femlink); Menka Goundan (FWRM; Fiji Women's Rights Movement); Tara Chetty (Program Director, Fiji Women's Rights Movement); FDPF (Fiji Disabled People's Federation); UN Women; Luse (Women in Fisheries); UNDP (United Nations Development Program); FCDP (Fiji Community Development Program); Empower Pacific; Bianca Murray (AQEP; Access to Quality Education); Priscilla Puamau (AQEP); ADB (Asian Development Bank); MDF (Market Development Facility). Thanks to all participants for their time and valuable contributions.

In terms of the second capability, decomposability, participants noted that often the higher- level aggregate information made it difficult to anticipate the relevant policy or other intervention required; aggregation masked detail that was informative. This observation – that for people who work in policy and programming, more granulated information is most useful – led to the emphasis in this report on dimension, indicator, and item-level data.[23]
Feedback on the useful knowledge provided by data examining overlapping dimensions also informed the presentation of results in this report. Participants found the sequential dimension- by-dimension presentation in the workshop overlooked some of the most obvious and interesting relationships *between* dimensions, such as water, sanitation and hygiene (see Chapter 6 for an IDM analysis of WASH in Fiji).

Finally, participants indicated that for a gender-sensitive measure, the IDM did not place enough emphasis on the relevance of children for women's deprivation, with the presentation of IDM data not emphasising sufficiently the burden of childcare as an explanatory factor in women's deprivation, in relation to women's total domestic labour burden and access to education. Interpretation of results in this report point out women's reproductive and domestic deprivation where relevant.

Feedback from the stakeholder workshop also helped to flag where methodological issues may have emerged during data collection and analysis. For example, it was during the stakeholder workshop that the issues relating to the measurement of time use were initially highlighted, with the IDM data contradicting existing statistics on time use and work in Fiji (see Chapter 10 for a full discussion of the time use dimension). Aside from improving the method of administration, participants suggested that this may also be an issue of reporting, with men potentially more likely to overestimate the hours of work they perform per day and women more likely to underestimate (initial checks of the time use data support this suggestion – see Chapter 10 for details).

With regards to the violence dimension, subject matter experts cautioned that both prevalence and gender difference in the IDM violence data were at odds with available prevalence data collected by the Fiji Women's Crisis Centre (FWCC), drawing a parallel to the absence of reporting on sexual harassment in the workplace relating to fear of identification. This feedback prompted the caveat around the violence module and results in the IDM Fiji study (see Chapter 10). In terms of improving measurement, subject matter experts suggested linking violence and male coercive control (the current revised draft IDM survey includes questions measuring coercive control in the household).

With regards to the family planning dimension and results (discussed in Chapter 10), stakeholder workshop participants were the first to suggest that different screening and additional items may be needed to interpret these results, to reflect the fact that the responsibility of family planning disproportionally falls to women, as well as the burden of pregnancy. The family planning module in a subsequent IDM study in Nepal attempted to distinguish between use, need and responsibility, with initial analysis suggesting the changes increased the sensitivity of this dimension.

Suggestions for future analyses arising from the workshop included emphasising the individual level and the IDM's ability to draw out de-identified information about individuals, including profiling individual case scenarios and more in-depth analysis for poverty alleviation programs. Participants urged further inclusive data collection based on minority status such as gender identity and disability,[24] which would allow dimension-by-dimension analysis of deprivation and provide valuable information for advocates working in these areas. Finally, climate change and land access were identified as important dimensions of poverty in Fiji, with participants also noting the sociocultural aspects of these issues in Fiji. These suggestions have been noted for future IDM studies.

[23] On the other hand, it was agreed that aggregating into a single numerical index figure may be useful for two main purposes: 1) longitudinal tracking of groups and nations; and 2) comparing or ranking nations or groups.
[24] Intersectional analysis for minority populations is constrained with small sample sizes.

Methodologically, participants questioned the length of the survey, both in terms of time required to administer and the overall intrusiveness of the questions, which could lead to unreliable results. This may be particularly salient for more personal dimensions administered in the latter parts of the survey (such as family planning, time use, and violence) where participant fatigue and discomfort could interact to produce high levels of item non-response (as noted in Chapter 10). They suggested a shorter survey tool could increase the reliability of results and decrease participant burden (as well as the burden on enumerators, who were conducting multiple complex interviews in a single household). It was also suggested to increase the sample size to improve representativeness, and work harder to make diverse groups such as gender and sexual minorities and people with disabilities more visible in IDM studies in future.

At a technical level, participants expressed interest in seeing more explanation of aggregation and weighting, along with explanation of the methods and thresholds chosen (see Chapter 11 for a technical review of the IDM). Subject matter experts argued for higher weighting for dimensions such as health and sanitation, leading to reflection on the different options for weighting (see Chapter 11).

Participants expressed their desire to see all item-level data, so they could check how questions were worded and explore descriptive statistics independently (see the IDM codebook in Appendix A, containing descriptive statistics for all items). Finally, participants said they would like to see more emphasis on inequality in the results, as well as relationships inside the household, which they felt provided more policy-relevant information than overall and mean results, and which made the most of the intrahousehold methodology of the IDM Fiji. Hence, this report presents intrahousehold and individual case studies (Chapter 4), and presents the distribution of answers and categories of deprivation throughout, rather than simply presenting mean scores.

Overall, the stakeholder workshop contributed valuable information to the IDM Fiji project about the overall value of the IDM, weaknesses and technical issues to be addressed, and perhaps most importantly, the way that local stakeholders and experts were engaging with the data. The result is, we hope, a report that better reflects the priorities of those working in programming and policy relevant to gender and development in Fiji.

FBoS reflections on the IDM survey

The IDM survey is interesting in its approach to collecting responses pertaining to poverty at the individual level which is similar to a Labour Force Survey exercise normally conducted by FBoS. The more detailed questions asked by IDM is already suggesting refinement of the current survey materials that FBoS uses. For example the module on household assets could be adapted for use locally. FBoS provides the national Poverty Lines using data from the HIES. The IDM provides another interesting approach that is relatively easy to conduct and provides information about respondents that enhances understanding of those in the target group. For this reason it is recommended for implementation in the regions where there is often disagreement based on the income or expenditure based approach because of its limitations with regards to respondent experiences of poverty. There is also the possibility of a subset of the HIES targeted to provide more detailed information about the HIES sample for all areas including the scope of the current IDM.

It would be beneficial for Fiji to undertake another IDM survey in future, designed to increase the coverage in rural areas only, for example, or other areas of interest including the areas targeted in the current IDM study. This could enable comparative analysis over time of similar areas, and increase the scope of the survey to include localities just above the poverty line, for example.

To conclude, we wish to thank the Permanent Secretary of Finance, Government Statistician, all FBoS and HSU Staff and the Government of Fiji for this opportunity to share experiences in the provision of coordination, implementation and associated support to FBOS in relation to the

survey of Poverty in Fiji using the Individual Deprivation Measure.
We also wish to acknowledge the support of village, community heads and especially respondent householders who readily provided information and supported FBoS staff to engage for the success of IDM survey.

Serevi Baledrokadroka
Acting Deputy Government Statistician

Amenatave Rakanace
Fiji IDM Survey Local Consultant

1 December 2015[25]

[25] This excerpt is drawn from FBoS' final implementation report.

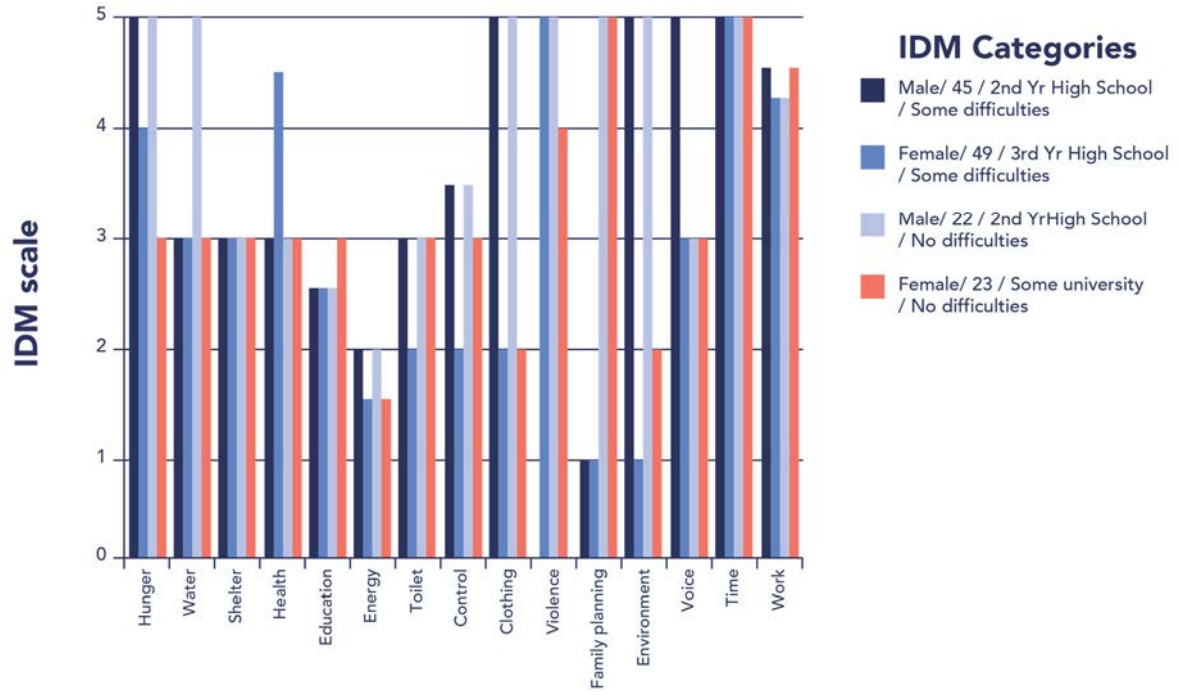
CHAPTER FOUR
INTRAHOUSEHOLD AND INDIVIDUAL CASE STUDIES

4: INTRAHOUSEHOLD AND INDIVIDUAL CASE STUDIES

The IDM collects information from all adult members of a household,[26] which allows us to look inside households to see variation between the most and least deprived members of the household. In Fiji, intrahousehold information across the 15 IDM dimensions could vary considerably, as the case study below illustrates.

By using the substantive survey responses of participants it is possible to create a narrative description of differences in circumstances between members of the same household. This case study is of a family of four in a rural area.

Figure 2. Case study of a household across IDM dimensions



This household is comprised of a mother, father, son, and daughter-in-law. Age, education, and disability status for each household member is indicated in the key of the figure above. The parents perform unpaid subsistence labour, the daughter-in-law performs unpaid household labour, and the son performs both paid seasonal work and unpaid subsistence labour.

Household members do not differ in terms of the shelter dimension, and none are deprived in the time use dimension. However, they differ on every other dimension. These differences also appear to be gendered. The men of the household are less hungry, perceive more control over their lives, feel they can present themselves in socially acceptable clothing, are exposed to fewer environmental pollutants, and face less deprivation in exposure to unclean cooking fuels. The father perceives more voice in the community than all other household members. In some dimensions (toilet, control, and environment) the daughter-in-law is equally as deprived as the men.

[26] A brief household-level survey also collects some basic information from a primary respondent about children in the household, but children do not complete an individual survey. Funding constraints, ethical considerations and the need for distinct methods to involve children in participatory research led to a decision to exclude children under the age of 18 from the research informing development of the IDM. Developing a related measure to assess multidimensional poverty among children at the individual level is a priority for the IDM team.

The least deprived household member is the son, and the most deprived is the mother. Dimensions in which they most differ include water, clothing, family planning, and environment.

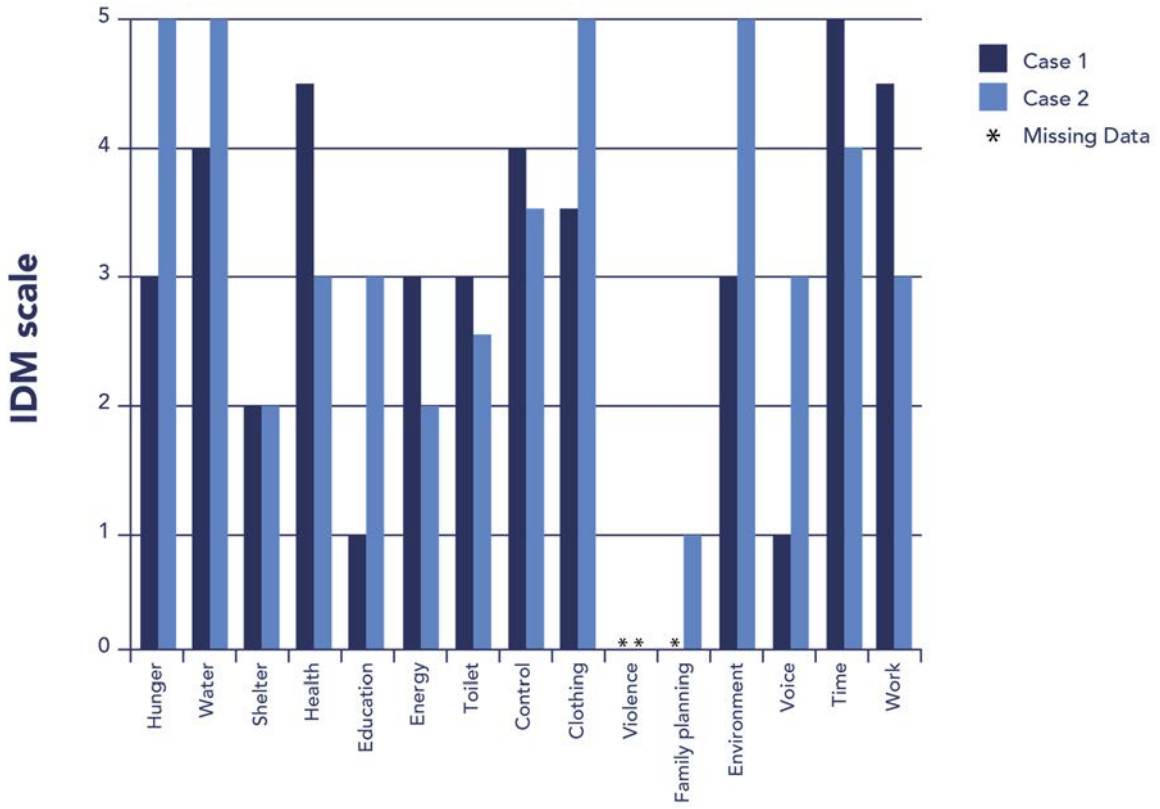
Intrahousehold measurement can provide detail to aggregate data by giving a rounded picture of individuals' lives. For every cross-sectional difference in deprivation across age, gender, disability, and geographical location, more are revealed within households, sometimes along gendered lines. While HIES data uses household characteristics such as household size, age of household head, household head's marital status, education level, employment status and ethnicity to profile the highly vulnerable groups of poor people in Fiji, the IDM is able to draw our attention to processes of exclusion, inclusion or marginalisation within the household that may leave some groups of people more deprived in relation to others.

Differences between individuals[27]

Poor people are deprived in different ways; being able to see this can facilitate policy and programming responses. Example one below compares two individuals who are very deprived overall. Example two presents two individuals who are equally but significantly less deprived. This comparison illustrates that multidimensional measurement of deprivation becomes more important as people are more deprived, helping to highlight priority areas for action.

Example one

Figure 3: Case study of two individuals experiencing high overall deprivation



Case 1.
The first participant is an older woman who speaks Hindi and practises the Hindu religion. She lives in a rural area with her spouse. She works unpaid in the household, and never attended school. She experiences some functional difficulties. Their household assets index is relatively high, and she self-rates as 'somewhat poor'. Overall she considers herself fairly happy and

[27] Identifying details have been omitted from these case studies to protect the privacy of participants.

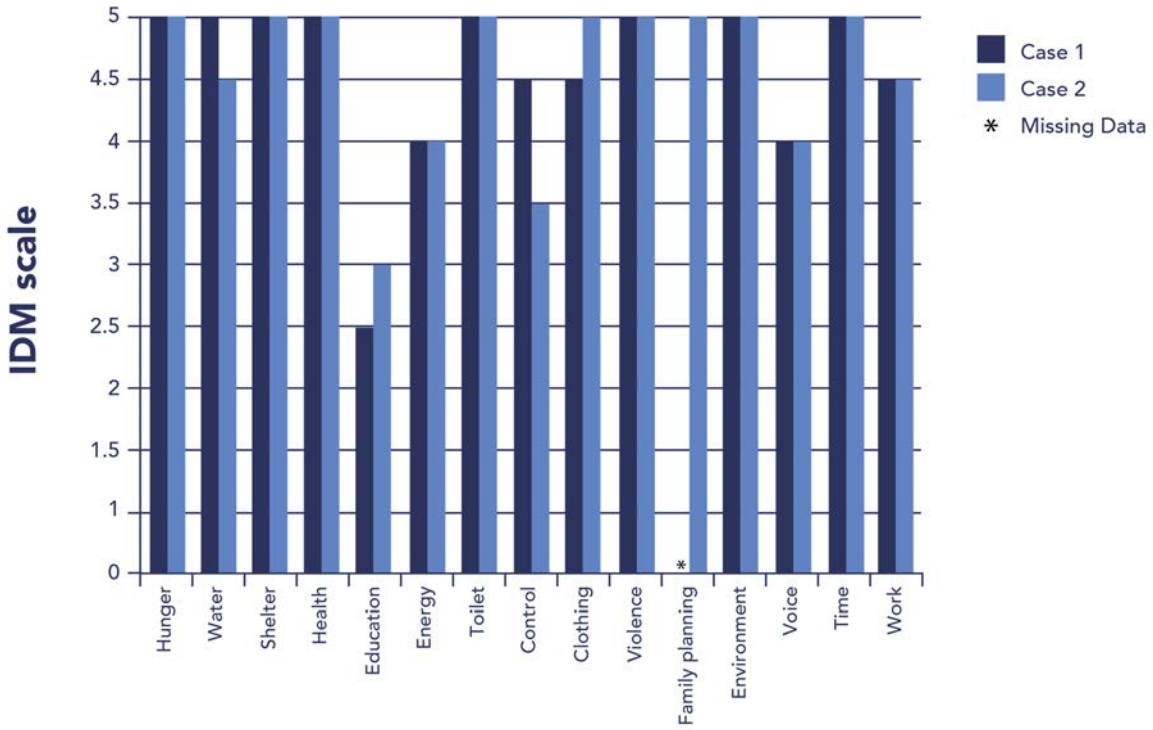
satisfied with her life. She often has no food due to lack of resources, and only sometimes has enough water to meet her personal needs. She was sick recently, but received healthcare from a doctor. Her toilet is a pit with no slab, and she feels no capacity to voice her opinions or bring about change.

Case 2.
The second participant is a young Fijian man, who lives in a rural area with his parents and four other adults, in shelter which is moderately rudimentary — tin roof, wood floor, plywood walls — but with a private flush toilet. Their primary source of fuel is firewood. He is rarely hungry, and always has enough water. He has no access to contraception, and feels some difficulty in expressing his voice or encouraging change. He does some paid farm work, but does not feel respected for this work. His household's assets index is in the middle range, and he self-rates as 'not poor'. Overall he considers himself fairly happy and fairly satisfied with his life.

Example two

Two more participants were selected, who appeared to experience less overall deprivation. Demographic and IDM dimension data was generated individually for each participant. The table below presents the deprivation profiles of both participants.

Figure 4: Case study of two individuals experiencing low overall deprivation



Case 1.
The first participant is a middle aged Fijian of Indian descent woman who lives in a rural area. She lives alone, does unpaid work in the household, and has a high household assets index. Her house is carpeted, and in good condition, with a private flush toilet and clean water piped into the dwelling, and reliable electricity. She has some difficulties with sight, walking, and memory.

She rates herself as not poor, and considers herself fairly happy and fairly satisfied. Her decision making and personal support experiences are positive, and she can always present herself in a way that is socially acceptable.

Case 2.
The second participant is a middle-aged Hindu woman. She experiences no physical disabilities, and works unpaid in the household. The household is in good condition, with ceramic floors, iron roof, and cement walls, with a private flush toilet, and electricity 24 hours a day. She is never without food or water, sees a medical doctor for healthcare. She feels fairly in control of her personal decision-making, and can always present herself in a way she is happy with. She does not experience violence and can voice her opinion easily.

These case studies help us unpack the relationship between gender and inequality at the individual level, as well as highlighting the importance of intrahousehold measurement for capturing the detail of the gendered realities of deprivation that poor women and men face.[28]

[28] The importance of individual measurement was also reflected in an assets index administered at the household level during the IDM Fiji fieldwork. The participant in the household survey answered, for the household, "Does the household, or any household member, possess any of the following that are in working condition?" (see Appendix B for item-level responses to these questions). But measuring assets at the household level obscures gender differences in asset access and ownership. A subsequent IDM study in Nepal changed the methodology to measure individual assets and include information about whether participants individually owned the assets, had access to assets, or had neither access nor ownership. This was found to dramatically increase the gender sensitivity of the results (understandably). Future analysis will increase the granularity further by analysing by class (productive/non-productive) and value of assets. The IDM Fiji study helped to clarify this issue and lead to improvements in measurement and understand of gender-sensitive measurement of material wealth.

CHAPTER FIVE
INSIDE THE HOUSEHOLD: EXPLORING DEPRIVATIONS IN SHELTER, ELECRICITY AND COOKING FUEL

5. INSIDE THE HOUSEHOLD: EXPLORING DEPRIVATIONS IN SHELTER, ELECTRICITY, AND COOKING FUEL

This section investigates two IDM dimensions in detail: Shelter and Energy. The IDM Shelter dimension is measured at the household level, so there are few gender differences to discuss; instead, this section focuses on noteworthy differences between urban and rural locations, and differences between households comprised of different sociocultural backgrounds. The Energy dimension is comprised of indicators measuring cooking fuel and electricity. Electricity access may be considered as consistent between genders within households, but cooking fuel and exposure to smoke is a gendered issue and as such, gender is the focus of analysis for this indicator. Intersectionality in deprivation between sex, settlement type, Tikina, and sociocultural background are presented, along with the relationship between the Shelter and Energy dimensions themselves. Claire Slatter provides commentary on this chapter.

Shelter dimension (scored then converted to 0-10 scale)
Indicator 1: Materials and quality of roof, floor, walls, and overall state of dwelling (coded by enumerators)
1=very low quality shelter
2=low quality shelter, mostly rudimentary materials
3=mixed quality shelter, some finished materials
4=moderate quality shelter, all finished materials, but some wear
5=good quality materials, and no significant wear

Indicator 2: Homelessness (frequency of nights spent outdoors)
1=always (more than one month per year)
2=often (more than two weeks but less than one month)
3=sometimes (one or two weeks)
4=rarely (less than one week)
5=never (0 nights)

Energy dimension (scored then converted to 0-10 scale)
Indicator 1: Cooking fuel
A: Primary and secondary sources of cooking fuel
B: Exposure time
C: Health problems from exposure
(secondary fuel weighted at 0.5 of primary fuel)

1=no clean fuel
3=some clean fuel, some dirty fuel; exposure to fumes but minor or no health problems from exposure
5= all clean fuel (kerosene, gas, or electricity); no exposure to fumes

Indicator 4: Electricity
1=no access
2=0-5 hours
3=5-10 hours
4=10-20 hours
5=20 or more hours per day

Results

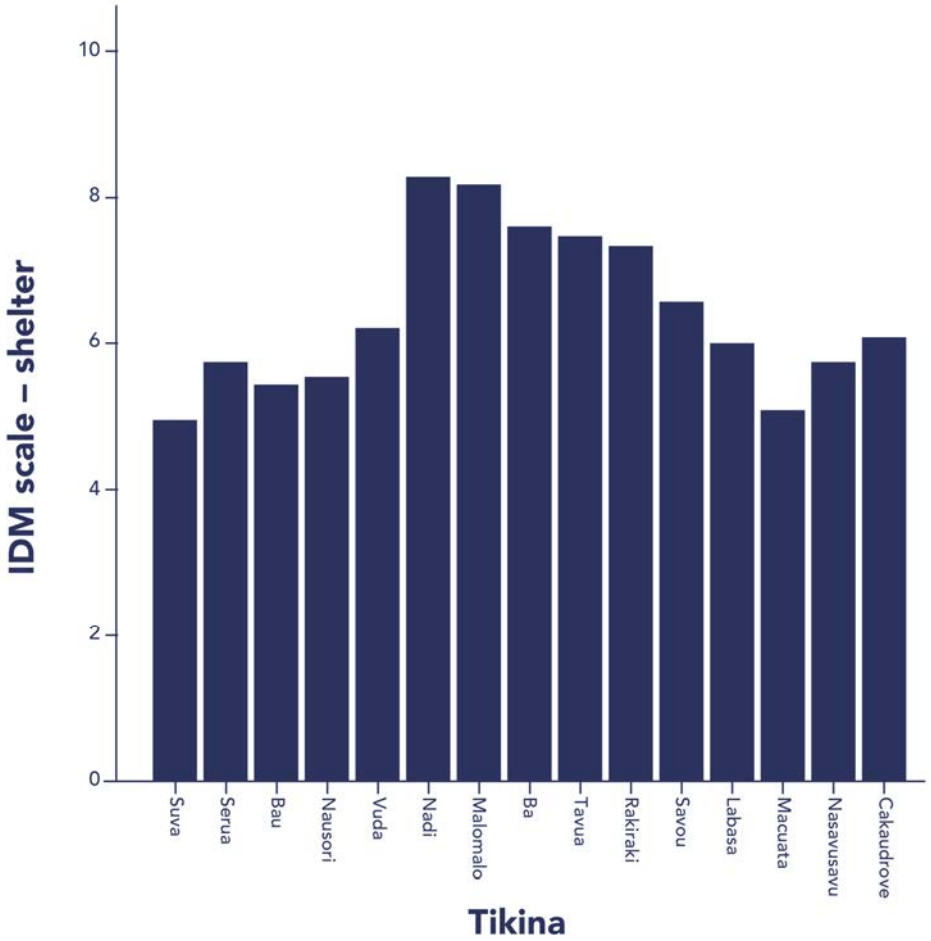
Overall, no gender differences were observed in the shelter dimension: unsurprising as the shelter dimension was coded at the household level by enumerators (under the assumption that men and women in Fiji generally live under the same physical structures, rather than segregated). Similarly, there were no age differences in the shelter dimension. Two main factors emerged as being associated with shelter deprivation: geography (Tikina and rural/urban), and sociocultural background.

Shelter was one of the more polarising dimensions in terms of geography. For Tikina comparisons, each Tikina was compared to every other Tikina in the shelter dimension and tested for statistical significance (see technical report for the details of these analyses). To identify broad patterns, the data were inspected for Tikinas that were more or less deprived than many (5 or more) other Tikinas.

Tikinas that were *more* deprived in the shelter dimension than most other Tikinas included: Suva; Serua; Bau; Nausori; Vuda; Savou; Macuata; Nasavusavu; and Cakaudrove. Serua, Bau, Nausori, Vuda, Savou, Nasavusavu and Cakaudrove are predominately *iTaukei* Tikinas and many *iTaukei* households live in more remote villages with limited access to public utilities following a traditional lifestyle (see also MDF, 2013). In fact, earlier studies of poverty have also highlighted that poverty rates are highest among households living in rural, urban villages and squatter settlements across Central, Eastern, Western and Northern divisions (World Bank, 2011: 36-37). As noted in the MDF (2013) report, self-built tin houses are most common types of dwelling that low income households in rural and urban areas live in, with a higher percentage for Fijians of Indian descent in urban areas living in such dwellings in the squatter settlements.

Tikinas that were *less* deprived in the shelter dimension than most other Tikinas included: Nadi; Malomalo; Ba; Tavua; and Rakiraki. The mean shelter dimension score by Tikina is presented in the figure below, where a score of 0 represents extreme deprivation and 10 equals no deprivation.

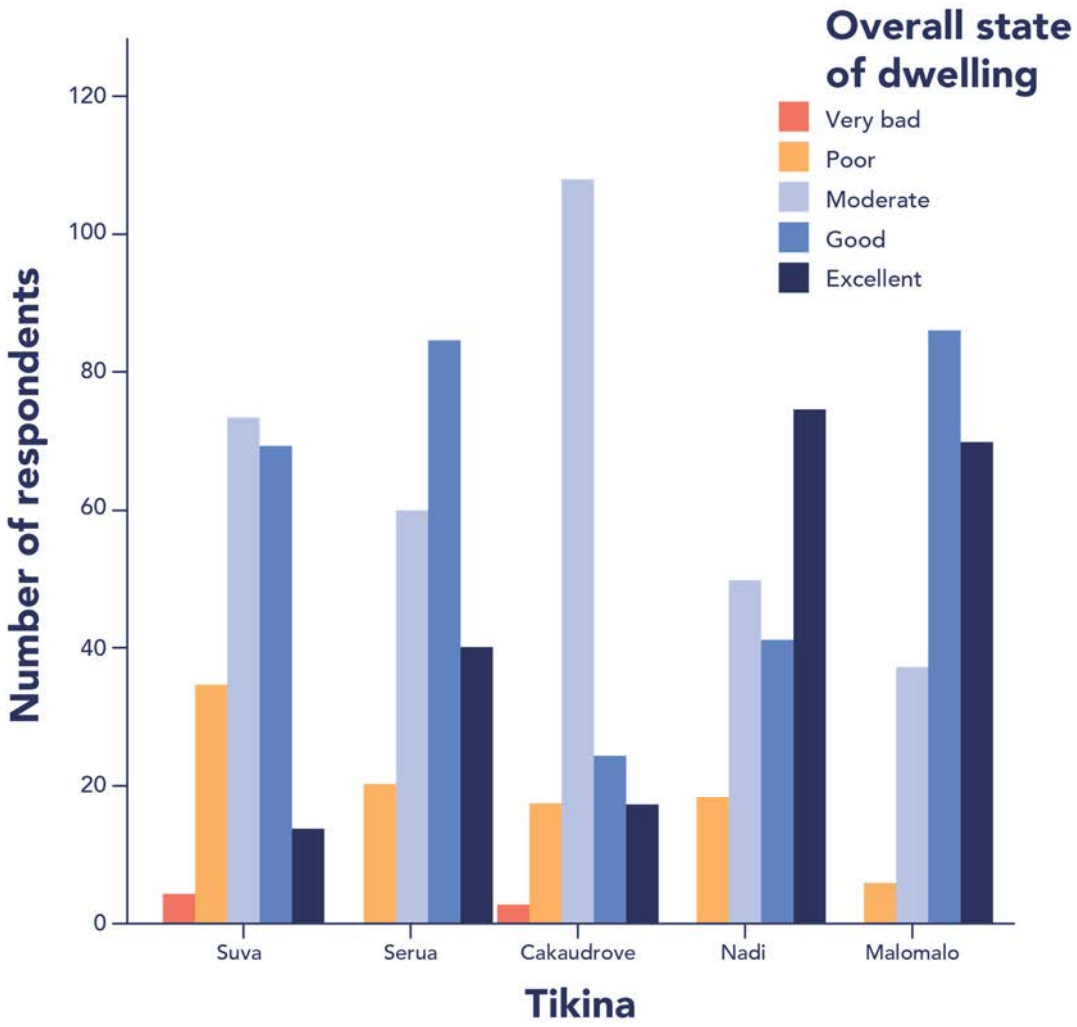
Figure 5: Shelter dimension by Tikina



Inspection of the shelter dimension results at the indicator level shows that the materials used to build dwellings do not vary considerably across the sample. Tin and iron were used for roofing for 98.3% of homes, around 70% of floors were either wood planks or cement, and over half the sample had tin or iron walls. Further, rates of homelessness were overall very low in the sample. This is understandable given the sampling method of identifying households within which to interview participants, and we may assume overall underestimates of homelessness in this study. Therefore, the variation in the shelter dimension must be found in the overall quality of the shelter.

The next figure presents the number of participants within a selection of Tikinas who fall into each category of deprivation in the overall shelter condition item − some especially low in the shelter dimension (Suva, Serua, Cakaudrove), and some especially high (Nadi and Malomalo). The purpose of this figure is not just to illustrate differences in deprivation between Tikinas, but that the *form* that deprivation can take also differs. Cakaudrove and Suva have similar mean scores for the shelter dimension, but in Suva deprivation is more polarised, with larger numbers of people living in poor or good quality housing, whereas in Cakaudrove, most citizens fall into the mid-point category of moderate condition housing. Studies of urbanisation in Fiji have noted that the economic decline of the sugar industry with the expiry of land leases held by Fijians of Indian descent has significantly contributed to the urban growth and the rise of squatter settlements in the Suva-Nausori corridor in the last 15 years (Mohanty, 2006; Lingam, 2005; Reddy et.al, 2003; see also MDF, 2013).

Figure 6: Overall condition of dwelling in five selected Tikinas



Along with differences by Tikina, there were also significant differences between urban and rural locations in the shelter dimension, with residents in urban areas more deprived than rural residents. Looking at the shelter dimension indicators begins to explain this picture. As above, materials used to build houses did not considerably vary between urban and rural areas. Instead, the difference emerged in the overall rating of the condition of the dwelling. Houses in urban areas were more polarised, in that they were more likely to be rated as 'Excellent', *and* more likely to be rated as 'Poor', than houses in rural areas. This is not surprising, given the concentration of Fiji's urban poor in squatter settlements and informal housing with residents living in dilapidated houses often made out of pieces of wood and corrugated iron (Naidu and Matadradra, 2014). Housing in rural areas was more consistent across the sample, with over 40% of houses in rural areas rated as 'Good'.

A recent MDF study (2013) showed a slightly higher percentage of urban households of Indian descent than *iTaukei* households to be self-built dwellings of wood and tin/corrugated iron for outer walls (MDF, 2013). Closer inspection reveals the MDF study included informal settlements in their categorisation of 'urban' dwellings, which they suggest are the basis for this result (i.e. more Fijians of Indian descent living in informal settlements).

Figure 7: Overall condition of dwelling in urban and rural areas

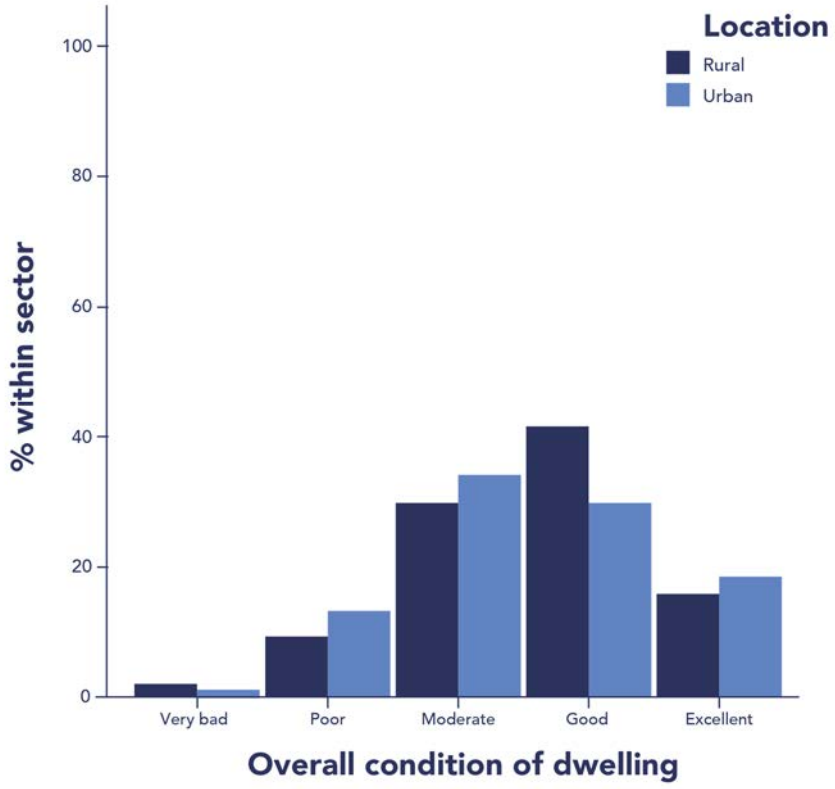
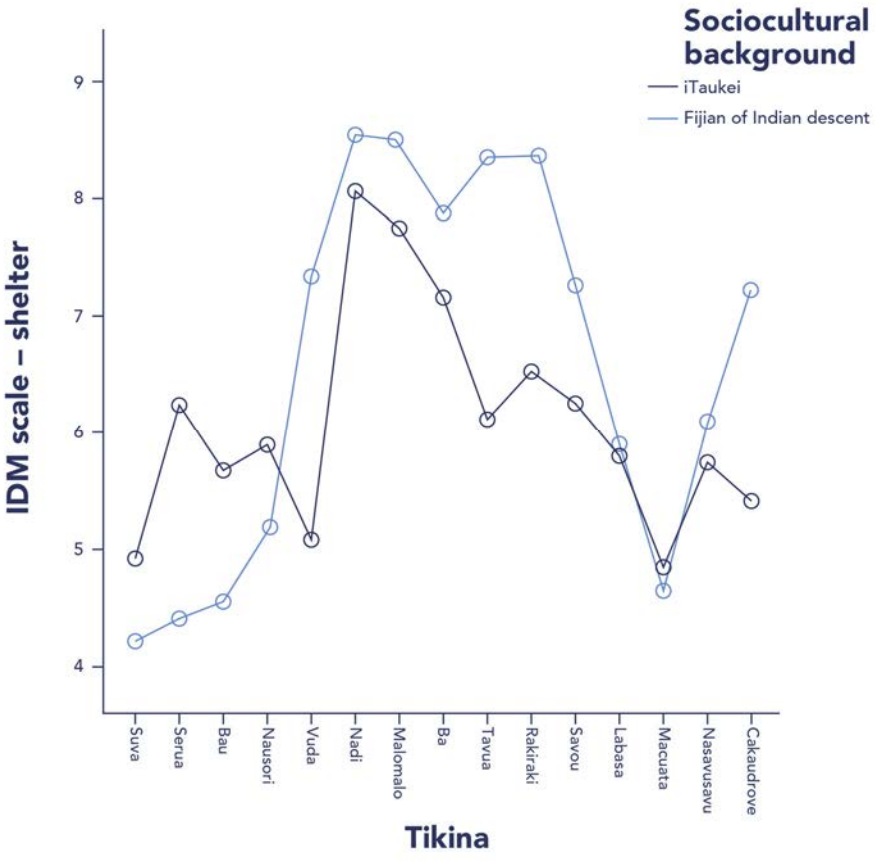


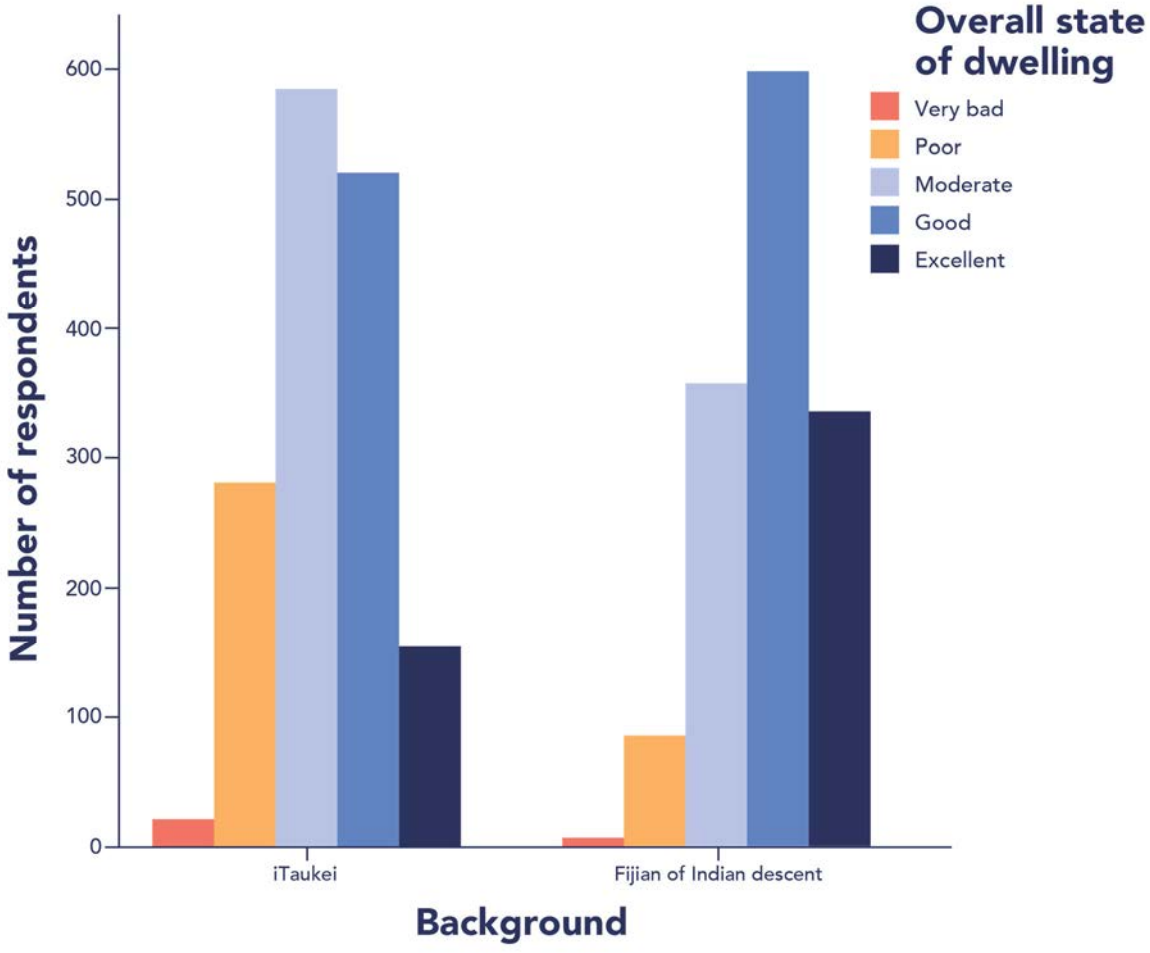
Figure 8: Difference in shelter dimension within Tikina by sociocultural background



We also observed differences in the shelter dimension, not just *between* Tikinas, but between citizens of different sociocultural background *within* Tikinas. That is, overall, citizens from *iTaukei* communities were more deprived overall in the shelter dimension, but not in every Tikina. In Suva, Savua, and Bau, Fijians of Indian descent were more deprived. In Labasa, Macuata, and Nasavusavu, there were no differences in shelter between the groups. In Cakaudrove and Tavua, *iTaukei* residents were considerably more deprived. This provides us interesting information about the intersectionality of deprivation in shelter (considered a high-priority dimension) with other factors. Despite an overall pattern of deprivation by sociocultural group, this difference was not observed everywhere.

Turning to shelter indicator level differences in *iTaukei* and Fijians of Indian descent, we found little variation between housing materials,[29] but large differences in the overall quality of the dwelling. This was rated by the enumerators (not participants), and reflected a holistic observation of the condition of the dwelling. Fijians of Indian descent were more likely to live in housing rated as 'excellent' or 'good', and *iTaukei* were more likely to live in housing rated as 'very bad' or 'poor'.[30]

Figure 9: Overall condition of dwelling by sociocultural background



Next, we maintain our focus on household-related variables, but look within the house at differences in the energy dimension. Overall, 44% of the sample use firewood, 23% use crop residue, 23% use kerosene, and 8% use gas. 69% of the sample also had access to a

[29] An MDF (2013) study notes a higher rate of self-built tin houses for Fijian of Indian descent in urban areas, suggesting residents of informal settlements

[30] Enumerators were provided with pictures to support decisions about what constituted different levels of quality.

secondary fuel, the most common types of which were kerosene (48%), gas (25%), and firewood (25%). 68% of the sample rely on an open fire without a chimney, 26% an open fire with chimney, and 2% a closed stove with chimney. The majority of residents cook in a separate room (68%). 84% of the sample have electricity, with the majority (69%) rating it as very reliable.

There were some differences between sociocultural background (*iTaukei* were more deprived in the energy dimension than Fijians of Indian descent), age (older age groups tended to be more deprived), and urban/rural (residents in rural areas were more deprived). This is consistent with the MDF (2013) study finding that a higher percentage of Fijians of Indian descent households had access to electricity than *iTaukei* households, with *iTaukei* Tikinas in remote rural locations likely to have no access to electricity.

However, the largest difference—and most interesting given the household measurement of this dimension—was the difference between the sexes. Women were considerably more deprived in this dimension than men.

Looking at the indicator level of the energy dimension, we are able to examine where this sex difference is emerging. Men and women do not differ in their source of primary or secondary cooking fuel, place of cooking, or access and reliability of electricity. Where the sex difference emerges is in hours exposed to fumes from cooking stoves, and resultant health problems. This reflects a gendered and unequal distribution of household responsibilities and a gendered division of labour, where women in Fiji have primary responsibilities for domestic work such as cooking (Chattier, 2013).

With equal number of men and women in the sample, 669 men—over 45% of men—were not exposed to fumes from cooking fuels at all, as opposed to only 8.6% of women. Women spend an average of 1 hour 45 minutes exposed to fumes each day; for men, the average is 24 minutes exposure. This finding translates into health outcomes. Of the overall sample, 12% of men and 25% of women experienced health problems from exposure to fumes. In other words, women experienced health problems linked to smoke exposure at twice the rate of men. Women also experienced much more significant health problems than men. Of the 266 men who experienced health problems, 58% experienced only minor problems; 33% moderate, and 8.6% severe. Of the 556 women who experienced health problems, 33% were minor, 43% were moderate, and 24% were severe.

Figure 10: Hours per day exposed to smoke fumes by sex

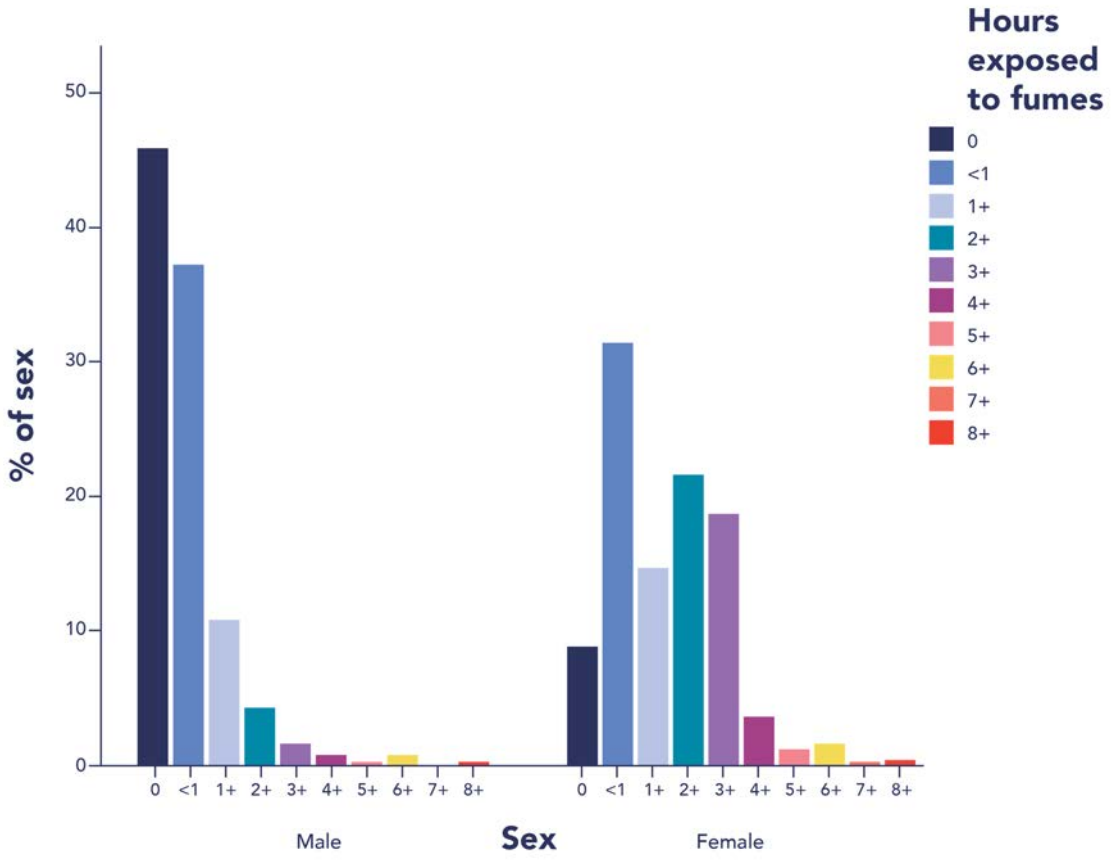
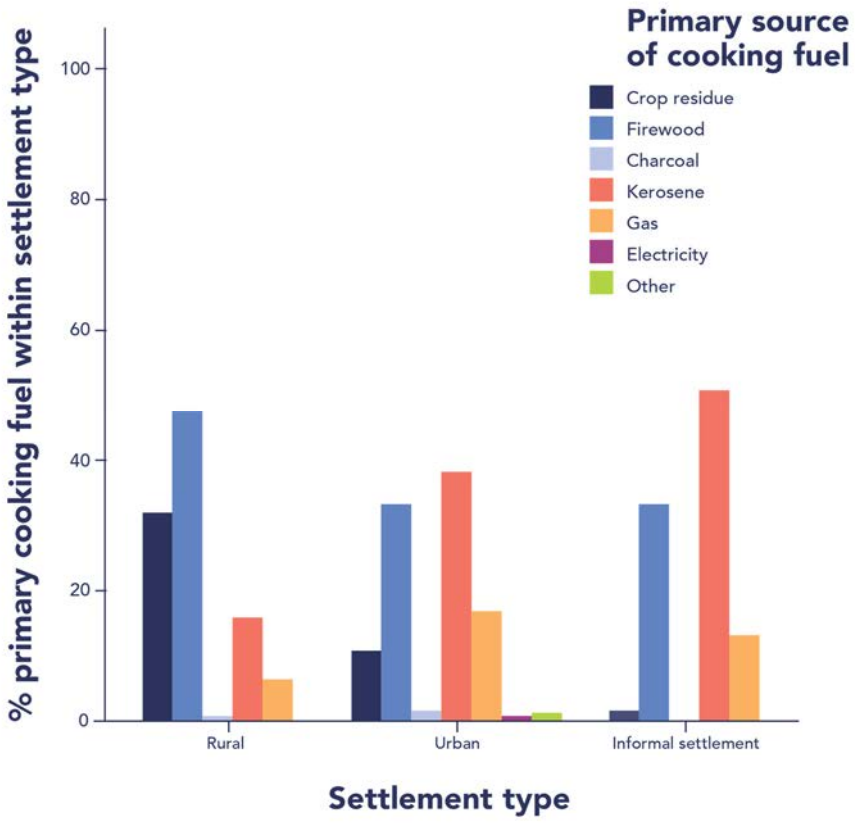


Figure 11: Percent of primary fuel source within each settlement type



While there were few sex differences in type of cooking fuel, there was variation between settlement type (rural/urban/informal settlement). The previous figure shows the percentage of each settlement type that uses each cooking fuel (i.e. in interpreting the graph, nearly 50% of residents in rural areas use firewood (626 participants), whereas around 50% of residents in informal settlements use kerosene (80 participants), and an approximately equal percentage of urban residents use firewood or kerosene (approximately 275 residents use each). The variation in fuel used for cooking across the settlement types is consistent with previous studies, which have shown firewood and kerosene to be the most common sources of cooking fuel in urban and informal settlements, with slightly higher use of gas in urban areas (see also Naidu and Matadradra; Lingam 2005).

There were also Tikina differences in the energy dimension, with Nadi and Malomalo having the highest scores in the Energy dimension, and Nasavusavu and Cakaudrove the lowest. The difference between these Tikinas in the energy dimension spanned two 'levels' of deprivation, from 'Somewhat deprived' to nearly 'Very Deprived' (see Table 8 below).

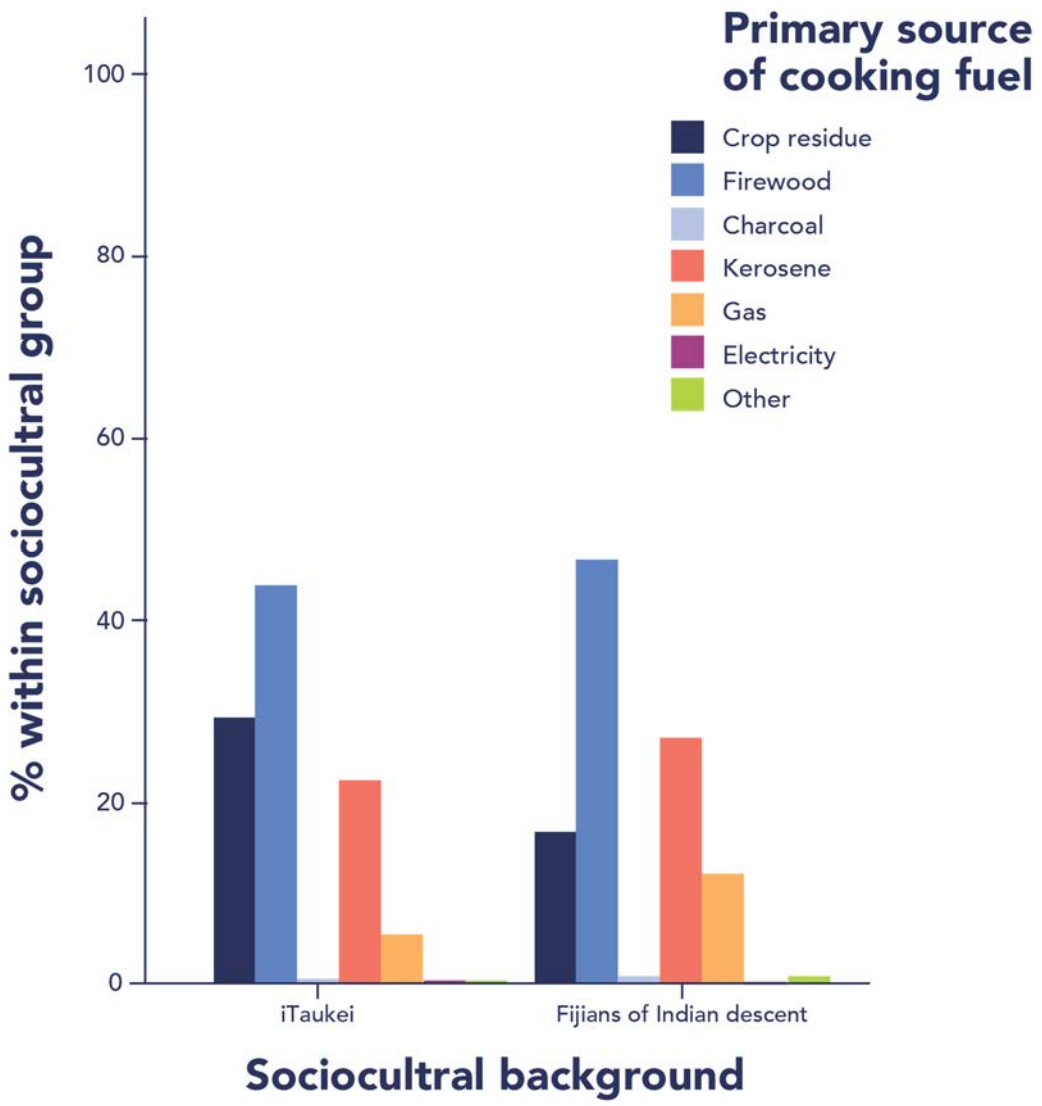
Table 8: Mean energy dimension scores by Tikina

	N	Mean	Std. Deviation
Suva	189	3.5873	.96152
Serua	207	3.7874	.92339
Bau	181	3.8066	.91964
Nausori	212	3.9080	.99157
Vuda	201	3.5100	1.12134
Nadi	190	4.1500	.84664
Malomalo	203	4.0025	.63810
Ba	221	3.7421	.79429
Tavua	192	3.3385	1.08535
Rakiraki	162	3.5648	.90227
Savou	175	3.2200	.94010
Labasa	209	3.7871	.84999
Macuata	204	3.1029	.95163
Nasavusavu	208	2.5096	.89815
Cakaudrove	171	2.3187	.72712
Total	2925	3.5002	1.03706

Differences in deprivation between sociocultural groups show similar patterns at the indicator level. 79% of *iTaukei* have electricity, compared to 90% of Fijians of Indian descent, and *iTaukei* with access to electricity have fewer hours of access each day, and rate their electricity as less reliable. This analysis shows that there is a strong connection between housing conditions, sociocultural background and type of energy source, with people of *iTaukei* background more deprived than Fijians of Indian descent.

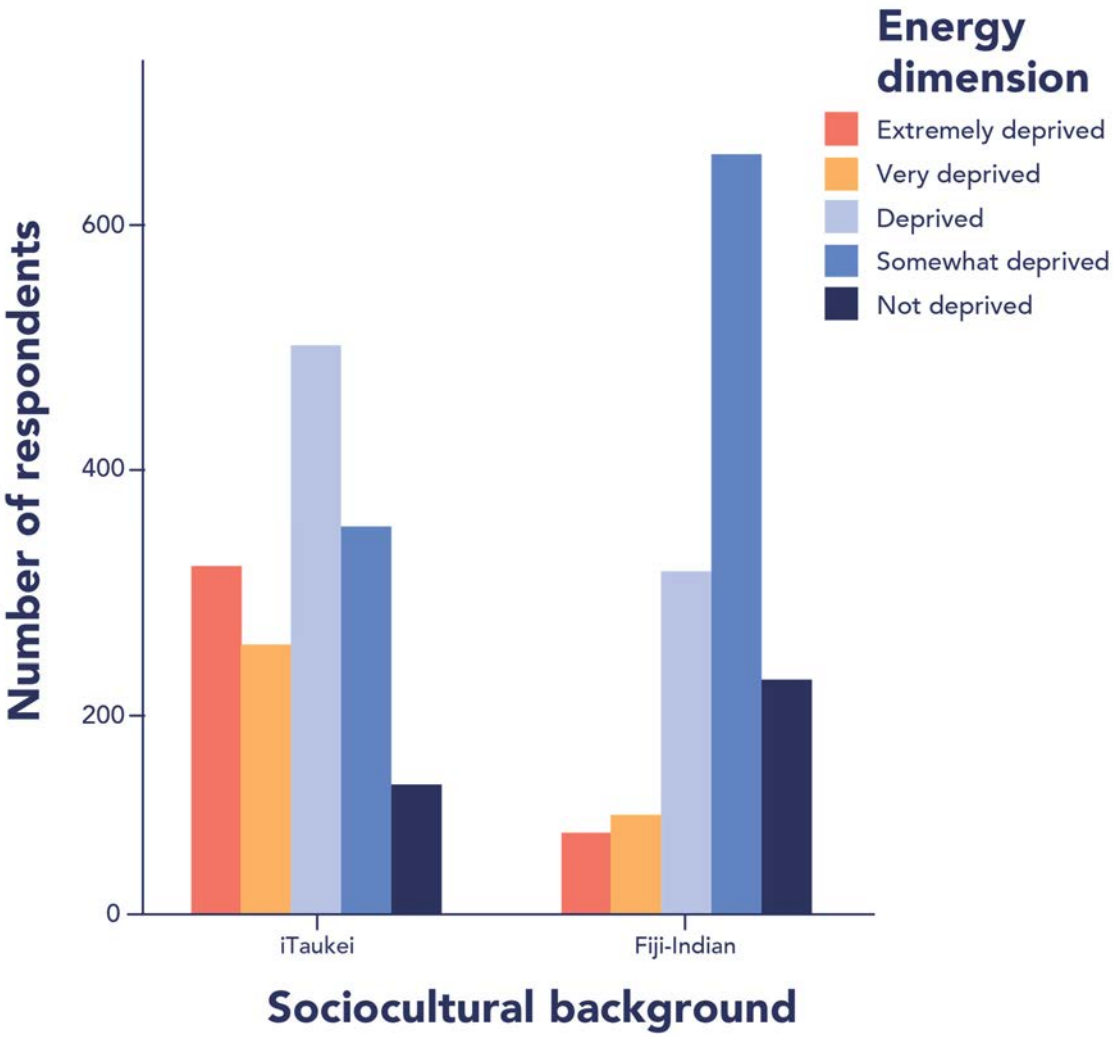
In terms of cooking fuel exposure, *iTaukei* residents spend 1 hour 10 minutes exposed to fumes on average each day, whereas Fijians of Indian descent spend on average 57 minutes exposed to fumes. 45% of *iTaukei* experiences health problems from fuel exposure; compared to 25% of Fijians of Indian descent, and the problems experienced by *iTaukei* are more severe. Primary source of cooking fuel also differs between the groups, as illustrated in the figure below showing the percentage of each group who use any type of cooking fuel.
This echoes the results of the MDF (2013: 72) study which also noted that more Fijians of Indian descent in urban squatter settlements use wood usually outside the roof-line of the dwelling while *iTaukei* households use kerosene stoves in formal urban dwellings.

Figure 12: Percent of primary fuel source within each sociocultural group



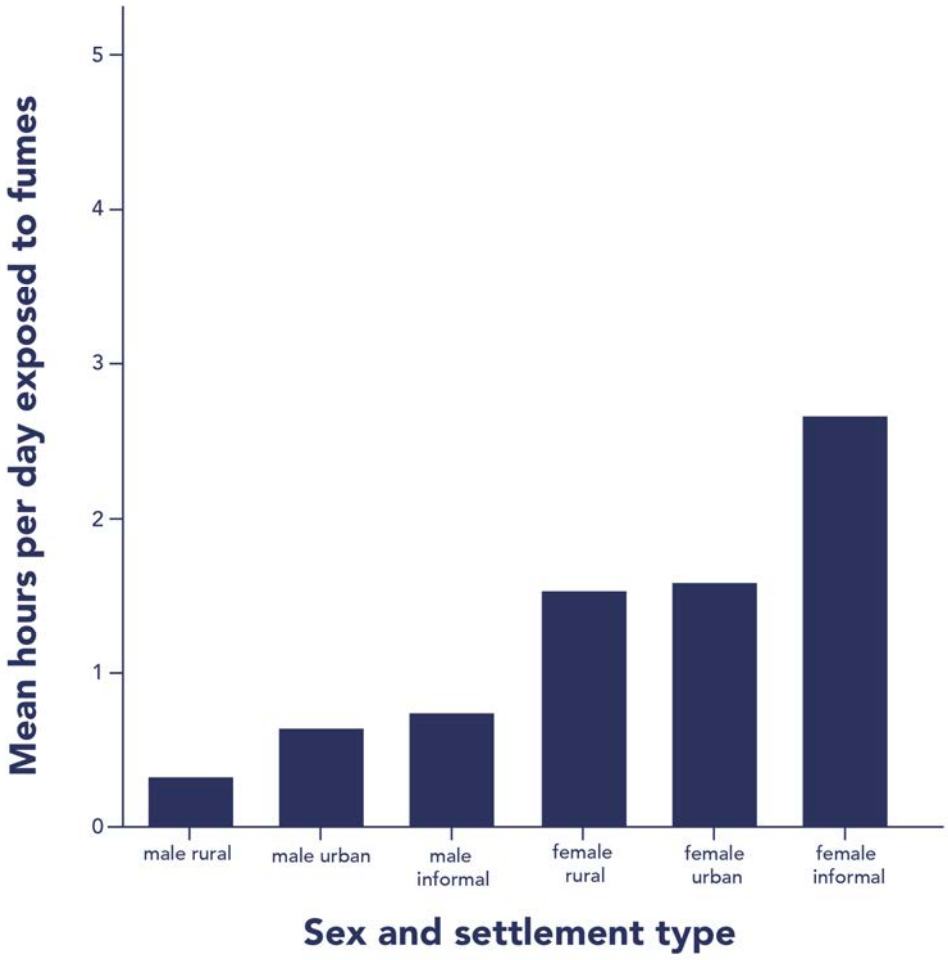
These small differences at the indicator level, once aggregated into the IDM Energy dimension according to the coding outlined at the start of this section, create a very different profile of deprivation in Energy for these two sociocultural groups (see figure below).

Figure 13: Number of people in each category of energy deprivation, by sociocultural group



Due to the individual-level measurement of the IDM, it is also possible to examine intersections of deprivation by sex, settlement pattern, and/or sociocultural background. The figure below presents the mean hour of daily exposure to fumes for men and women in urban, rural, or informal settlements. In presenting this information we can easily visualise the way in which deprivation—either by dimension, or in terms of specific indicators of interest—intersects with group identities, sex and settlement type. This figure shows that women in informal settlements are spending approximately three times longer exposed to fumes every day than their male counterparts in rural areas.

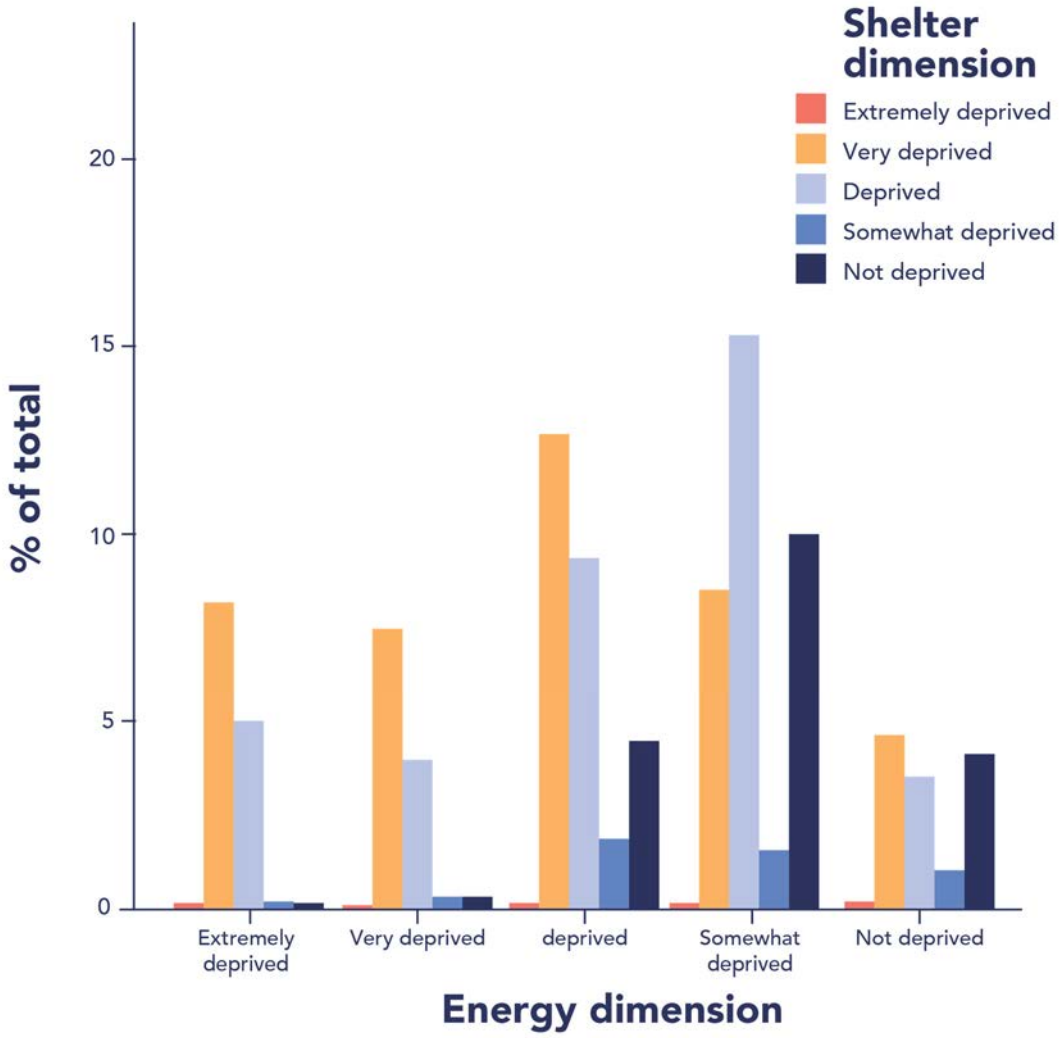
Figure 14: Mean hours per day exposed to fumes from unclean fuel by sex and settlement type



Finally, the association in deprivation between the shelter and energy dimensions may also be examined. The chart below depicts the crosstabulation between the categories of deprivation in the shelter and the energy dimension (as a percentage of the total sample).
Overall this chart indicates a general association between the shelter and energy dimension, but that citizens are overall more deprived in the energy dimension, i.e. many people are only moderately deprived in the shelter dimension, but are extremely deprived in the energy dimension. Overall, the shelter and energy dimensions are correlated at $r = .33$, $p < .05$.

The HIES 2013-14 shows some linkage between dwelling type, household size, crowding and exposure to smoke from the cooking space. In particular, the HIES 2013-14 data shows that smoke exposure is more pronounced among poor who live in 1-room dwelling with an average household size of 5.7 persons.

Figure 15: Crosstabulation of deprivation category in shelter and energy dimensions



This section has unpacked the IDM Fiji results to focus on two dimensions that are generally measured and analysed at the household level, and revealed patterns of deprivation that differ by sex, settlement type, Tikina, sociocultural background, and age. In doing so we highlight that even 'household-level' deprivation affects the members of those households in different ways. This illustrates the way in which the layers of aggregate IDM results can be peeled back to spotlight differences, and built back up again to give overall deprivation metrics.

Reflections: Claire Slatter

Brief overview of shelter and energy in Fiji

Shelter
Fiji has had a relatively long history of providing state housing for low-income families. The Housing Authority of Fiji (HA), a fully state-funded body, began operating in 1958, developing land lots and designing and building low cost rental accommodation in urban areas. This was later extended to rural areas through a Village Housing Scheme. In 1989, following World Bank recommendations, a Public Rental Board was set up to provide and manage 'affordable rental flats to low income earners on a transitional basis without incurring a loss' (Housing Authority website). Market rents were introduced and state investment in public housing declined. The HA began providing mortgage financing for middle to high-income earners, and the Government sought the involvement of private sector investors in building new housing blocks. China is today a major new source of finance for social housing (ADB, 2014).

With increased rural to urban migration, there was an expansion of informal settlements around urban centres. An estimated 20% of Suva's population now live in informal settlements, most without access to infrastructure and services. Many of these settlements are based on marginal, unused land and particularly on tidal flats, mangrove areas or close to riverbanks (Chung 1995). In recent years, on the initiative of the People's Community Network (PCN), a community based organisation of people living in informal settlements, the government has engaged in a partnership to build secure owner-occupancy flats for PCN members. A new housing policy adopted in 2011 with the vision of 'providing affordable and decent housing for all communities by 2020', aims to improve access to 'quality and affordable housing in village and rural communities' (Housing Authority 2011).

In addition to state-subsidised housing, several non-government organisations provide housing for the very poor, namely the long-established Catholic Church's Housing Assistance Relief Trust (HART), and recently Habitat for Humanity.

Energy
The Fiji Electricity Authority (FEA), established in 1966, is a fully government owned electricity provider. It is the primary power supplier to the 90% of Fiji's population that enjoy electricity (ADB *Sector Assessment (Summary) Energy* 2014-2018:1). FEA has the lowest tariffs among utility providers in 25 Pacific Island countries (Johnson 2017). Ninety one percent of FEA's customers are domestic users, 9 percent are commercial users and industrial consumers less than 0.1% (*ADB Sector Assessment (Summary) Energy* 2014- 2018). All three categories of FEA customers enjoy 'an embedded government-funded subsidy for a fixed volume of consumption per billing period' (ibid). Fiji's national energy policy for 2014-2020, inspired by a commitment to eliminate the use of fossil fuels (which constituted 37% of total output in 2013), aims to achieve 67% renewable generation by 2015, and 99% by 2020. According to the ADB, Fiji's electricity system needs an investment of F$1.5 billion over the next 10 years, which is 'unlikely to be financed by the public sector alone', and the National Energy Policy 'prioritises attraction of private sector investment to accelerate energy sector development' (ibid).

In April 2017, the Government passed a law to permit it to sell off up to 49% of its shares in FEA, thereby transforming the state-owned corporatised body into a public/ private partnership. With 48% of revenue contributed by commercial customers, 26% by industrial users, and the remainder by domestic customers, there is concern that opening up FEA to a private developer will bring about increased costs for domestic consumers (Dakuvula, 2017).

The shelter and energy dimensions of the IDM Survey

Although no gender or age differences emerged on average in relation to shelter, pronounced deprivation differences were found in relation to geography (*Tikina* and rural/urban) and socio-cultural background. Shelter emerged as one of the most polarizing dimensions when considered in relation to geography.

Detailed inter-Tikina comparisons were made and tested for statistical significance. Suva, Serua, Bau, Nausori, Vuda, Savou, Macuata, Nasavusavu and Cakaudrove were found to be more deprived than most other Tikinas. All except Suva and Macuata are explained as predominantly *iTaukei* Tikinas, with many *iTaukei* households living in remote areas with limited access to public utilities. A 2011 World Bank report is cited as having similarly recorded poverty rates as 'highest among households living in rural settlements, urban settlements and squatter settlements across Central, Eastern, Western and Northern divisions'. Reference is also made to the MDF (2013) report, which noted that 'self-built tin houses' are the most common types of dwelling occupied by low income households in rural and urban areas, 'with a higher percentage of Fijians of Indian descent in urban areas living in such dwellings in squatter settlements'. Little variation was found in building materials used for shelter.

It's possible that gender differences in relation to shelter may have been observed had quality of dwelling included type of toilet. Outside toilets are usually pit toilets, located at some distance from the house and pose a safety risk for women and girls at night. Given sanitation type is measured by the IDM, analysing the overlaps between sanitation and shelter data together may provide additional insights. Similarly, as the IDM study did reveal, the location and type of kitchen and the fuel used, because of the gender division of labour, shows marked gender differences, with health implications.

Beyond these differences, the IDM as a tool for uncovering intra-household differences in deprivation might appear less relevant, although the findings on differences among tikina and between rural and urban settlements are certainly revealing and should be of interest and use to policy makers.

The finding on deprivation in the named tikinas may be supported by other FBoS data, for example as to why Nadi, Malomalo, Ba, Tavua and Rakiraki Tikinas were found to be less deprived on this dimension than most other Tikinas. Correlation with ethnicity might shed light on this finding.

Homelessness

Rates of homelessness were found to be very *low*, but is indicated as a possible underestimation resulting from research methodology.

Homelessness and 'sleeping outside' is more a feature of urban centres and so should be expected to be very low outside of the main cities.

Shelter Quality

IDM enumerators provide an overall assessment of the quality of the shelter, based on guidelines provided during training. The quality of shelters in Suva, Serua and Cakaudrove were found to be 'especially low'. Both Suva and Cakaudrove included 'very bad' shelters. Deprivation in Suva was considered to be more polarized, with 'larger numbers living in poor or good quality housing'. By contrast, shelter quality in Nadi and Malomalo was 'especially high' (as in, the largest proportion of their respective populations were living in good or excellent quality houses, a large number in moderate quality houses, and only a minority living in dwellings classified as 'in poor condition'). Studies of urbanization are cited as explaining a rise in squatter settlements in urban areas in the last 15 years, and especially in the Suva-Nausori corridor, consequent upon the expiry (and non-renewal) of land leases held by Indo-Fijians.

The polarised nature of shelters in Suva makes sense – Suva would have the largest numbers of high quality homes, as well as the largest numbers of poor shelters in informal settlements. Ethnic breakdowns of population figures for Nadi and Malomalo may possibly provide an explanation for the especially high quality housing in these tikina.

Residents in urban areas were found to be more deprived than rural residents, and deprivation, in respect to quality of shelter, was more polarised in urban locations, with houses in urban areas more likely to be rated as 'Excellent' and more likely to be rated as "Poor", than those in rural areas. This was not considered surprising given the concentration of Fiji's urban poor in squatter settlements and informal housing with many living in dilapidated shelters made out of pieces of wood and corrugated iron, according to Naidu and Matadradra (2014).

Some general comments on shelter

Occupancy (or numbers of people in a house) should be included as an indicator.31 Over-crowded dwellings are a pronounced feature of iTaukei households in urban areas, because of the high cost of urban rental accommodation, high unemployment rates, the ethic of caring for one's kin and customary expectations by visiting (though often long staying) rural relatives of being housed by urban based kin. Overcrowding is a particular feature of poor households, and larger number of occupants 'exacerbate the stresses on their already low household incomes' (FBoS 2015:7). Correlating intra-household occupancy, wages/ incomes and ethnicity could shed light on who the income earners are (by age, gender, education and employment status) and the number of dependents each income earning member of the household is supporting. Overcrowding in towns may be an important factor in measuring intra-household deprivation in Fiji, not only because it may differentially impact the health (especially communicable illnesses) and diet/nutrition of household members, but it can entail gender-specific safety risks, particularly in respect to sexual abuse. As such, there would be value in correlating occupancy with gender differentials in other indicators potentially related to overcrowding.

Energy

Here the study focused on household related variables.

Cooking Fuel

The main sources of cooking fuel were firewood (44% of the households), crop residue (23%) kerosene (23%) and gas (8%). Sixty nine percent of households also accessed a secondary source of fuel, kerosene (48%), gas (25%) and firewood (25%). "68% of households relied on open fire without a chimney" and a further 26% on open fire with a chimney, and 2% on a closed stove with chimney.

Because of inclusion of the indicator on cooking fuel that included exposure time and health problems from exposure, women were found to be 'considerably more deprived' than men in this dimension. This is rightly explained as reflective of the gender division of labour and unequal gender-based distribution of household responsibilities. The report states that the statistics are striking – 45% of men in the sample (669) were not exposed at all to cooking fumes, compared to 8.6% of women. Average exposure time for the men was 24 minutes, compared with 1¾ hours for women. Women experienced smoke-related health problems at twice the rate of men (24% cf. 12%), and their health problems were 'much more significant' than those experienced by men, with 24% experiencing severe problems (cf. 8.6% of men). Some 58% of men experienced only minor health problems (cf. 33% of women), and 33% experienced moderate problems (cf. 4% of women).

The difference in average cooking fuel exposure time between *iTaukei* (70 minutes) and Fijians of Indian descent (57 minutes), at 13 minutes appears relatively small, but is 23% longer. A much larger proportion of *iTaukei* (45%) suffered health problems than Fijians of Indian descent (25%), and the health problems of *iTaukei* were more severe. The difference is explained in

[31] See box: 'Occupancy and crowding in Fiji'

reference to the type of fuel used. But apart from more significant differences in the use of crop residue and gas, the difference between *iTaukei* and Fijians of Indian descent appear relatively small. Explanation is sought in the MDF study's noting that more Fijians of Indian descent in urban squatter settlements use wood 'outside the roofline of the dwelling, while *iTaukei* households use kerosene stoves inside formal urban dwellings'.

Explanation could also be sought in the more common practice of open-fire cooking outdoors among *iTaukei,* which has long been linked to a high incidence of trachoma and bronchial problems. Disaggregating the data by sociocultural groups for the 68% of households using 'open fire without a chimney' might shed light on this.

Cooking fuel and settlement type

Correlation of cooking fuel use with settlement type indicated that kerosene was the primary cooking fuel in informal settlements, whereas firewood, followed by crop residue, were the main cooking fuels in rural locations. There was an almost identical level of firewood use in urban and informal settlements. These findings were said to be consistent with other studies that have shown firewood and kerosene to be the main sources of cooking fuel in urban and informal settlements (e.g. Naidu and Matadradra). Gas was used in all three settlement types with urban areas showing a slightly higher use of gas.

The findings concurred with the MDF study (2013:66) which found more than 90% ethnic Fijians and 80% Indo Fijians in rural areas use wood for cooking, the rest predominantly use kerosene.

Electricity

84% of households in the sample had electricity, and 69% reported it as very reliable. The finding that 79% of iTaukei had electricity compared with 90% of Fijians of Indian descent and that iTaukei with access to electricity have fewer hours of access each day and rate their electricity as 'less reliable' indicated differences in deprivation between sociocultural groups. The suggested 'strong connection' between housing conditions, socio-cultural background and type of energy source, with people of iTaukei background considered more deprived than Fijians of Indian descent, misses the more significant explanatory connection with tikina and settlement type.

Rural electrification in Fiji is uneven and many of those connected to the grid in rural areas (such as in Ovalau, e.g. Vuma Village) receive electricity via a rechargeable prepay system (a recharge card is purchased and the meter is topped up with credit, much like a mobile phone). Supply is assured until the credit runs out.

Electricity supply to informal settlements is similarly uneven, power cuts for non-payment of bills are frequent, and some households even in Suva live without electricity.

The finding that *iTaukei* households were more deprived than Fijians of Indian descent in the energy dimension, as were older age groups, and residents in rural areas is consistent with the MDF (2013) Report which records a higher percentage of Fijians of Indian descent households having access to electricity than *iTaukei* households, and *iTaukei* tikinas in remote rural locations 'likely to have no access to electricity'.

Occupancy and crowding in Fiji

As noted by Claire Slatter in her review and reflections on this chapter, occupancy and crowding information were not presented at the item level in the first version of this report. However, as she notes, crowding has implications for health and sanitation, as well as psychological deprivation relating to lack of privacy and personal safety. As this is an important facet of deprivation, here we present item and individual data decomposed by gender, age, and location for occupancy and crowding data measured for the IDM Fiji.[32]

The table below presents a frequency distribution for the number of other people sleeping in the participant's room, e.g. 1488 respondents indicated one other person in their sleeping space the previous night. Answers ranged from 0 to 12 people, with a mean average of 1.41 other people sleeping in the room.

Table 9: Number of other people sharing the same sleeping space as respondent the previous night

No.	Frequency	Percent
0	545	18.4
1	1488	50.2
2	525	17.7
3	207	7.0
4	105	3.5
5	43	1.4
6	34	1.1
7	8	.3
8	2	.1
9	6	.2
11	1	.0
12	1	.0
Total	2966	100.0

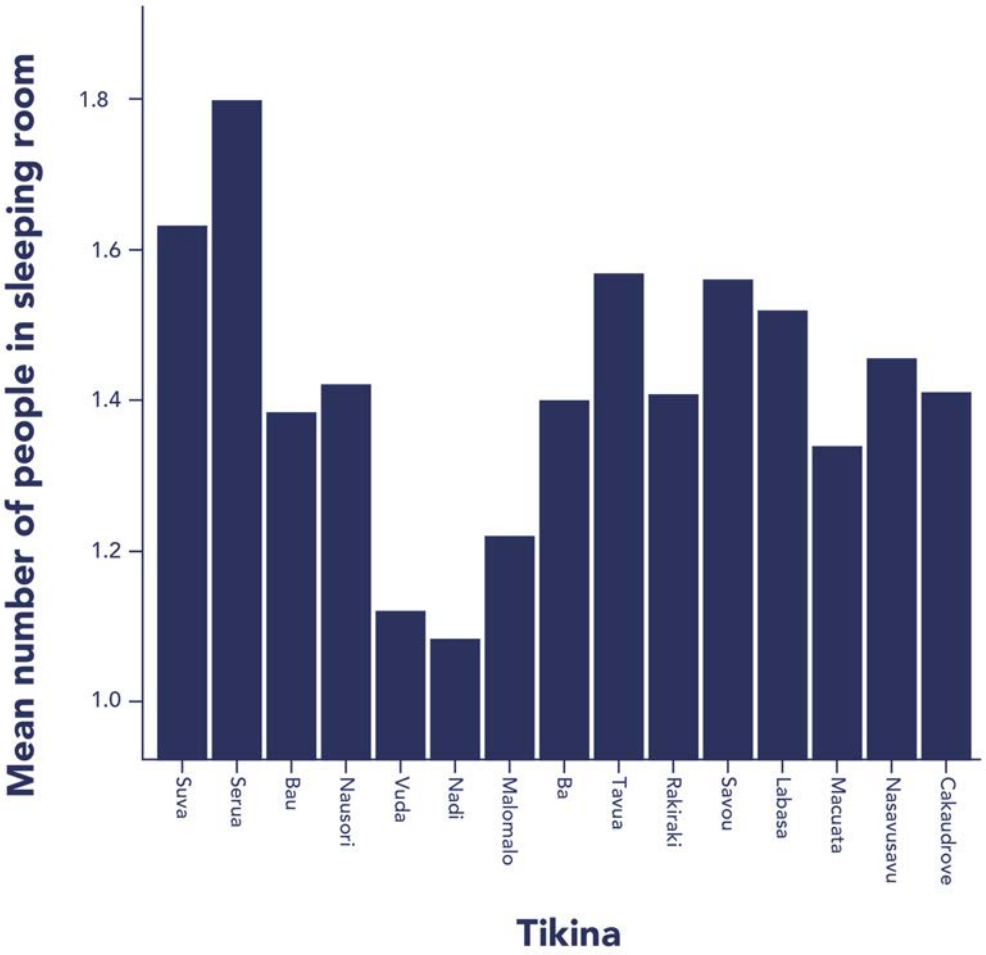
As hypothesised by Dr Slatter, women share their sleeping space with more people (an average of 1.52 people) compared to men (an average of 1.30 people). This is likely to reflect that women in the sample are more likely to be sharing a room with children, though sharing rooms between relatives and other adults is also a possibility. *iTaukei* also experienced more crowding, sharing their sleeping space with an average of 1.63 people compared to Fijians of Indian descent (averaging 1.18 people in the same sleeping room).[33] The number of people sleeping in a room also differed by Tikina, with more crowding in Serua, Tavua, and Labasa, and low levels of crowding in Nadi (see graph below). Crowding differed slightly by sector, with individuals living in rural (1.44) and informal (1.45) settlements experiencing slightly more crowding than urban sectors (1.33), however this difference did not reach statistical significance.

These results indicate initial differences in crowding by gender, sociocultural background, and location, but the results still only present a simple quantification of individuals sleeping in the same room. It is not possible on these results to comment on more subjective aspects of crowding, such as psychological responses in terms of acceptability, or physical discomfort.

[32] A recently revised version of the IDM Fiji survey includes even more information about these issues.
[33] This mirrors a similar issue for cooking stove location, with more *iTaukei* having a cooking stove located in their living or sleeping room.

Individuals may share a room with more children (or adults) but not experience discomfort due to cultural norms or personal preference; or they may share a large room with more people because there is the space to do so, or because there is limited accommodation space. In other words, the data available from the IDM study does not provide all the information needed to draw conclusions about the reason for crowding and what it signifies. As a multitopic survey, the IDM is unlikely to provide all relevant information needed about a dimension. However, it can highlight areas where further investigation is warranted.

Figure 16: Mean number of other people sleeping in same room by Tikina



CHAPTER SIX
WASH IN FIJI

6. WASH IN FIJI

Water, Sanitation, and Hygiene (WASH) are essential requirements for a minimally decent life and key dimensions for assessing poverty. The IDM survey assesses achievements in WASH via two dimensions: Water (encompasses quality of water source, distance from water sources) and Sanitation (encompasses type of primary and secondary toilet, to recognise the need for access to toilet facilities at home and away from home). This chapter focuses primarily on exploring WASH results in the IDM Fiji study in terms of sex and geography, i.e. differences by sex, settlement type, and Tikina. Vanisha Mishra-Vakaoti provides commentary on these results.

Water dimension (scored then converted to 0-10 scale)
Indicator 1: Water source and distance:

1 = Water source hour or more return trip
2 = Unprotected water source
3 = Private vendor or spring/well
4 = Public tap or piped outside dwelling
5 = Piped into dwelling

Indicator 2: Water quantity
How often do you have enough water to meet your personal needs?

1 = Never
2 = Rarely
3 = Sometimes
4 = Often
5 = Always

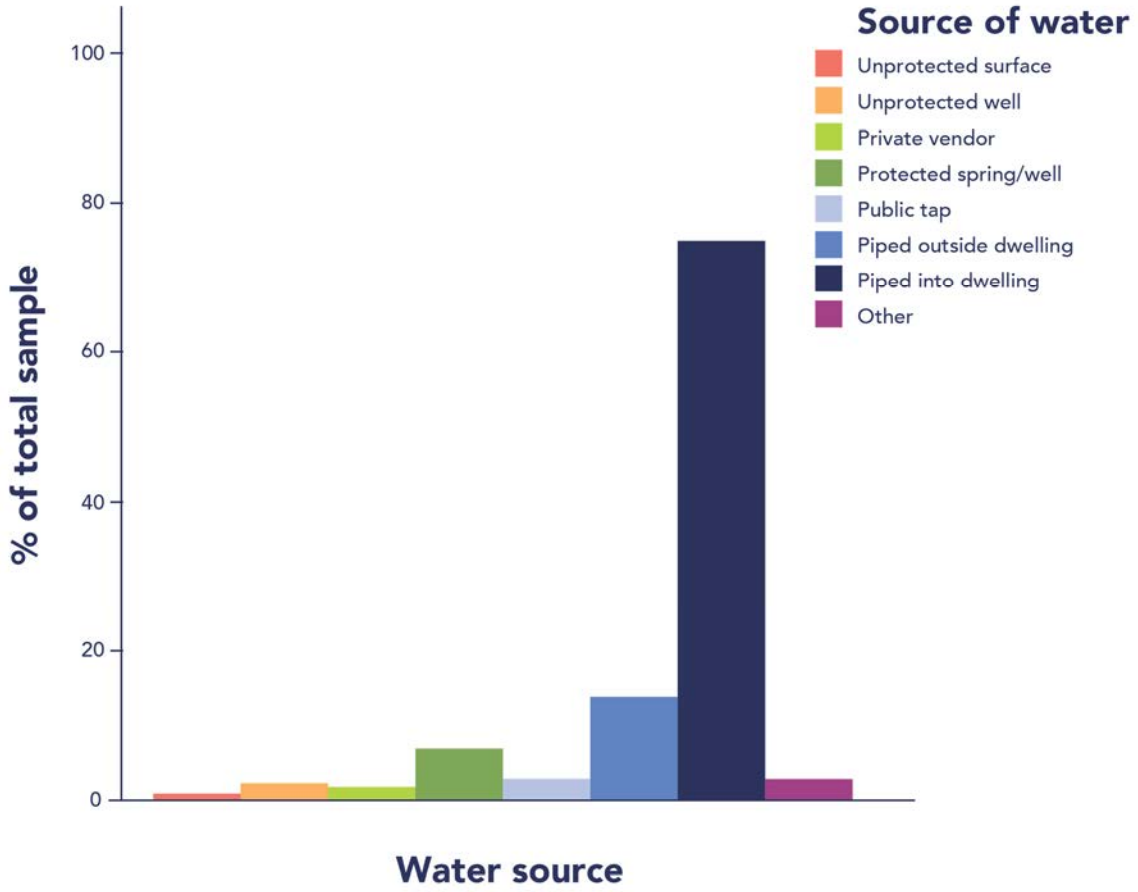
Sanitation dimension (scored then converted to 0-10 scale)
Indicator 1: Primary toilet
1= Bush, field, or river / bucket or container removed from dwelling
2= Pit latrine without slab
3= Improved shared pit or latrine
4= Public flushing toilet
5= Private flushing toilet

Indicator 2: Secondary toilet
1= Bush, field, or river / bucket or container removed from dwelling
2= Pit latrine without slab
3= Improved shared pit or latrine
4= Public flushing toilet
5= Private flushing toilet

Results

Results indicate overall low levels of deprivation around issues pertaining to water access and use within this sample. The majority of citizens (72%, or over 2000 people) enjoy water piped into their dwelling, and the majority travel less than 10 minutes to their water source (see charts below). Nearly 60% of the sample report that they always have enough water for their personal needs.

Figure 17: Percent of sample using each water source



As noted with the energy dimension, the IDM can draw attention to gendered deprivation due to differing needs and priorities of men and women. At the indicator level of the Water dimension there was a statistically significant difference between men and women in terms of frequency of having enough water, with women more likely to report that they do not have enough water to meet their personal needs. This difference likely reflects women's primary responsibility for cooking, cleaning, and washing, and requirement for water beyond drinking and bathing. The chart below illustrates the percentage of men and women reporting the frequency with which they have enough water to meet their personal needs. Men are more likely to report that they 'always' (57%) and 'often' (12.5%) have enough water, compared to the percentage of women reporting that they 'always' (52%) or 'often' (11%) have enough water. Almost double the number of women report 'rarely' having enough water (12.2% compared to 6.1% of men); however, slightly more men (4%) than women (3%) report 'never' having enough water.

Figure 18: Frequency of sample travelling each distance to their water source

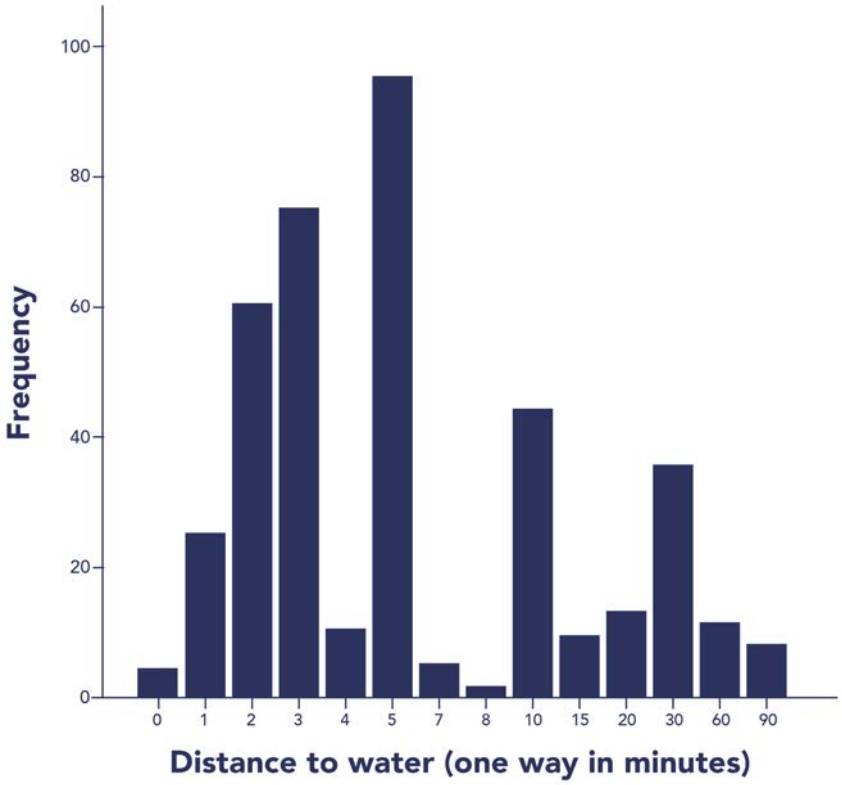


Figure 19: Percent of sample reporting frequency of adequate water quantity

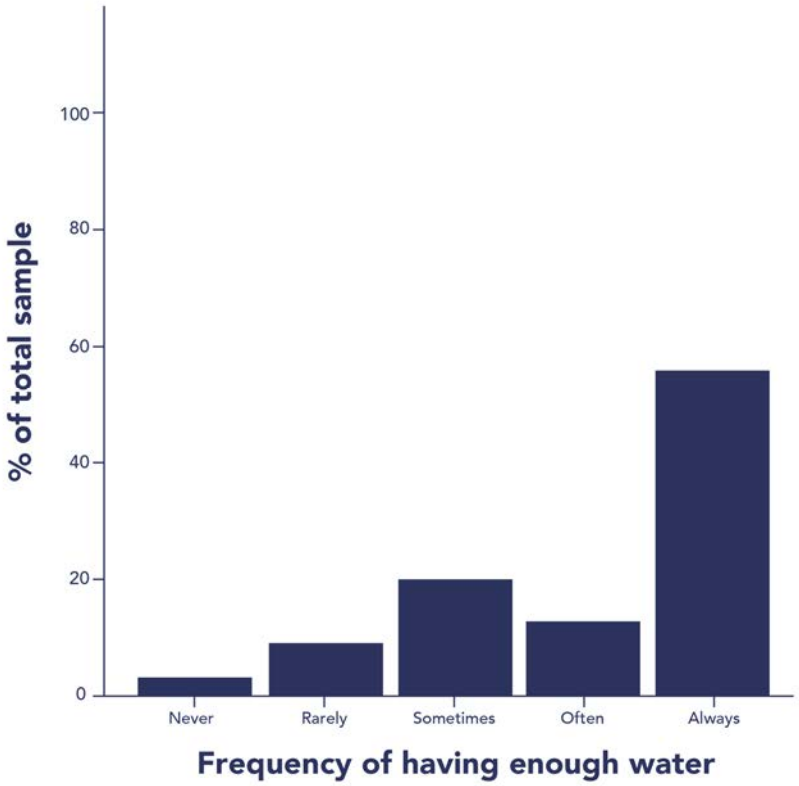
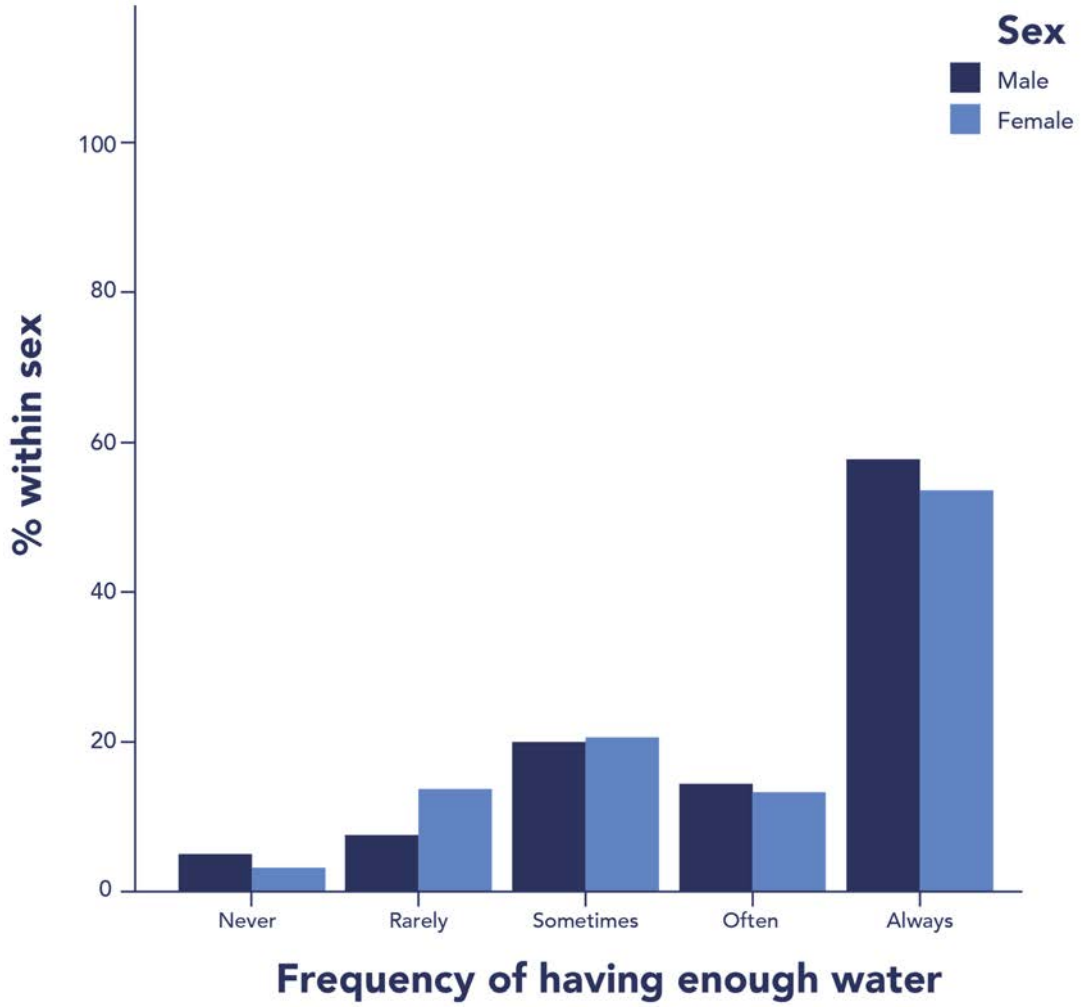


Figure 20: Percent of each sex reporting frequency of adequate water quantity



In terms of geographical differences in water deprivation, residents of urban settlements scored significantly higher on the water dimension than the other settlement types, indicating that rural and informal settlements are more deprived in the Water dimension. There is no significant difference between rural and informal settlements. Examining the Water dimension indicators, there are differences between settlement types in each of the Water dimension indicators (see charts on next page). Although the most common water source in each settlement type is water piped into the dwelling (85% in urban settlements; 98% in informal settlements; 66% in rural settlements), there is more variation in water source in rural areas, with water more likely to be sourced from wells, springs, private vendors (e.g. purchased water), public taps, and pipes outside the dwelling.

In terms of water quantity, urban areas report the highest levels of always having enough water for personal needs, followed by rural areas. Informal settlements struggle the most with having enough water for personal needs, with nearly 40% of respondents in informal settlements reporting that they ‘rarely’ or ‘never’ have enough water to meet their personal needs. Although their water supply is unreliable, residents of informal settlements travel the least distance to reach it, with 100% of respondents in informal areas reporting a distance of less than 10 minutes to their water source. Most residents of urban settlement travel less than 10 minutes to their water source, though close to 40% report travelling 10-20 minutes to their water source. The most variation in water distance is in rural settlements, where residents report travelling up to 90 minutes each way for their water.

Analysing these results at the indicator level builds a picture of how the dimension level results are derived, and how important it is to consider multiple indicators within a topic. Urban settlements are the least deprived in this dimension because the majority of residents' water is piped into their dwellings, always or often have enough water to meet their needs, and when travel is required to water sources, it is not far. Although rural and informal settlements do not differ to a statistically significant degree in the water dimension overall, we can see that their deprivation is different, with residents in informal settlements struggling with water reliability, and residents of rural areas struggling with travelling long distances to find water. Suva and Savou were the most deprived Tikinas in the water dimension, and Nadi, Nausori, and Labasa, were the least deprived. At a workshop to discuss these initial results in Suva in February 2016, stakeholders working in informal settlements in Labasa and Suva noted that households often share a water metre and if a household is not part of a group, they may not have access to water.

Figure 21: Percent of sample within settlement type reporting frequency of adequate water quantity

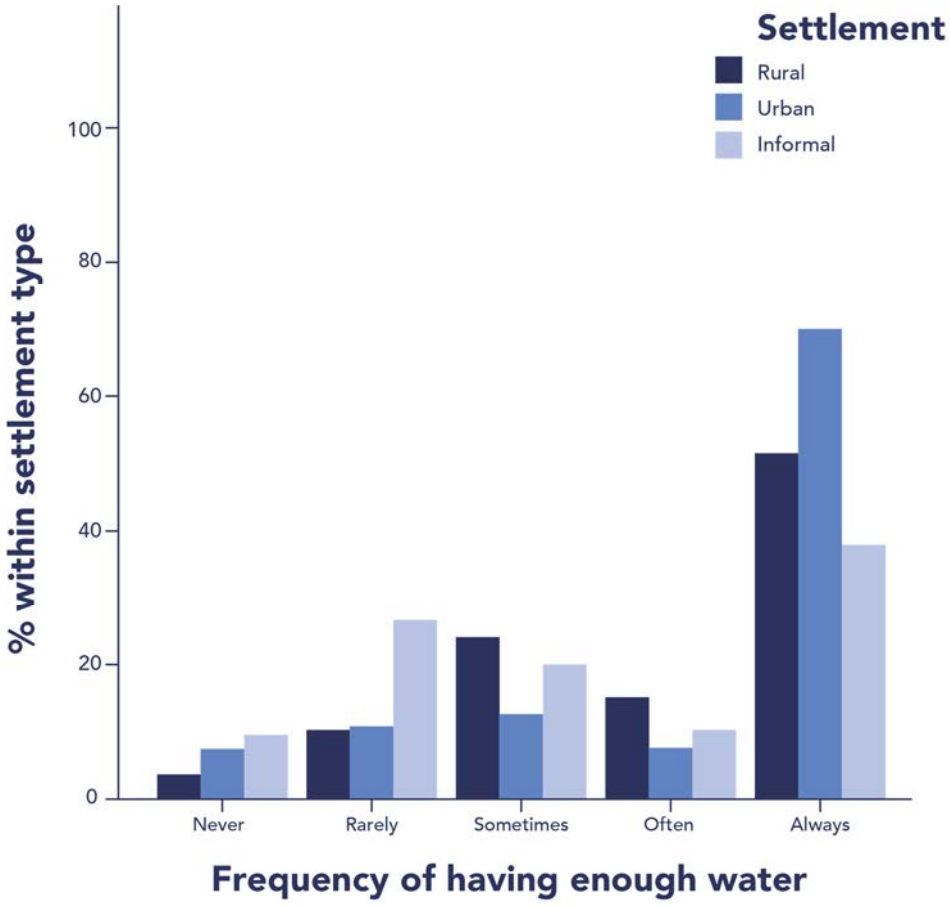


Figure 22: Percent of sample within settlement type with access to each water source

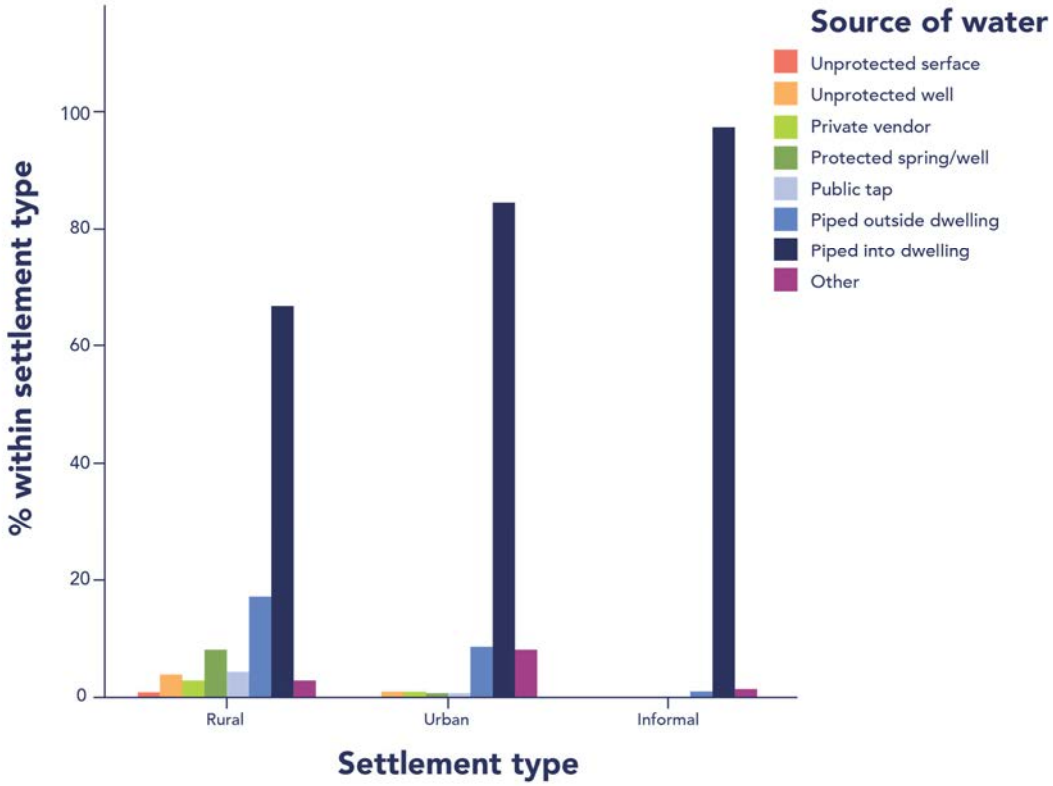
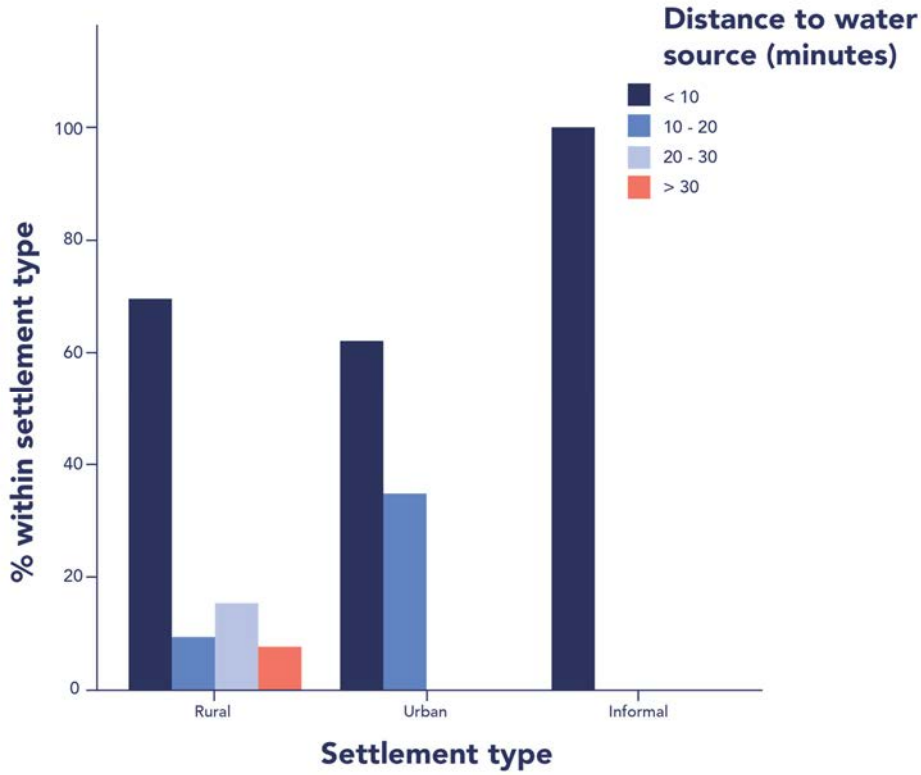
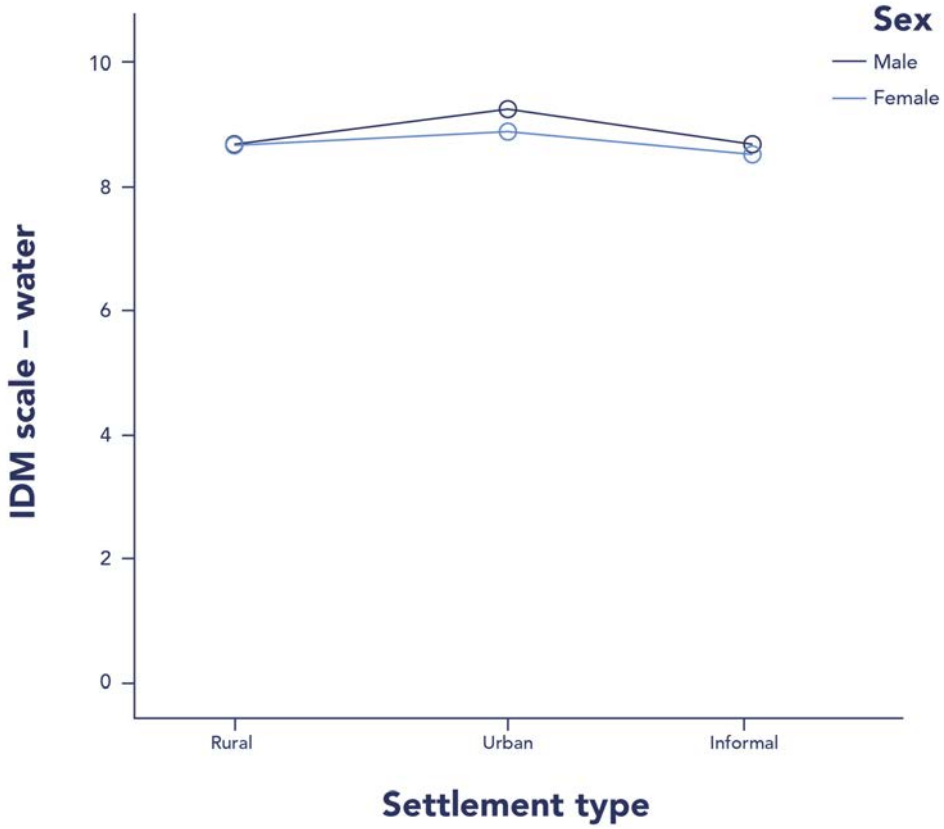


Figure 23: Percent of sample within settlement type travelling distance to water source



The final analysis of the Water dimension is to see if there is an interaction between sex and settlement type, in order to clarify whether there are gendered differences in Water deprivation within settlement type. A significant interaction was found between sex and settlement. Specifically, there were no gender differences in Water dimension deprivation in rural or informal settlements. In urban areas, however, women were significantly more deprived than men (this interaction is plotted in the figure below). Examining the Water dimension indicators between sex and settlement, it was found that women in urban areas were more likely than men to report that they did not have enough water to meet their needs.

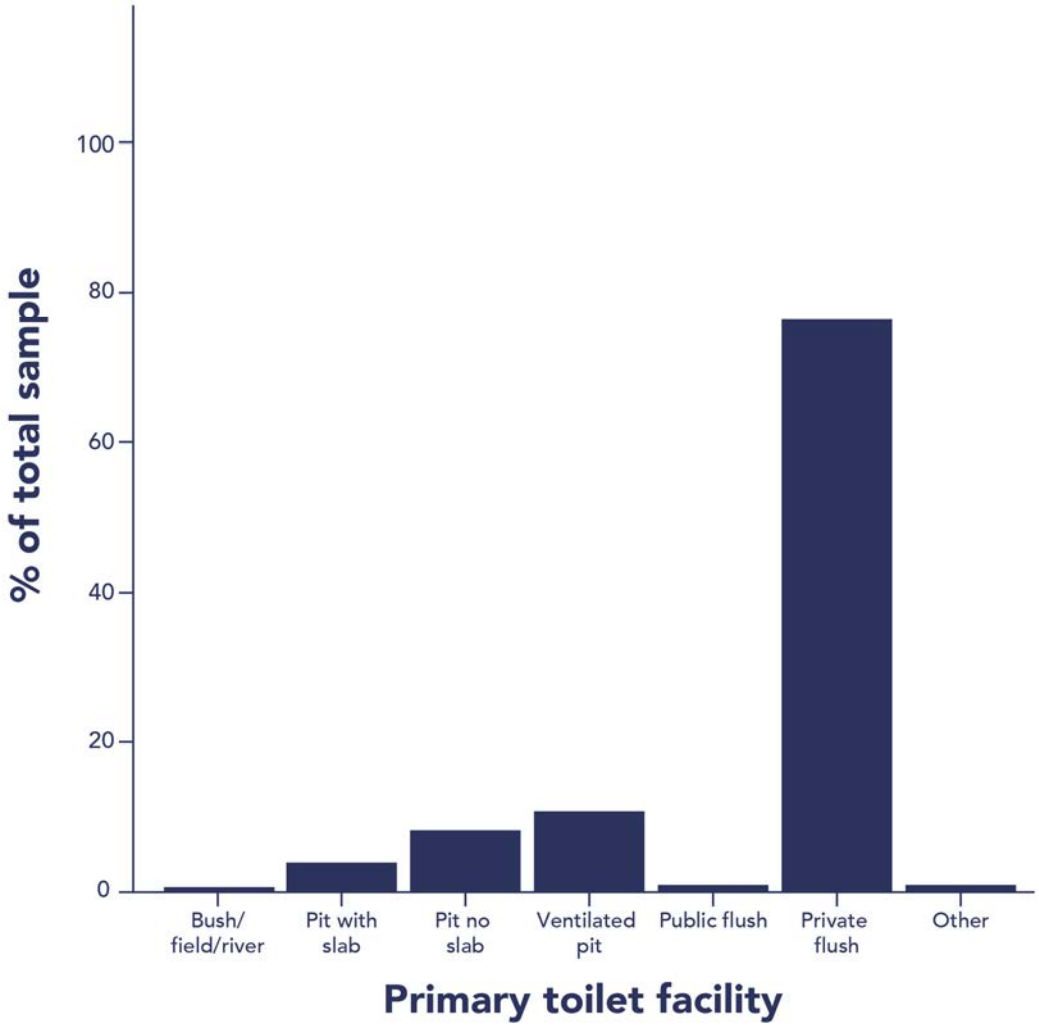
Figure 24: Mean water dimension score by sex and settlement type



Taking together the results of the Water dimension analysis, we can see that although urban settlements are less deprived in the Water dimension, there is more gender inequality within these settlements, with women being more deprived, specifically in terms of having enough water to meet their personal needs. Although residents of rural areas have to travel further for their water, and residents of informal settlements have unreliable water quantity, there are no gender disparities in water access and quality in these settlement types.

Moving on to the Sanitation dimension, the overall sample mean was 8.9, indicating low average levels of deprivation in this dimension in the sample. Overall results at the indicator level revealed that 77% of the sample have a private flush toilet, with the most common other type of toilet being a pit. 38% of the sample regularly use a secondary toilet, with the most common kind of secondary toilet being a private or public flush toilet. The IDM assesses primary and secondary toilet access because access to safe toilet facilities outside the home is particularly important for women and lack of access can be a barrier to participation, a health issue and a safety issue. Results of the secondary toilet analysis are presented below.

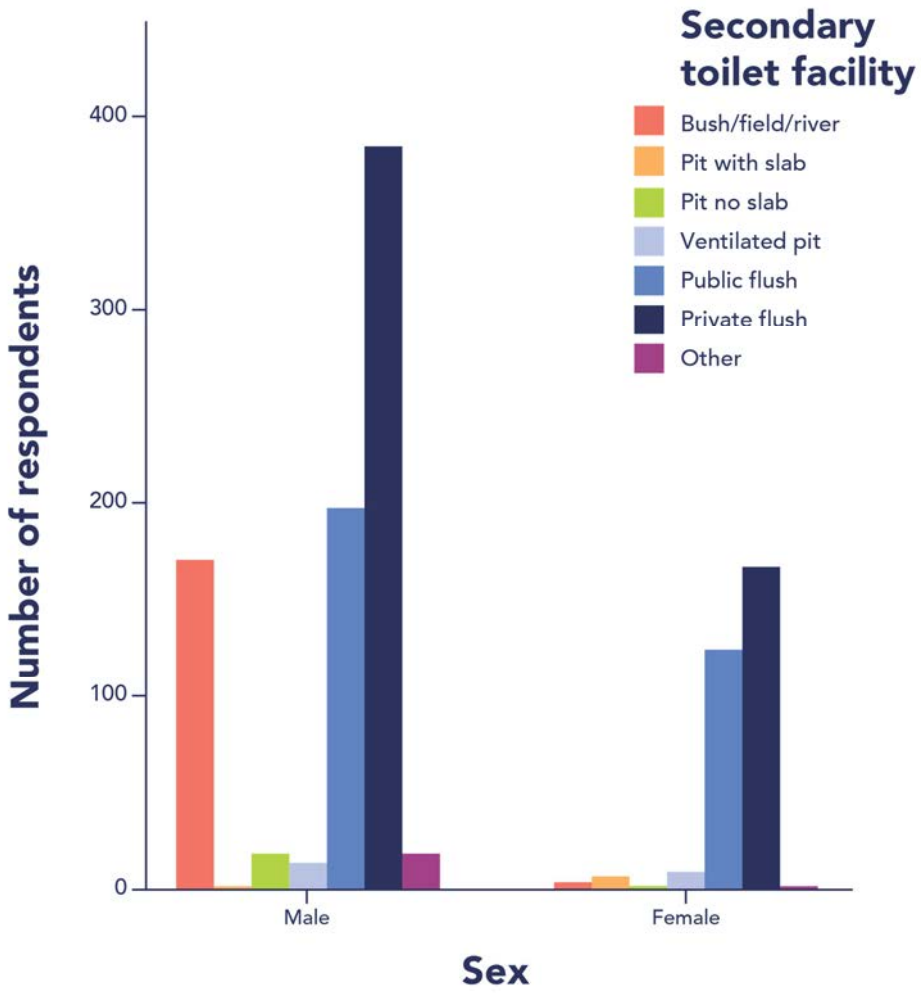
Figure 25: Percent of sample with access to each primary toilet facility



In terms of primary toilet facilities, men and women do not differ significantly. However, differences do emerge in access and type of secondary toilet. Despite a roughly equal number of men and women in the sample, more than twice as many men than women have access to a secondary toilet (810 men vs. 323 women), and of those with access to secondary toilets, 34% of men and only 15% of women have access to a private flush secondary toilet. This could reflect more women working from home and not requiring a secondary toilet.

More men than women also use a public flush toilet. The most noticeable difference is that men are able to use a bush/field/river as a secondary toilet (or at least report that they do). 15% of men who use a secondary toilet use a bush/field/river, compared to 0.4% of women who use a secondary toilet (see frequency chart below).

Figure 26: Count of individuals per sex using each type of secondary toilet



There are also differences in the Sanitation dimension by settlement type and Tikina. Rural settlements (*M* = 8.7) were more deprived in the Sanitation dimension than urban (*M*= 9.4) or informal (*M* = 9.2) settlements, which in turn did not significantly differ from each other.

There were also indicator-level differences in Sanitation between settlement type. Although private flush toilets were the most common in each settlement type, urban settlements—as in the Water dimension—showed less variation in facilities, with only small numbers of residents using other primary toilet facilities. Also as in the Water dimension, citizens in rural areas used the most varied number of primary toilet facilities. Compared to urban and rural areas, ventilated pits were more commonly used in informal settlements.

Further differences emerged in secondary toilet use. Residents in rural areas again reported more varied secondary toilet faculties, with 24% of rural residents who used secondary facilities utilising the bush, fields, or river (compared to 3.1% of urban residents and 1.3% of informal settlement residents).

The above information is presented on the next page, though it should be noted that although the figures are presented in percentage of respondents within each settlement type, there are unequal numbers of respondents in each settlement type, e.g. for primary use of flush toilet, percentages correspond to 115 respondents in informal settlements, 643 respondents in urban settlements, and 1518 respondents in rural areas.

Figure 27: Percent of sample using each type of primary toilet per settlement type

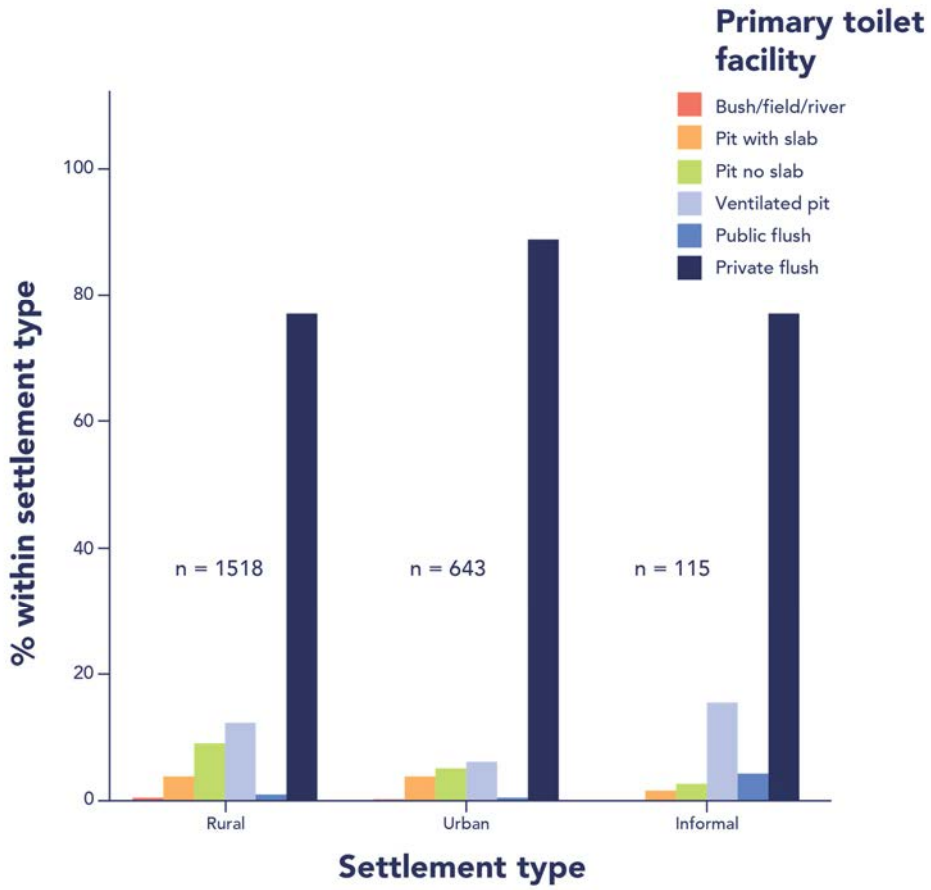
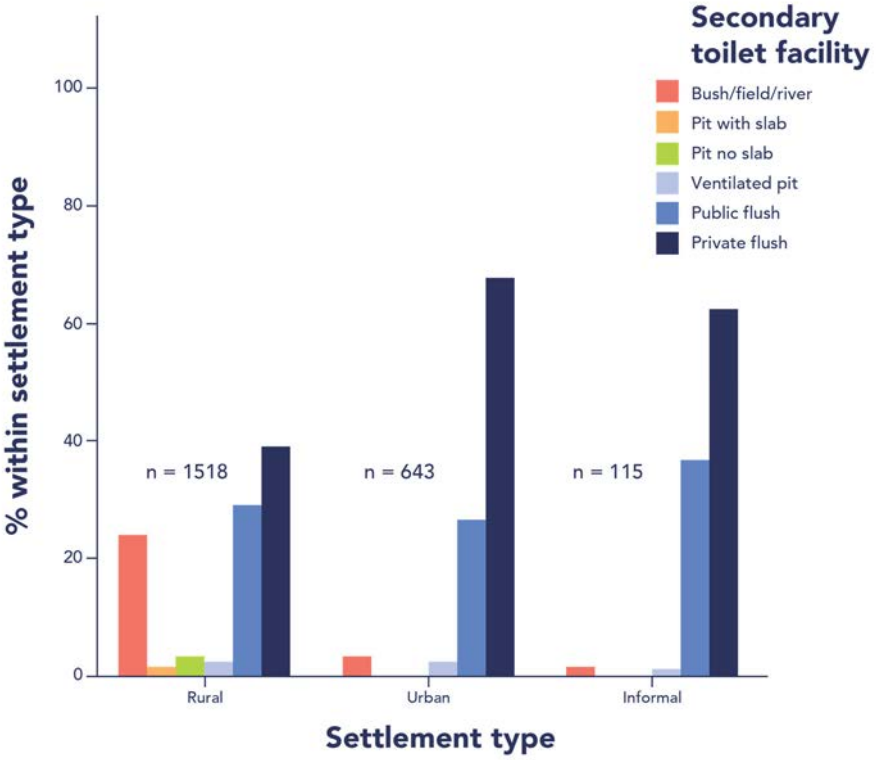
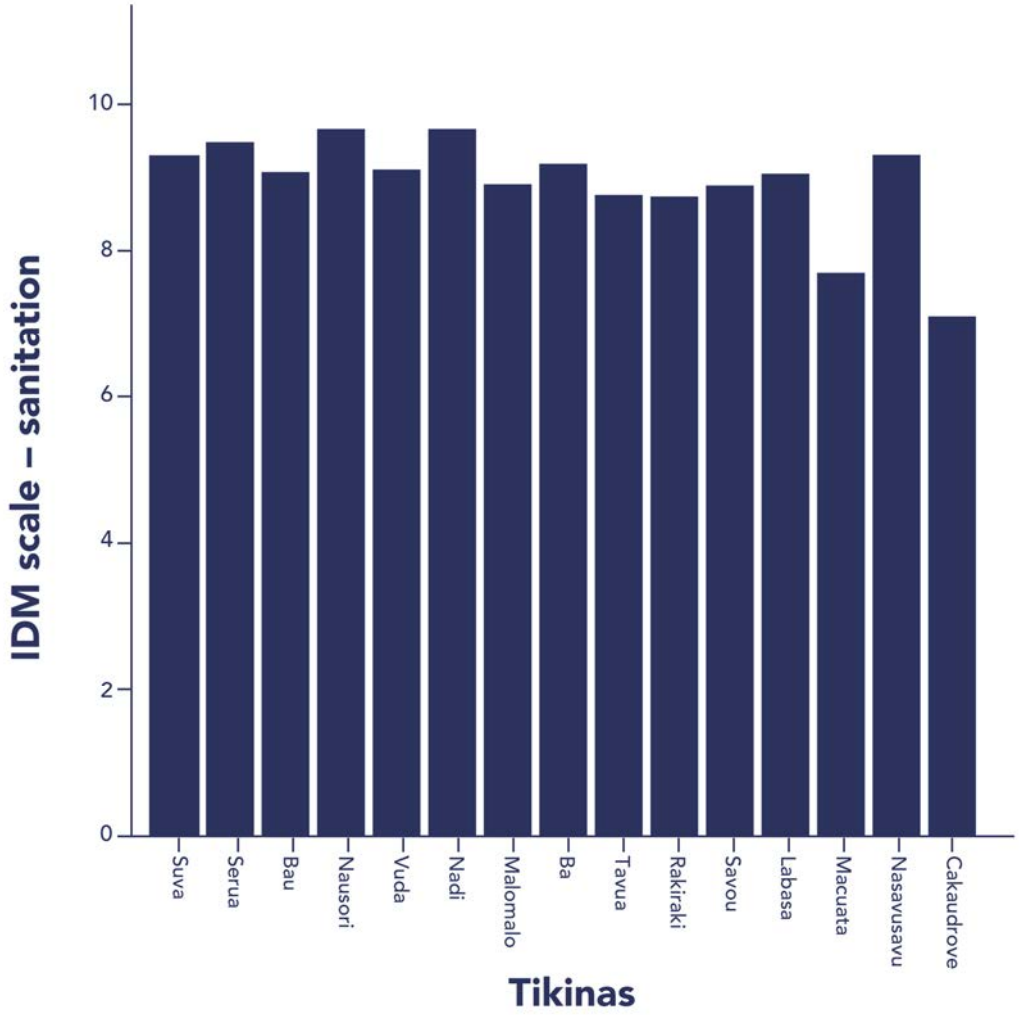


Figure 28: Percent of sample using each type of secondary toilet per settlement type



There were also differences between Tikinas in the Sanitation dimension, with Cakaudrove having the most deprivation in this dimension, followed by Macuata and Savou. Mean toilet dimension scores are presented for all Tikinas below.

Figure 29: Mean sanitation dimension score per Tikina



Finally, it is possible to correlate the Water and Sanitation dimensions and crosstabulate their indicators. The Sanitation and Water dimensions were correlated at 0.30, a statistically significant correlation indicating that citizens who are deprived in the Water dimension are also likely to be deprived in the Sanitation dimension. Interestingly, this correlation was higher for women (0.31) than for men (0.17), indicating that women who are deprived in the Water dimension are more likely to also be deprived in the Sanitation dimension than their male counterparts. Approximately 13% of women who are Extremely or Very deprived in the Water dimension are also Extremely or Very deprived in the Sanitation dimension, compared to 7% of men.

At the indicator level there are also overlaps between categories of Water and Sanitation facilities. The graph on the next page shows the overlap between primary water source and primary toilet facility. It shows that citizens with rudimentary water sources are also more likely to use rudimentary toilet facilities. For example, over 80% of citizens who have water piped into their dwelling also use a private flush toilet, whereas only 45% of those who use unprotected surface water have a private flush toilet.

Reflections: Vanisha Mishra-Vakaoti

Information on Water Supply, Sanitation and Hygiene (WASH) across Fiji has been limited. The United Nations Fund for Children (UNICEF) facilitates a WASH in Schools program to provide "improved access to water, sanitation and hygiene facilities in schools. This includes training for teachers on hygiene promotion that incorporates hand washing and menstrual hygiene management, while working with school committees and relevant authorities to develop minimum standards for WASH in Schools".[34] Non-Governmental Organisations in Fiji (such as the People's Community Network and Live and Learn Environmental Education) advocate for greater water, sanitation and hygiene services and programs for those living in informal settlements. The 2015 World Bank Group report *Unsettled: Water and Sanitation in Urban Settlement Communities of the Pacific*[35] provides a comparative review of water and sanitation services in informal settlements in the capital cities of the Solomon Islands, Fiji, Vanuatu and Papua New Guinea. The review found that the situation in Fiji was better compared to the other countries studied. This is consistent with the IDM Fiji study findings which indicate that the majority of Fijians (72% or over 2000 people) have water piped into their dwellings. When this is further investigated, we find that 85% in urban settlements, 98% in informal settlements and 66% in rural settlements have water piped into their dwellings.

The overall IDM results for the Water Dimension are consistent with the existing, albeit limited, information on WASH in Fiji. Of significance are the findings on the impacts of poor water and sanitation services by gender. Women were more likely to report not having enough water to meet their personal needs. Fifty-two per cent of women report that they 'always' have enough water, compared to 57% of men who report the same. In Fiji, responsibility for most household tasks related to water and sanitation fall on women, who often work in the home. 'Personal use' in the Fiji IDM survey includes activities such as washing clothes, and cooking, to assess women's needs for water in the home. These activities are however arguably linked to unpaid housework work rather than strictly personal use. Going forward, clearer separation of 'personal' use and use related to unpaid care responsibilities might assist more accurate assessment of the gender-related aspects of water use, including the extent to which women are able to access sufficient water to meet both household and personal needs. Consideration might also be given to asking about access to primary and secondary sources of water, to attempt to capture water access outside the home, such as at places of work. This could identify whether women's access to water outside the home is affected by lower rates of formal sector workforce participation and whether women are further disadvantaged in access to water if they only have access to a single source in the home.

The IDM Fiji study has identified how deprivation is experienced differently between rural and informal settlements (where residents in informal settlements struggle with water reliability and residents of rural areas have issues related to access to water). Rural and informal settlements are more deprived in the Water Dimension than urban dwellers. While uneven water distribution, lack of a plentiful supply and irregular water supply across the country has been documented[36] [37] [38], albeit irregularly and infrequently over the years, the IDM presents new data and insights that illustrate the difference in water related issues across different geographic areas, which has not appeared comprehensively in other studies to date.

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[34] "Looking Back, Moving Forward", *United Nations Children's Fund (UNICEF Pacific)*, accessed 17 May, 2017, https://www.unicef.org/pacificislands/Look_Back_Moving_Forward_final_web.pdf

[35] "Unsettled: Water and Sanitation in Urban Settlement Communities of the Pacific", *World Bank Group*, accessed 17 May, 2017, https://openknowledge.worldbank.org/handle/10986/23336

[36] "Drinking Water Quality in the Pacific Island Countries: Situation Analysis and Needs Assessment", Anumitra V Mirti & Sarah Davies, accessed 17 May, 2017, http://www.pacificwater.org/userfiles/file/JC0181.pdf

[37] Vinesh Kumar, "Water Management in Fiji," International Journal of Water Resources Development, 26, no. 1 (2010): 81, doi: 10.1080/07900620903392216.

[38] "National Integrated Water Resource Management Diagnostic Report Fiji Islands", SOPAC, accessed 17 May, 2017, http://ict.sopac.org/VirLib/MR0637.pdf

The data on distance travelled to access water in rural settlements (up to 90 minutes each day) is cause for concern, especially where the responsibility of water collection rests with women and children. Access to water and quality of water in these areas is further compounded during bad weather and natural disasters[39] [40] and puts women and children at even greater risk.[41]

Over 77,000 people (7% of Fiji's population) live in about 200 informal settlements around Fiji.[42] The Greater Suva area has over 100 informal settlements, which are growing, in terms of both the size of each settlement and the number of settlements.[43] Informal settlements report the most unreliable water supply, though on the whole residents of informal settlements travel the least distance to reach water (100% of respondent in informal areas reporting a distance less than 10 minutes to their water source). The Water Authority of Fiji (WAF) provides piped water to all areas (including informal areas).[44] No legal tenure is required by the WAF to provide a water connection, with residents of informal settlements able to apply for formal permission from the Department of Housing to allow WAF to provide "temporary water connections".[45] The intermittent water supply in these areas is further compounded by poor storage of water (including poor quality storage containers or broken PVC distribution lines[46]) which compromises the quality of water.

On the Sanitation Dimension, the IDM findings were again consistent with the World Bank Report showing low levels of deprivation, though data on sanitation is even more scarce than that on water. In its survey the World Bank found that in urban areas, including formal sewered neighbourhoods, the use of shared or private unimproved latrines and open defecation for Fiji is about 8%, the lowest of the countries studied.[47] The WAF only provides sewerage services to formal areas and there are currently no attempts to provide sanitation services to settlements.

Rural settlements are more deprived than informal and urban settlements (with no significant difference between the deprivation of informal and urban settlements). Private flush toilets were the most common in each settlement type, with ventilated pits being the more commonly used type in informal settlements. As in the Water Dimension, rural areas reported more variety in secondary toilet facilities which included the bush, fields or rivers.

Sanitation issues are further exacerbated in rural areas during and after natural disasters.[48] One year after tropical Cyclone Winston a large population of residents in Rakiraki have resorted to using and continue to use pit toilets as their primary toilet while funds are being sought to rebuild sanitation services.[49]

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[39] "No Water and Food," Losalini Bolatagici, The Fiji Times, accessed 17 May, 2017, http://www.fijitimes.com/story.aspx?id=342806

[40] "Joint Press Release: 15 Primary Schools in Fiji Have Improved Water, Sanitation and Hygiene Facilities", *UNICEF Pacific*, accessed 17, May, 2017, https://www.unicef.org/pacificislands/1852_22463.html

[41] "Fiji Women's Groups United Against Sexual Violence", *Dateline Pacific*, accessed 17 May, 2017 http://www.radionz.co.nz/international/programmes/datelinepacific/audio/201794614/fiji- women's-groups-united-against-sexual-violence

[42] "7% of Fiji Population Living in Informal Squatter Settlements," *Pacific Islands Report,* accessed 17 May, 2017, http://www.pireport.org/articles/2016/07/12/7-fiji-population-living-informal- squatter-settlements

[43] "Unsettled: Water and Sanitation in Urban Settlement Communities of the pacific", *World Bank Group*, accessed 17 May, 2017, https://openknowledge.worldbank.org/handle/10986/23336

[44] Pacific Water and Wastewater Association Benchmarking Report (2012)

[45] "Unsettled: Water and Sanitation in Urban Settlement Communities of the pacific", *World Bank Group*, accessed 17 May, 2017, https://openknowledge.worldbank.org/handle/10986/23336

[46] "Unsettled: Water and Sanitation in Urban Settlement Communities of the pacific", *World Bank Group*, accessed 17 May, 2017, https://openknowledge.worldbank.org/handle/10986/23336

[47] "Unsettled: Water and Sanitation in Urban Settlement Communities of the pacific", *World Bank Group*, accessed 17 May, 2017, https://openknowledge.worldbank.org/handle/10986/23336

[48] "Fiji Red Cross Worried About Sanitation," *Radio New Zealand,* accessed 17 May, 2017, http://www.radionz.co.nz/international/pacific-news/298860/fiji-red-cross-worried-about- sanitation

[49] "Sanitation Issue," Repeka Nasiko, The Fiji Times, accessed 17 May, 2017, http://www.fijitimes.com/story.aspx?ref=archive&id=393237

It appears that in Water Supply, Sanitation and Hygiene, rural settlements are more deprived than both urban and informal settlements. The rapid growth of informal settlements has pushed the development of these areas to the forefront of the development agenda, perhaps at the expense of rural development. The World Bank Report[50] suggests that there is little advocacy for informal settlement improvement, in contrast to concerted efforts to advocate and improve urban and rural settlements. While this may be the case for urban settlements, the IDM indicates that the situation of WASH in rural settlements requires greater attention, and for the most part, in relation to WASH, informal settlements fare better than rural ones.

The collaboration between the People's Community Network (PCG) and the Government of Fiji, which has resulted in projects like *Lagilagi* (where Jittu Estate dwellers were relocated to low-cost housing) offers an example of how collaborations between NGOs and Government can improve situations for vulnerable communities. Joint efforts between NGOs, Government, and utility providers such as WAF have the potential to improve WASH conditions in rural settlements as has been done in informal ones. The IDM Fiji study has provided data that can inform focus and priorities.

[50] "Unsettled: Water and Sanitation in Urban Settlement Communities of the Pacific", *World Bank Group*, accessed 17 May, 2017, https://openknowledge.worldbank.org/handle/10986/23336

CHAPTER SEVEN
WOMEN AND HEALTH CARE IN FIJI

7. WOMEN AND HEALTH CARE IN FIJI

The IDM Health dimension comprises three indicators: health status, health access, and health quality, adapted from the Core Welfare Indicators Questionnaire and the World Health Survey.

Health dimension (scored then converted to 0-10 scale)

Indicator 1. Health status

When was the last time you had a significant illness or injury?
How long was it difficult or impossible for you to perform your usual paid or unpaid activity because of this illness or injury?

1 = Chronic illness
2 = Illness of 2 plus weeks' impact
3 = Illness of 1-2 weeks impact
4 = Illness of less than 1-week impact
5 = No recent illness or injury

Indicator 2. Health care access

The last time you had an injury or illness that needed treatment, did you receive this care?
From whom did you receive health care?

1 = No treatment, not trained professional
3 = Community health worker or nurse
5 = Medical doctor or specialist

Indicator 3. Health care quality

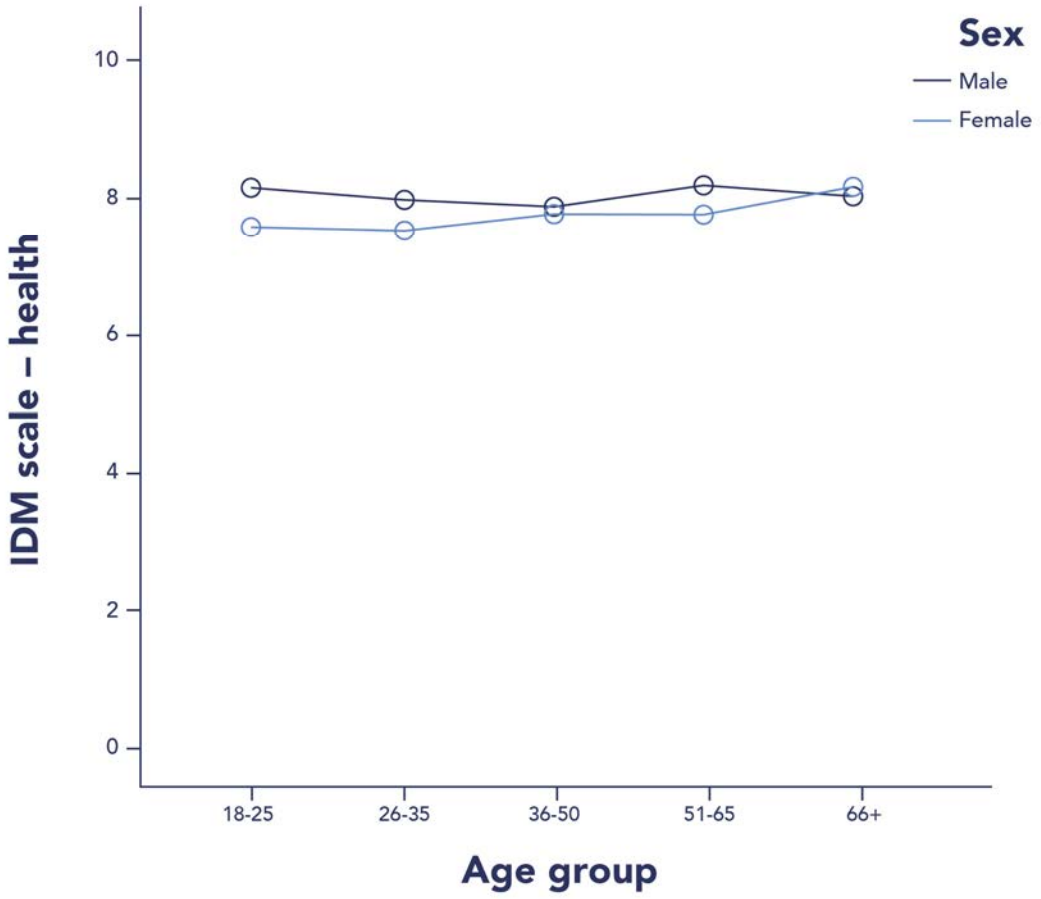
Did you experience problems [in your health care] with any of the following: skill; cleanliness; availability of treatment; respect; waiting time; location?

1 = Problems with quality in all aspects
2 = Accessed but multiple significant problems
3 = Two significant problems
4 = One significant problem
5 = No problems reported

Results

Women were overall more deprived in the health dimension than men, and respondents in rural areas were more deprived than those in urban areas. Although there was no main effect of age, a significant interaction was observed, in that younger women were more deprived in the health dimension than both younger men and older women.

Figure 30: Health dimension by age and sex



To investigate these results further, health dimension indicators were inspected overall, and for patterns by sex and age. Approximately 50% of participants had experienced an illness at some point in the last year. Of these, over half (55%) reported that their last injury or illness made it difficult or impossible for them to perform their usual paid or unpaid activities, with 60% of men and 50% of women reporting this difficulty. Men were also more likely to have reported a longer period of difficulty or absence from work as a result (e.g. 30% of men and 23% of women reported more than two weeks difficulty or absence from work).

Figure 31: Percent of sample reporting injury/illness making it difficult to perform usual activity, by sex

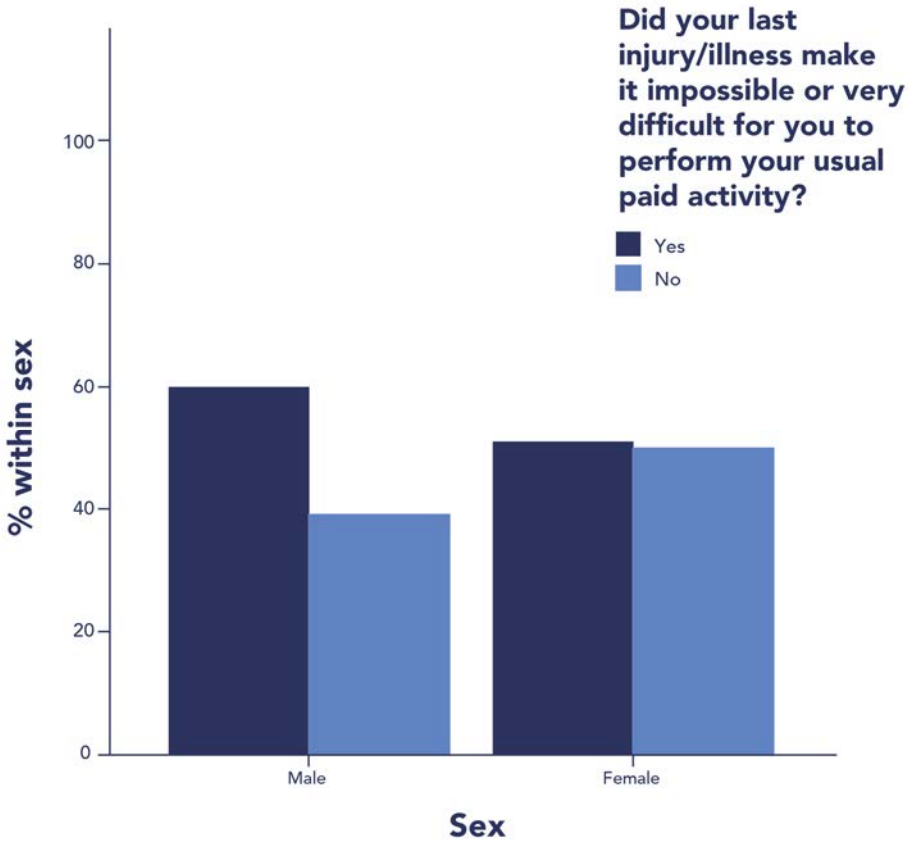
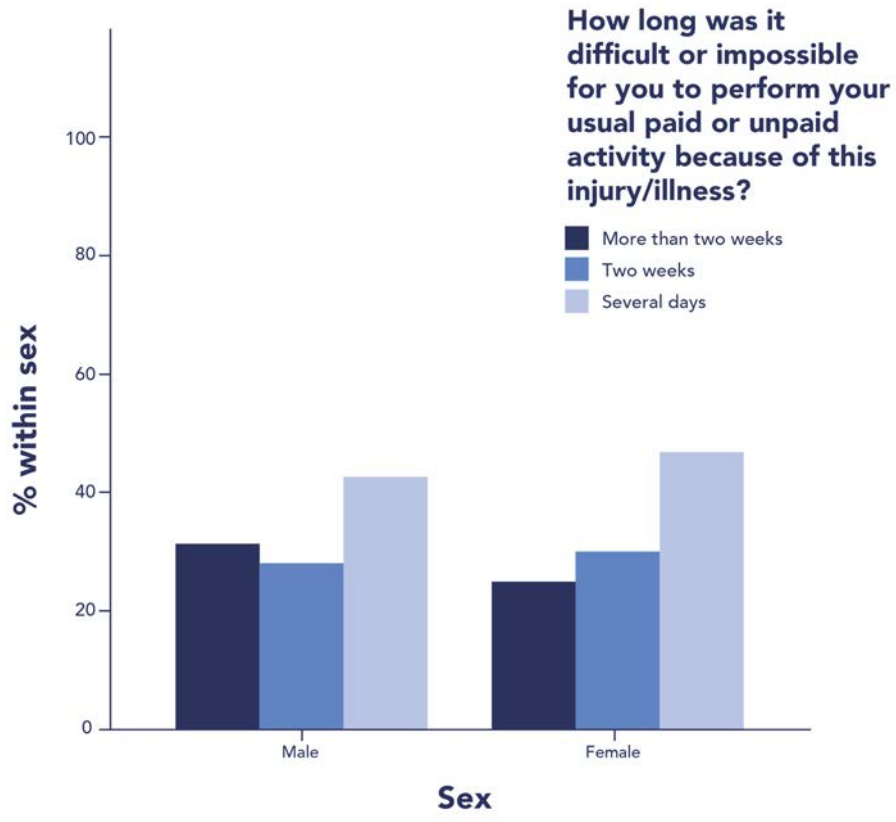
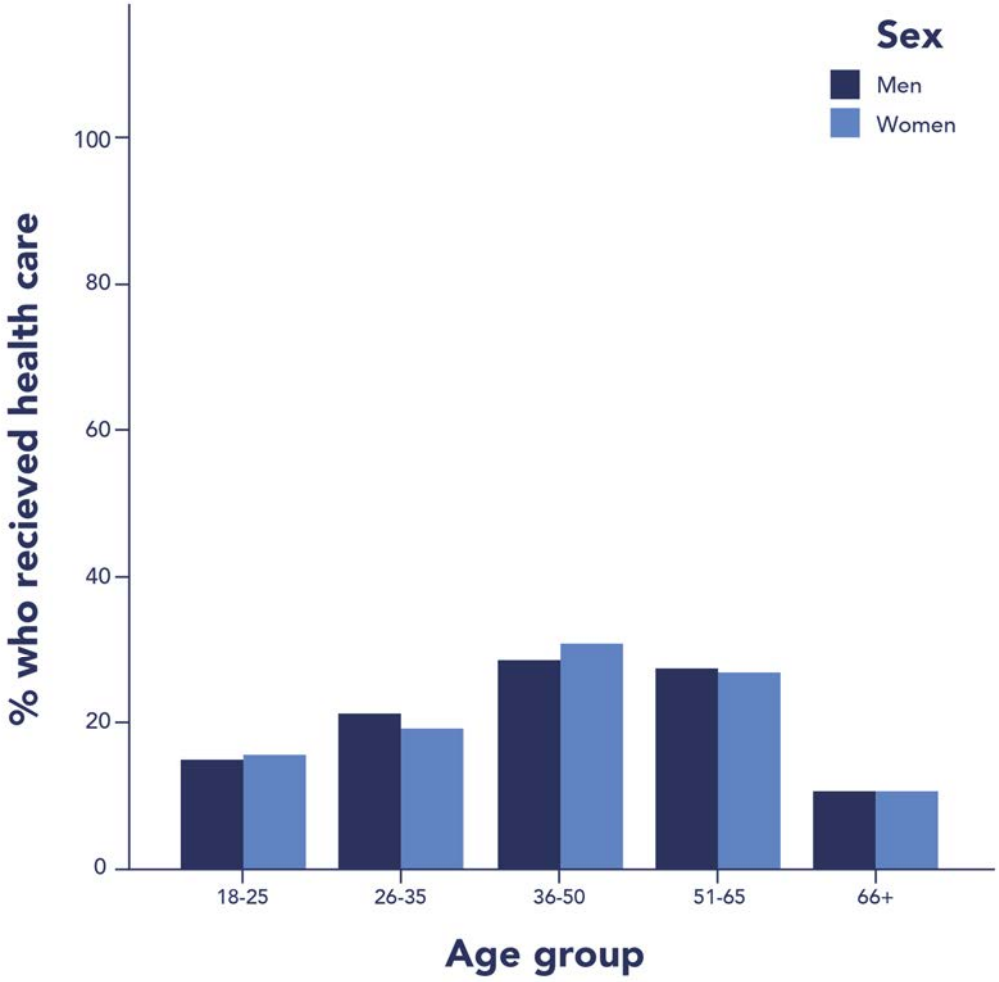


Figure 32: Percent of sample reporting specific length of absence from work, by sex



Overall, 70% of men and 60% of women received some form of health care the last time they experienced an injury or illness that required it. There were also patterns by sex and age in this indicator, with younger women less likely to have accessed health care than both younger men and older women. In contrast, men's reported rate of utilisation of health care did not vary over the life course.

Figure 33: Percent of sample who received healthcare upon last injury or illness, by sex and age

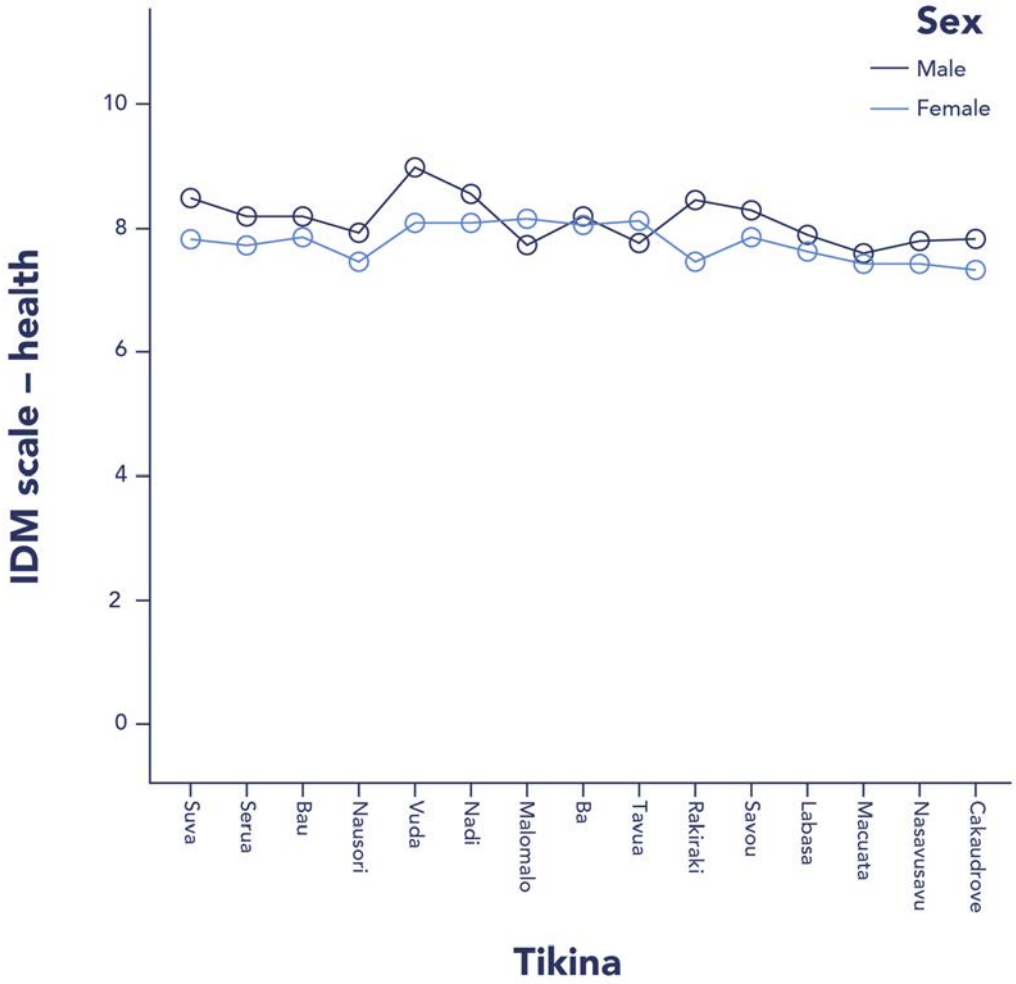


Of those who sought medical care, most went to a medical doctor (88.2%), with 92% of men who sought treatment seeing a doctor compared to 84% of women. Women were three times more likely to see a nurse (12% of women who sought treatment) than men (4%). This difference was particularly pronounced between younger men and women. The differences revealed through the IDM results highlight health as an area that merits further exploration, including via other data available through the Ministry of Health. Sex differences in IDM results may be linked to a range of factors including local health beliefs, sociocultural background, gender differences in income and mobility, gendered cultural norms supporting women to prioritise the health care needs of family over self and patriarchal gender relations in Fiji (Chattier 2008). Differences may also reflect the different health care needs of women and men at different stages of their life (see below, for example, the pre-natal section of the health dimension), underlining the value of individual-level measurement that enables disaggregation by sex and age.

The most common problem with health care quality was the length of waiting time, with 30% of respondents indicating a problem in this area. Few gender differences were observed in health quality, although women were twice as likely to report problems with the skill of the provider than men (7.4% to 3.4%).

Overall, Vuda was the least deprived Tikina in the health dimension, with mean health dimension scores significantly higher than Nasavusavu, Nausori, Macuata, and Cakaudrove, which were the most deprived Tikinas in the health dimension. Analysing sex differences by Tikina revealed no significant interaction between sex and Tikina, with women consistently more deprived than men across the Tikinas.

Figure 34: Sex difference in average health dimension score, by Tikina



A supplementary unit of the health dimension examined perinatal (pre- and post- natal) care for women. This unit is supplementary rather than included in the main health dimension analysis because while health care in pregnancy is particularly important for women, and an event that is sex-specific, it may be considered a special circumstance for women in which they are more likely to seek healthcare than at any other time of their lives. Consequently, including this in the overall calculation of the health dimension, or substituting this unit for general health care access (which was the initial recommendation for increasing gender-sensitivity) may artificially inflate women's scores, suggesting an overall lack of deprivation based on high (and higher than typical) utilisation during what is (for many women) a relatively brief and specific time of their lives.

However, as pregnancy is an aspect of deprivation unique to women, it is still worthwhile reporting the results from the pregnancy supplement to understand some of the unique challenges faced by women at this time, and inform policy and programming.

Overall, 82% of women in the sample had ever given birth. Of all the women who had ever been pregnant, 24% had been pregnant in the previous three years, and 98% of these women had received prenatal care. The figure below shows many more women seeing a nurse than any other kind of health care providers for prenatal care. During birth, however, most of these women had been attended by a midwife, indicating a difference in either preference or availability of health care providers between prenatal and childbirth care for women. In general, women in urban and informal settlements were more likely at any stage of peri-natal care to have seen a doctor, and women in rural areas were more likely to have seen a nurse. This information is presented in the chart on the following page.

Figure 35: Number of women receiving prenatal care from each type of provider

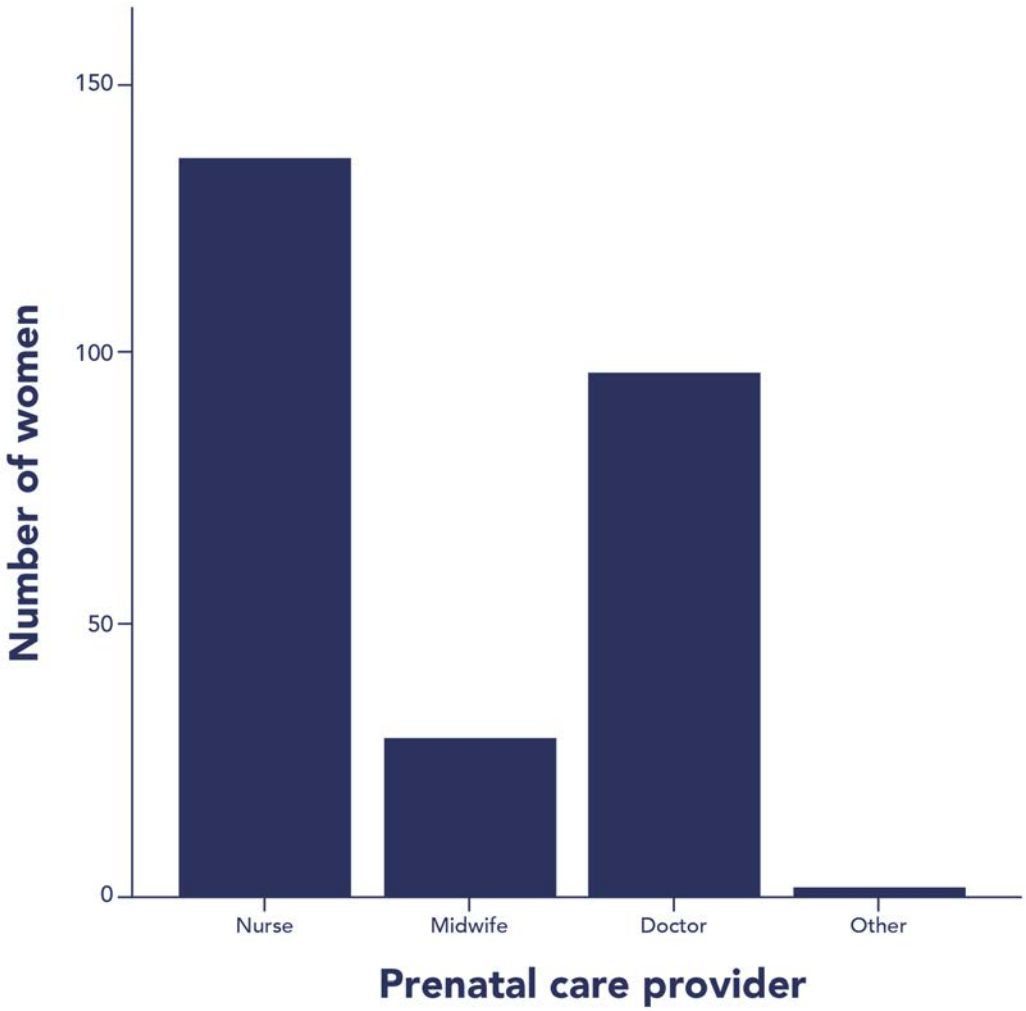
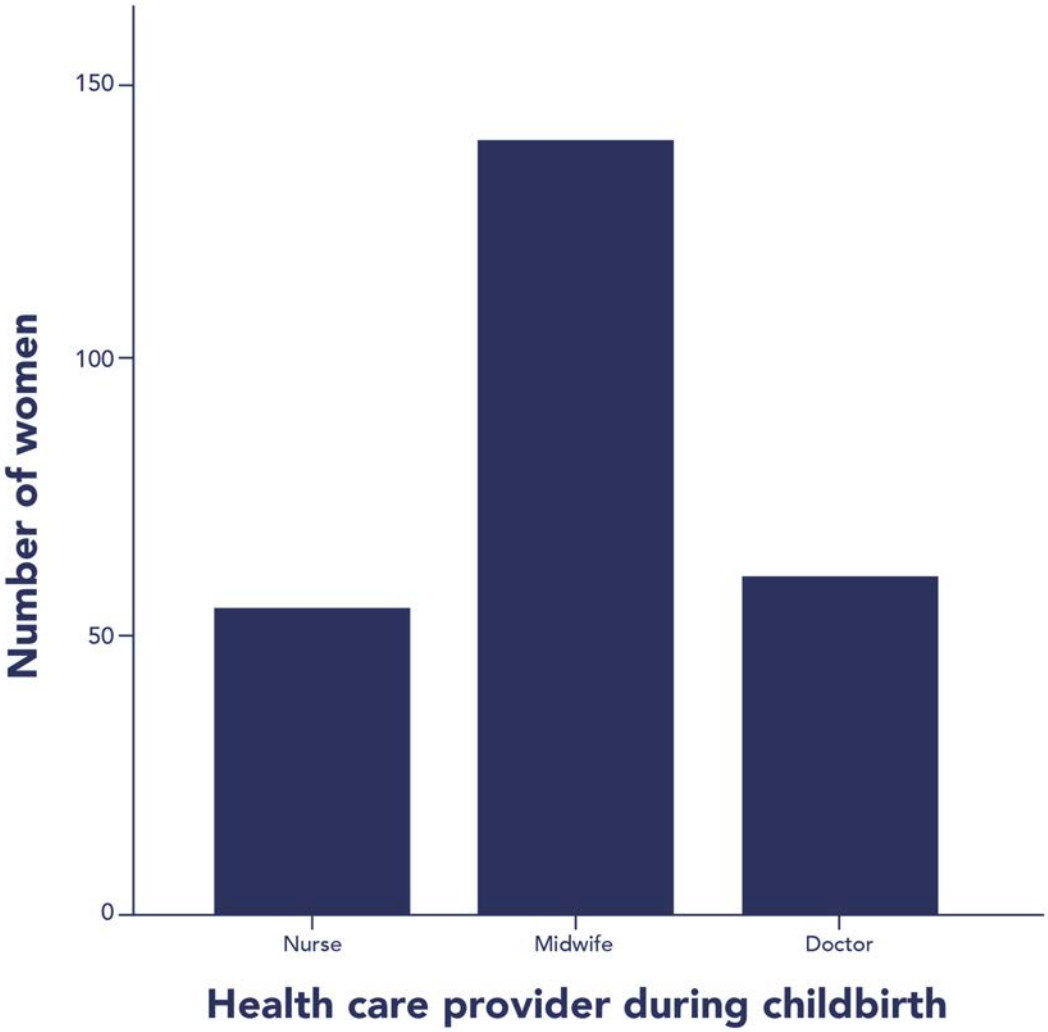


Figure 36: Number of women attended by each type of provider during childbirth



Finally, 1.4% of the women in the sample were currently pregnant (42 women). All women who were currently pregnant planned to give birth at a hospital. An equal number were seeing a nurse or a doctor for prenatal care, with one woman seeing a midwife. There was no data available for preferred childbirth attendant. There were only a small number of women (13) not receiving prenatal care, with 3 women reporting it was too far away, 5 not seeking it at all, and 5 reporting other reasons.

Reflections: Claire Slatter

Overview of the Health Sector in Fiji

Fiji is generally considered to have a good public health system although it is considered to have deteriorated over the years, not least because of the steady loss of experienced, Fiji- trained health personnel. The Ministry of Health and Medical Services provides preventive and curative health services throughout Fiji through 2 specialized hospitals, 3 divisional hospitals, 18 sub-divisional hospitals, 82 health centres and 98 nursing stations (Fiji Health Accounts 2011-2014:43). While 'modest user fees are charged for some basic and selected services' (Health System Review 2011:50), outpatient services, hospitalization in non-paying wards, together with X-ray services, surgery and supply of medication at hospital dispensaries and health clinics, are generally free of charge, unless one is referred by a private practitioner, or being treated privately by a hospital doctor. Medications that fall outside of the standard supplies procured by the Government Pharmaceutical Services or that are out of stock have to be purchased by patients from private pharmacies.

Comprehensive reform of the health sector began in the late 1990s but was discontinued in 2008. Amongst other things, the reforms involved management reforms and decentralization of health services. To take the pressure off hospitals, and especially in respect to outpatient services, diagnostic services were expanded and doctors assigned to health centres which provide the bulk (40.1%) of preventive care services (Fiji Health Accounts 2011-2014:35). This has especially benefited lower income urban and peri-urban dwellers and retirees, many of whom formerly relied on private medical practitioners.

The 2011 Health System Review reported that the majority of Fiji's medical workforce was 'concentrated in urban hospitals with the shortage of doctors most marked in rural areas' (Health Systems Review 2011:61). Despite active recruitment of doctors from abroad, the problem of chronic shortage of doctors has remained and has led to "the creation of new cadres of health workers, including nurse practitioners" (2011:61). The Health Systems Review reported that 'not all health centres have medical officers' and 'the ratio of nurses to the population is higher in the rural areas than in urban areas' (2011:121).

For rural dwellers generally and those in more isolated areas particularly, accessing health services is also made difficult by distance and the cost of road transportation. Moreover, as reported in the Health Systems Review, "while no studies have been conducted to assess access to and use of health services by different socioeconomic or cultural groups, it is likely that social barriers may limit utilization of services by some population groups, even when they are accessible" (2011: 120). There are no health services specifically located in informal settlements.

Health Financing

In 2011, the Fiji Island Health System Review, which was carried out with the involvement of several staff of the Fiji National University (of which the Fiji School of Medicine is a part) reported that "[s]ince 1995, government health expenditure as a proportion of gross domestic product (GDP) [had] been between 2.9% and 3.5%." It added: "This is one of the lowest rates among Pacific Island countries, despite the fact that Fiji is more economically developed" (2011:46). Current Health Expenditure (CHE) increased by 34.7% in nominal terms between 2011 to 2014; this represented an increase of 53.6% in constant or real terms (Fiji Health Accounts 2011-2014:19). Health spending as a ratio of GDP in that 4 year period was reported as averaging 4.2% (Fiji Health Accounts 2011-2014: 20). By 2015, Fiji's health budget constituted 8.08% of the government's total budget, which was considerably higher than the WHO recommended 4-5% in its regional strategy on health financing. As a proportion of GDP, however, the allocation for health, at 3.48%, remained low.51 (Ministry of Health 2015:90). The health budget that year

[51] Note that the budget allocation to health spending as a percentage of GDP is less than CHE as a percentage of GDP because CHE also includes private expenditure on health.

was supplemented by an Australian-government funded Health Sector Support Programme totalling more than F$8.6million (part of a 5-year grant of A$33million) and by UN assistance worth more than F$4.6million.

Health Statistics – Some gender differentials

According to World Bank statistics, life expectancy at birth for Fiji women in 2015 (72.3) was higher than for Fiji men (67.2). Moreover, the under-5 female mortality rate (20.3) was lower than that for males (24.3). These figures do not mean that females at either end of the life cycle are surviving better than males.

Fiji's maternal mortality ratio (MMR), at 29 per 100,000 live births in 2015 according to the Ministry of Health Annual Report was closer that year to the average MMR of high-income countries (10 per 100,000 live births) than to the average MMR in middle-income countries (180 per 100,000 live births). However, figures on trends in the MoH Annual Report for 2015 show wide variations in MMR over the previous four years,[52] from 59.47 in 2012, to 19.07 in 2013, and 44.4 in 2014. This is explained in the MoH Annual Report as typical of 'developing countries like Fiji with small populations [which can] have large variations in the MMR with even a minute number of maternal deaths' (Ministry of Health 2015:67).

In terms of access to reproductive health services, World Bank figures showed 99.6% of births attended by skilled health staff in 2015,[53] which is considered a positive indicator of health status, given its importance for maternal and child outcomes. The MoH Report recorded a significantly higher contraceptive prevalence rate of 47.1 in 2015,[54] compared with 38% in 2013.[55] On the other hand, the fertility rate for women in the 15-19 age bracket, at 40 per 1,000 live births, indicated a high rate of teenage pregnancy according to the ADB Country Partnership Strategy for Fiji 2014-2018 (Gender Analysis - Summary). The MoH Report for 2015 confirmed a 'drastic increase [in] teenage pregnancy' over the previous year (24.3 compared with 4.91), attributing it to the 'improved health information system' which captured data at the first antenatal clinic visit. In 2015, there were 951 cancer cases among women, more than twice the reported number of cases among men (435). This higher incidence mostly comprised breast and Not Otherwise Specified cancers (270 cases) and cervical and uterine cancer (221 cases). The number of cases of the third most common female cancer, endometrial cancer (64 in 2015), was much higher than the number of cases of the leading male cancer, cancer of the prostate (49). A 2013 study of trends in cervical cancer in Fiji from 2000-2010 found much higher rates of cervical cancer among indigenous Fijians than Indo Fijians as well as higher mortality rates among indigenous Fijian women, and especially high mortality rates among women older than 45. (Vodonaivalu and Bullen 2013). The Health Systems Review (2011:92) reported breast screening services being available in all maternal and child health clinics. Pap smear services were also in place 'although only an estimated 10% of women use this service'(2011:92) Cervical cancer prevention was stepped up in 2008 with the introduction of a human papilloma virus vaccination program (Health Systems Review 2011:107). The Health Systems Review reported that prostrate screening was only done on request, which 'represent[ed] a gap in health service provision to men' (2011:92).

Both women and men are increasingly susceptible to non-communicable diseases 'and related disabilities' (ibid), which include (albeit not stated) those resulting from amputation of lower limbs. In 2014 'diseases of pregnancy, childbirth, and the puerperium" accounted for 32.1% (the highest) of total inpatient costs, slightly down from 34.6% in the previous year (Fiji Health Accounts 2011-2014:79).

[52] http://www.health.gov.fj/wp-content/uploads/2014/05/Final-MoHMS-AR-2015.pdf
[53] http://datatopics.worldbank.org/gender/country/fiji
[54] http://www.health.gov.fj/wp-content/uploads/2014/05/Final-MoHMS-AR-2015.pdf
[55] https://www.adb.org/sites/default/files/linked-documents/cps-fij-2014-2018-ga.pdf

Further reflections on the IDM Health Dimension

The IDM health dimensions comprise 3 indicators: health status, health access and health quality. Based on these three indicators, the findings were firstly that women were overall more deprived than men in the health dimension and, secondly, that citizens in rural areas were more deprived than those in the urban areas.

Neither of the above findings is at all surprising. As some of the statistics cited above indicate, women's health in Fiji is an area of concern. Rates of cervical cancer have long been known to be very high by international standards,[56] and the incidence of breast cancer is very high. In terms of health access, routine screening for cervical cancer has only recently begun. The MoHMS adopted a Cervical Cancer Screening Policy 2015 and a Cervical Cancer Program (CECAP), funded under Australia's aid program, has been training medical personnel to conduct cervical cancer screening, with the aim of achieving universal coverage (MoHMS 2015:30). Women commonly tend to seek medical attention late, as is evident in the frequency of late diagnosed cancers. The 2013 study of cervical cancer trends recommended that women be made aware of early signs and symptoms and seek medical examination as soon as symptoms occurred, but commented 'sex inequity and stigma may make it too difficult for many women to overcome the many barriers to timely access' (Vodonaivalu and Bullen 2013). Many women's first recourse when ill is to turn to traditional healers and/or medicines or rely on self-medication.

Rural citizens are without a doubt more deprived than urban citizens. This has been highlighted by Narsey as the main reason for the steady flow of rural to urban migration that has resulted in the largest proportion of Fiji's population today being urban based. The last three HIES surveys have shown that the incidence of poverty is higher in rural than urban areas (Poverty Analysis (Summary) ADB Country Partnership Strategy: Fiji, 2014-2018, FBoS HIES 2013-14: 2015).

Health status

Fifty percent of respondents reported being ill during the last year, and for more than half of them (60% of the men and 50% of the women), the illness or injury they experienced made it difficult/impossible to perform their usual work (whether paid or unpaid). More men than women (30% cf. 23%) reported a longer period of illness and absence from work. Overall 70% of men and 60% of women received some form of health care the last time they experienced an injury or illness that required it.

The information collected may be too general to draw conclusions from in terms of gender differentials in deprivation. More specific information on the kinds of illness and injury would be needed to be able to analyse whether it is related to poverty/ poor nutrition/ eating last (as women commonly do), or for example, domestic violence. The findings of a Survey of 3,538 households by the Fiji Women's Crisis Centre in 2012 which included interviews with 3,193 women aged 18-64, highlighted the high social and economic costs of gender-based violence and its impacts on women's physical, reproductive and mental health (Somebody's Life, Everybody's Business, FWCC: 2012).

The higher percentage of males reporting being ill and seriously enough to miss work could be further explored by correlating it with type of employment. Absenteeism is quite common and this may be especially so in low paid jobs, or jobs that provide low satisfaction, a relationship that has been identified in other contexts. There is also the factor of kava drinking in the evenings in which men more than women engage, which contributes to dissipating energy and a feeling of tiredness.

Younger women were less likely to have accessed health care than both younger men and older women. There was no apparent difference between older and younger men's reported utilization of health services.

[56] WHO data published in May 2014 shows the age adjusted death rate from cervical cancer in Fiji as 22.88 per 100,000 of population, which ranks Fiji number 20 in the world. http://www.worldlifeexpectancy.com/fiji- cervical-cancer

The first finding is interesting. On the one hand, younger women are generally healthier than, and therefore less likely to need health services as much as, older women and this may explain the finding. Young, unmarried women are also less likely to access sexual and reproductive health (SRH) services for contraceptives because of strong cultural disapproval of premarital sex/pregnancy outside marriage. On the other hand, women of reproductive age are, by force of biology and their reproductive functions, the more frequent users of health services. Given the facts of the rise in teenage pregnancy, as earlier mentioned and as indicated by registration for antenatal services, and of the highest in-patient costs incurred by 'diseases of pregnancy, childbirth and the puerperium', the IDM finding is curious.

Prenatal care
Of all the women who had ever been pregnant in the sample, 98% had received prenatal care, and most were attended by a midwife during childbirth. And all women in the IDM sample who were pregnant at the time of the survey (4.2%) planned to give birth at a hospital.

This finding is not at all surprising. The World Bank's figure of 99.6% of births attended by skilled health staff in 2015 (http://datatopics.worldbank.org/gender/country/fiji) is corroborated by the MoHMS Annual Report, which in fact reports 99.9% for 2015 (Ministry of Health 2015:77), and these statistics support this finding of the IDM study in relation to women's high utilization of prenatal health care. Figures on utilization of antenatal clinics were not included in the 2015 Annual Report of the MoHMS, nor in either the 2011 Health System Review, or the Fiji Health Accounts 2011-2014.

Generally, women in urban and informal settlements were more likely to have seen a doctor for perinatal care, while women in rural areas were more likely to have seen a nurse. This variation was thought to reflect the availability of health personnel in urban, compared with rural, health clinics, rather than preference.

The shortage of doctors in rural areas and higher ratio of nurses to population in rural areas as highlighted in the 2011 Health Systems Review would appear to corroborate this IDM study finding. Figures that show a disaggregation by sex of medical personnel in Fiji do not appear to be available.

Medical care was mostly sought from medical doctors (88.2%), with more men (92%) than women (83%) seeing a doctor. Of those who sought medical care, women were three times more likely to see a nurse. This difference was particularly pronounced between younger men and women. This could reflect both availability and preference – nurses are more readily available and, as they are more usually female, women may feel more comfortable being seen by a nurse.

Tikina analysis
Vuda was found to be the least deprived Tikina in the health dimension. Nasavusavu, Nausori, Macuata and Cakaudrove Tikinas were the most deprived. Across tikinas, women were consistently more deprived than men.

This may need to be further investigated, but this result may well be due to the excellent health services provided by the privately-run Veiseisei Health Centre which serves the Vuda area.

Some general comments
Narsey (2007:127-8) in his analysis of gender issues in employment, underemployment and incomes in Fiji, draws attention to the fact that a gender breakdown of the average hours of household work undertaken per week in Fiji showed that females averaged 26 hours, whereas males averaged 9. Narsey commented that '[t]his unfair burden on females cannot but imply serious time constraints on their ability to 'devote time and effort to personal development (careers, leisure, etc)'. He might have added 'relaxation and rest' as these are necessary aspects of self-care and health. Indicators that capture time spent on household work and time

spent relaxing and resting could return data very relevant to measuring health related gender differentials in individual deprivation within households.

Given the prevalence of traditional medicine use in Fiji adding indicators that enable correlation of choice of health provider with categories of ailments and conditions (e.g. sexual or reproductive health issues) could be useful.

The IDM study report mentions that perinatal care was excluded in the main health dimension analysis to avoid 'an artificial inflation' of women's scores and a reduced deprivation finding. However, a supplementary unit of the health dimension did examine perinatal care for women, because pregnancy is seen as 'an aspect of deprivation unique to women' and 'the unique challenges faced by women should inform policy and programming'.

Expanding the perinatal supplementary unit to include non-pregnancy related SRH services would be useful for policy and programming. Given the high incidence of breast and cervical cancers in Fiji (270 and 221 cases respectively in 2015, according to the MoH annual report for that year) and the availability of preventive and early detection programs, gender differentials in accessing and using such SRH services would be useful, particularly if correlated with data on urban/rural, age, ethnicity etc, for health policy-making and program interventions.

CHAPTER EIGHT
THE SOCIAL FACE OF DEPRIVATION

8. THE SOCIAL FACE OF DEPRIVATION

The lived experience of poverty encompasses more than material deprivation. It is also a social phenomenon, in which individuals may struggle to take part in decisions that affect them, express concerns and opinions within their community, and to present themselves in ways that match the cultural expectations of their group. Social relationships and support mechanisms were identified in the research that developed the IDM as integral to poverty and hardship.[57] The experience of being marginalised from decision making processes and experiencing social shame does not just impact individuals in terms of being taken seriously when they advocate for their own and their group's needs; it can also be psychologically harmful, and disengages citizens further from centres of power in the long term. Deprivation can persist in the social dimensions of poverty even when material needs are being met at acceptable levels. This section analyses three IDM dimensions that capture social aspects of deprivation: Relationships, Clothing, and Voice, with an additional discussion of respect for paid and unpaid work. Vanisha Mishra-Vakaoti provides commentary on this chapter.

Relationships dimension (scored then converted to 0-10 scale)

Indicator 1. Control over personal decision-making

In general, how much control do you have over personal decisions that have a major impact on your life, such as whether you will go out of the house into the community, with whom you will associate outside of the household, or when and from whom to seek health care for yourself?

1 = No control
2 = Very little control
3 = Some control
4 = A fair amount of control
5 = Full control

Indicator 2. Personal support

If you were in trouble, how much support could you count on from friends and family?

1 = No support
2 = Very little support
3 = Some support
4 = A fair amount of support
5 = All the support I need

Clothing and personal care dimension (scored then converted to 0-10 scale)

Indicator 1. Protection

To what extent does your clothing and footwear protect you from the weather and from hazards in your environment, such as broken glass where you walk?

1 = No protection
2 = Very little protection
3 = Some protection
4 = A fair amount of protection
5 = Good protection

[57] Wisor S et al (2014) The Individual Deprivation Measure: A gender-sensitive approach to poverty measurement, pp.17-18.

Clothing and personal care dimension

Indicator 2. Presentation

To what extent are you able to present yourself in public, in terms of clothing, body odour and grooming, in a way that is acceptable by the standards of your community?

1 = Never
2 = Rarely
3 = Sometimes
4 = Often
5 = Always

Voice in the community dimension (scored then converted to 0-10 scale)

Indicator 1. Ability to raise issues

To what extent are you able to raise issues in your community that you feel strongly about, such as crime in the community, the way government programs are implemented, or the way you or members of your family are treated at work or by other community members?

1 = Not at all
2 = With great difficulty
3 = With some difficulty
4 = Fairly easily
5 = Very easily

Indicator 2. Efficacy

To what extent do you think that people like you can change things in their community if they want to?

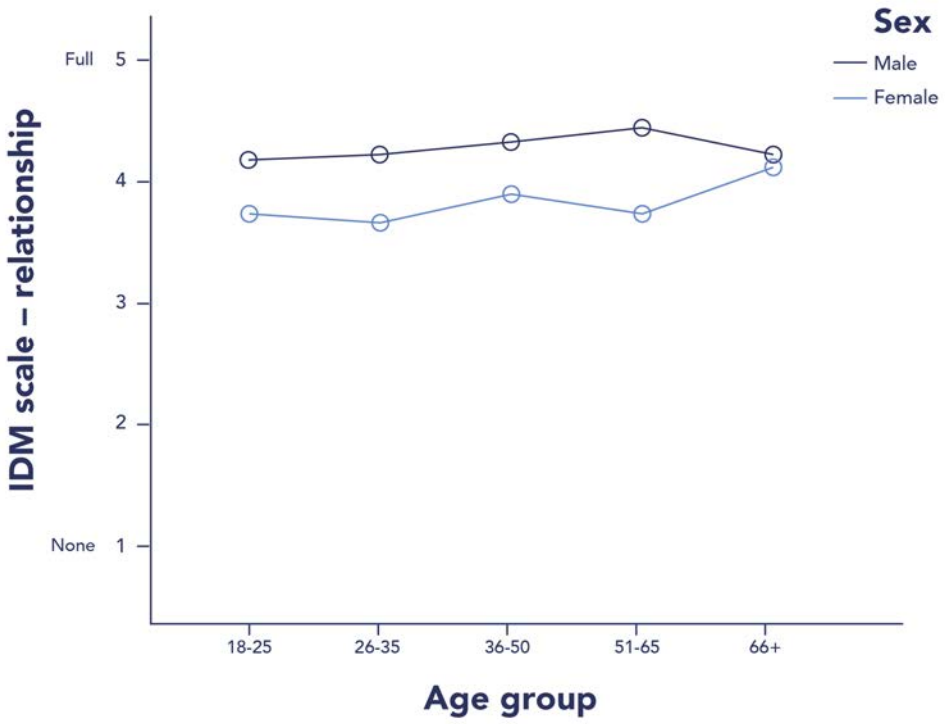
1 = Not at all
2 = With great difficulty
3 = With some difficulty
4 = Fairly easily
5 = Very easily

Results

Within the Relationships dimension, 37% of the sample considered they had full control over decision-making, and 47% felt full support from friends and family. Similarly, the mean of the Clothing dimension was 8.79, placing the average respondent in this sample in the 'Somewhat deprived' category for this dimension as well, with 55% of the sample reporting that their clothing provided then with full protection from the elements, and 59% indicating they could always present themselves in a socially acceptable way. The Voice dimension indicated lower overall scores, with the average respondent in this sample somewhere between the categories of 'Deprived' and 'Somewhat deprived'.

Women were more deprived than men in the Relationships dimension, and younger age groups (18-25 and 26-35) were more deprived in the Relationships dimensions than the older age groups. There was also a significant interaction between sex and age, with women in younger age groups experiencing more deprivation in the Relationships dimension than both younger men and older women, as depicted in the Figure below.

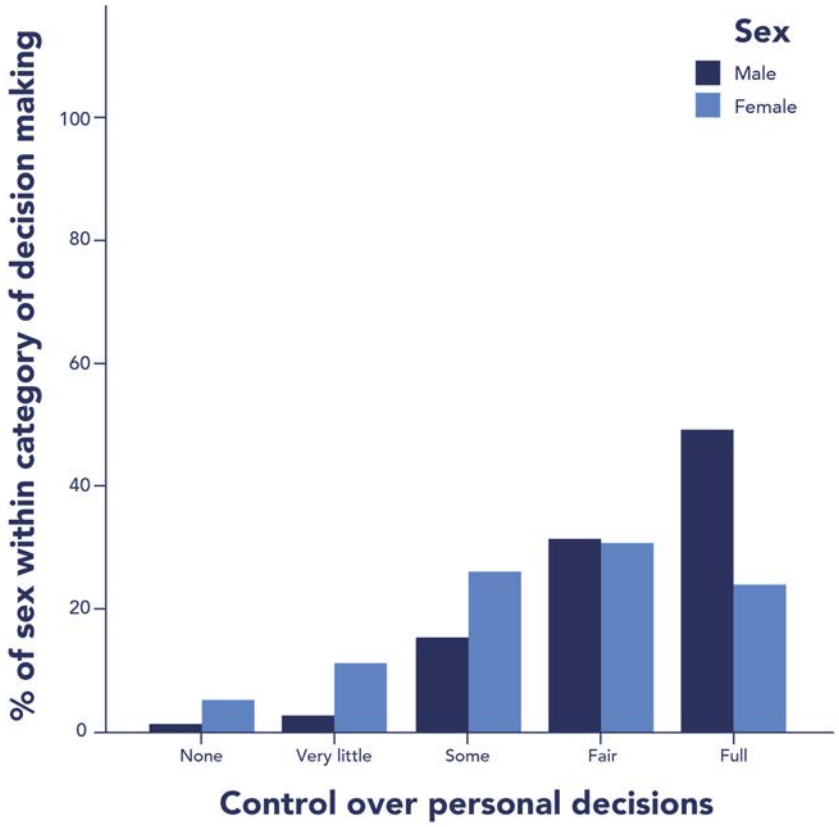
Figure 37: Mean relationship dimension score by sex and age



Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. The alpha coefficient ranges from 0 (set of items are not related) to 1 (set of items are highly related). A reliability coefficient of .70 or higher is considered "acceptable" in most social science research situations. As the alpha coefficient of the Relationship scale was quite low (under 0.3), it may be assumed that the indicators are measuring different concepts.[58] To delve deeper into the Relationship dimension, the dimension was disaggregated by indicator and crosstabulated by sex.

[58] The IDM intentionally measures deprivation using indicators in the spaces of access, use and achievement. For some dimensions we have multiple indicators in multiple spaces. In other dimensions, we use a single indicator. For discussion of the philosophical considerations underpinning this decision, see Wisor et al (2014: 31-32). However, where patterns of difference by demographic factors (eg sex) vary between indicators in the same dimension, then aggregation of the indicators to generate a dimension score will effectively disappear such differences. This issue arises in the Fiji IDM study in the Relationships dimension, as explored in this section. Further consideration is being given to this issue.

Figure 38: Percent of sex reporting each level of control over personal decision-making

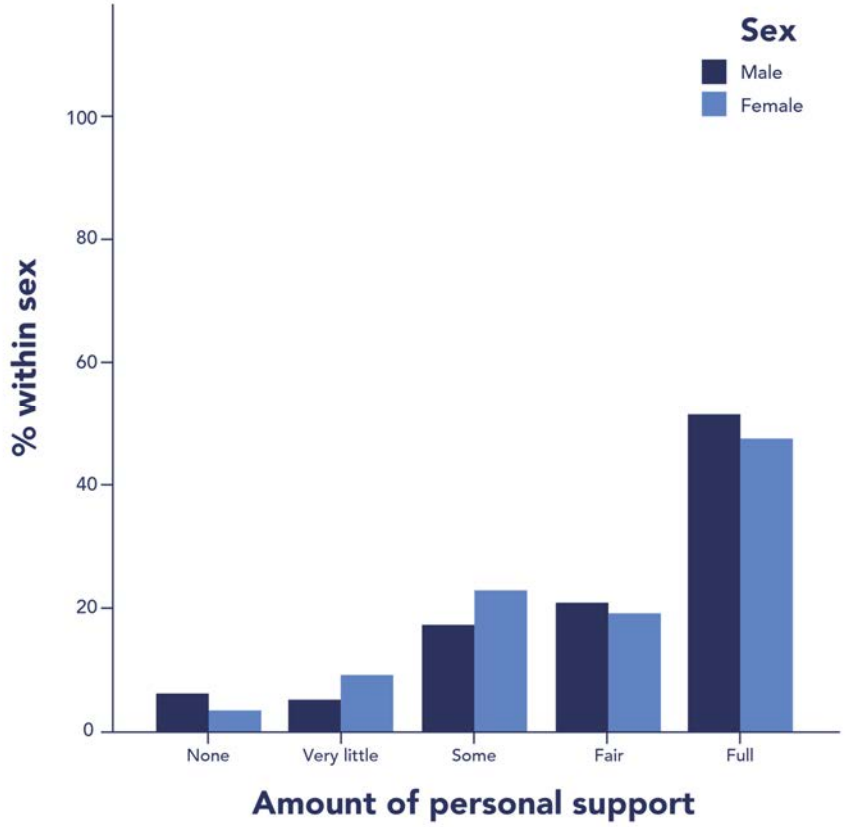


Overall, it was found that women are more deprived than men in the 'control over personal decision-making indicator, but there was no difference between men and women on the second indicator for this dimension, respondent's perception of the extent of personal support available to them. The following section discusses each indicator in turn.

There is an immediately apparent disparity between men and women in terms of their perceived control over decisions that affect them (examples of control in the indicator include: the ability to go out of the house into the community; who the person associates with; and when and from whom to seek health care).

Nearly half the men in the sample (48%) reported full control over their personal decisions. Only 25% of women reported full control. Roughly equal numbers of men and women reported 'fair' control over decision making, but women were 3.5 times more likely than men to report 'some, very little, or no control (5% of women reported no control compared to 1.4% of men).

Figure 39: Percent of sex reporting each level personal support



The pattern changed slightly for the other Relationships indicator, personal support (see figure above). Although men were still more likely to report full personal support from friends and family in times of trouble (50% of men and 45% of women reported full support), men were also more likely to report no personal support than women (6% of men compared to 3.6% of women). Women were more likely to report moderate amounts of support. This pattern indicates a polarity for men—more of a tendency to have either full or no support— that is not observed for women, who mostly report full to moderate personal support from family or friends. Despite these different patterns, there were no statistically significant sex differences in the support indicator. Previous research has posited that in general, men enjoy more personal support in the form of being able to rely on and talk to kin and clan, but that women tend to gain more influence and support from kin and the community they live in as they age (Chattier, 2008). We observe this pattern in general (i.e. increasing levels of support for women as they age), but the pattern did not reach statistical significance.

Taken together, these indicators reveal gendered differences within the Relationships dimension, with men enjoying overall higher levels of perceived control over their decisions, and women tending towards higher average levels of personal support from family and friends (although higher percentages of men fall into either the ‘full ‘ or ‘none’ categories of personal support).

In terms of the age x sex interaction observed, analysis at the indicator level reveals that older age groups were more likely to report full or fair control over personal decision-making than the younger age groups. There were no age differences in levels of personal support.

Adding sex into the analysis revealed a significant age x sex interaction for the control over decision-making indicator, but not the personal support indicator. That is, there were significant sex differences at every age group in control over decision-making, as well as differences in perceived control over decision making between age groups. There were no age or sex differences in levels of personal support.

The Relationships dimension data highlights the way in which indicators addressing issues within the household, combined with measurement and sampling approaches that enable intra-household analysis, can assist in understanding the gendered vulnerabilities of women and men in Fiji.

Figure 40: Mean decision-making score by age and sex

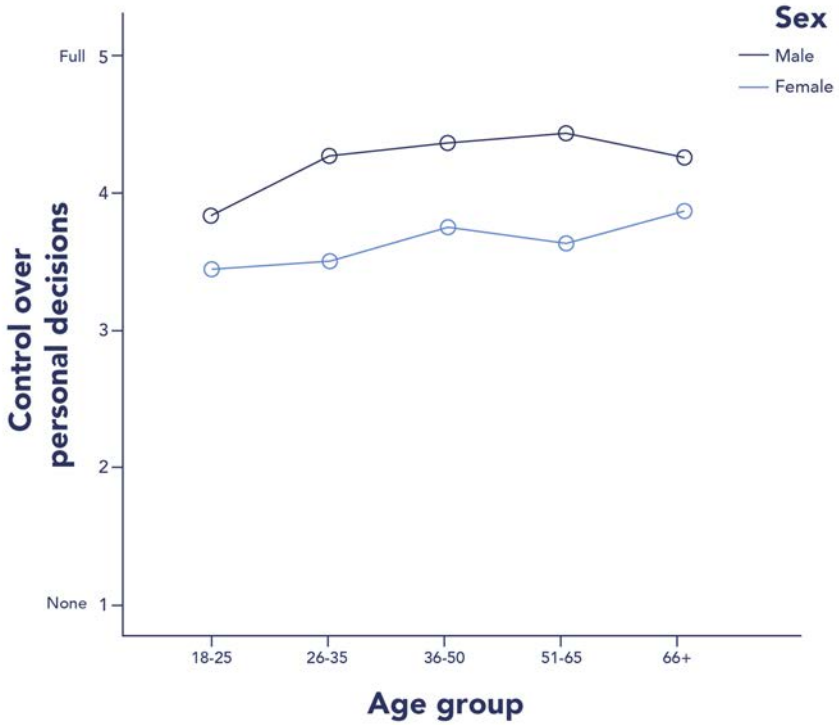
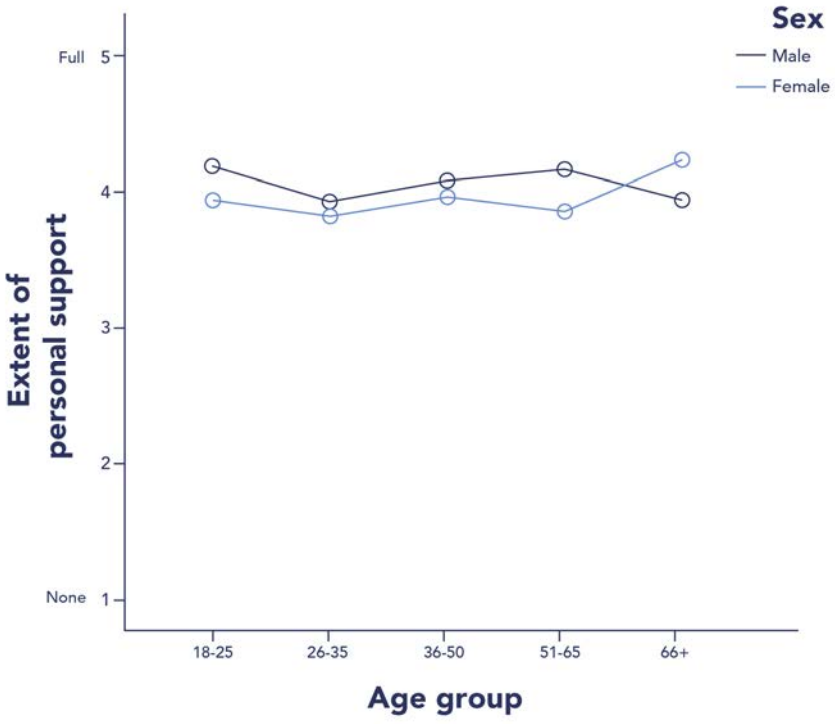


Figure 41: Mean personal support score by age and sex



There was a difference in the Relationships dimension between settlement type, with citizens in urban and informal settlements having lower mean Relationships dimension scores than those in rural areas. Examining the differences at the indicator level, we see few differences between urban and rural settlements in the control dimension, but quite a large difference between urban and rural settlements in the personal support indicator. Respondents living in informal settlements enjoy much less control and support than those in either urban or rural areas.

Figure 42: Percent of sample within each settlement type reporting each level of control over decision-making

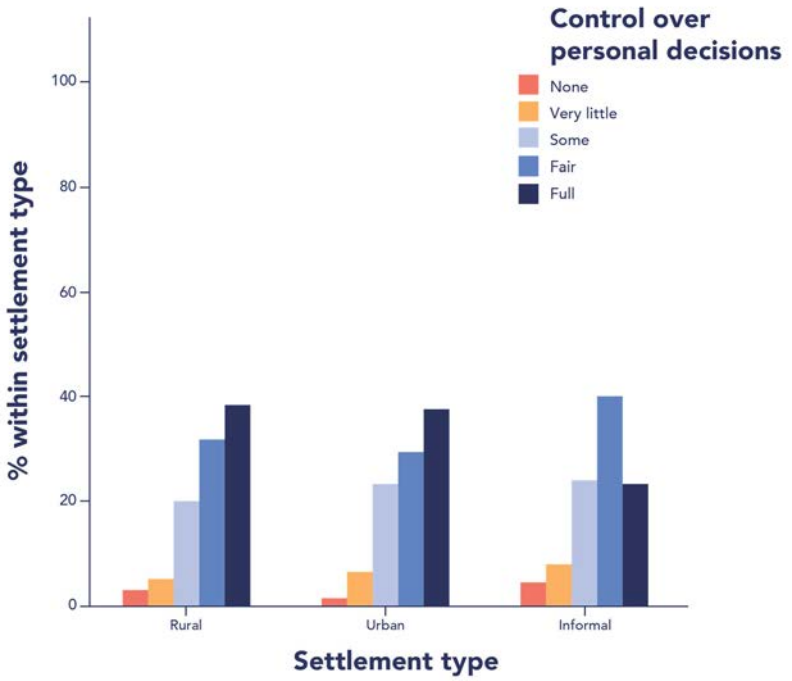
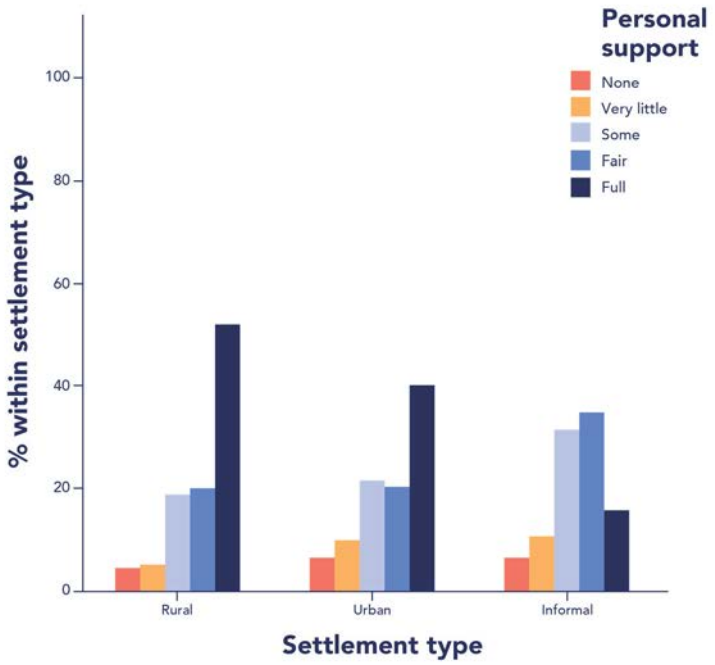


Figure 43: Percent of sample within each settlement type reporting each level of personal support



Finally, a significant sex x settlement type interaction was observed for the Relationships dimension. This sex x settlement type interaction was repeated for each of the indicators (control over decision-making and personal support). The charts below indicate the gender differences within each settlement type for both indicators. We can see that there are gender differences within each settlement type in the control indicator, with women much more deprived than men on this indicator across the board. However, no gender differences are observed in the personal support indicator in rural or informal settlements. Women are only more deprived than men in personal support in urban areas.

Figure 44: Mean decision-making score by settlement type and sex

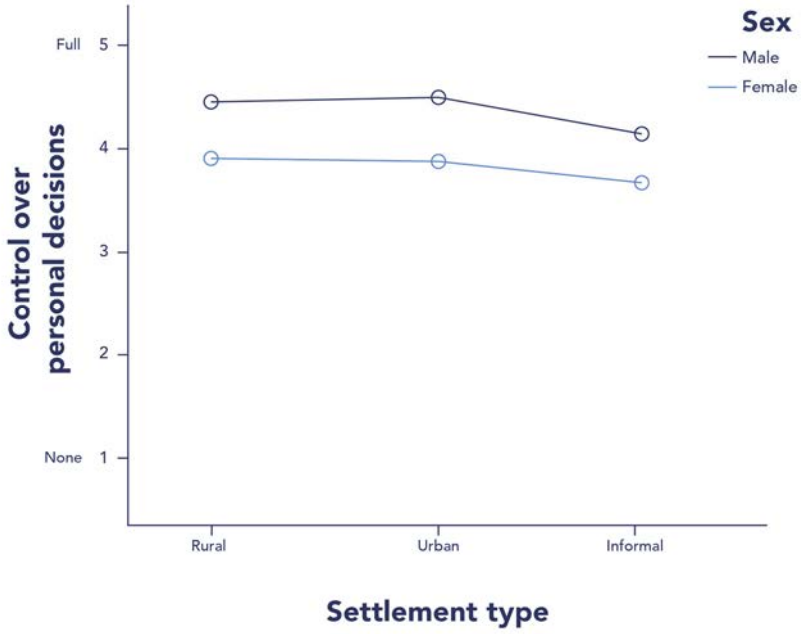
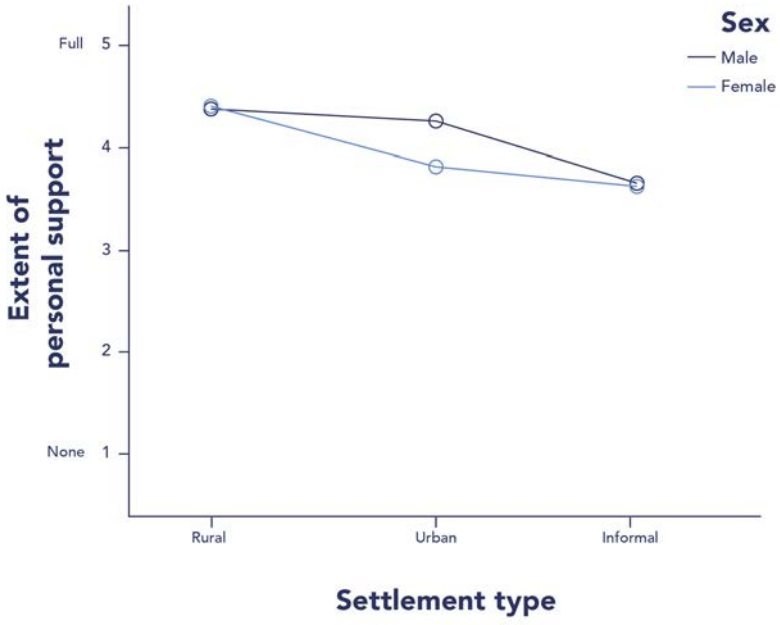


Figure 45: Mean personal support score by settlement type and sex

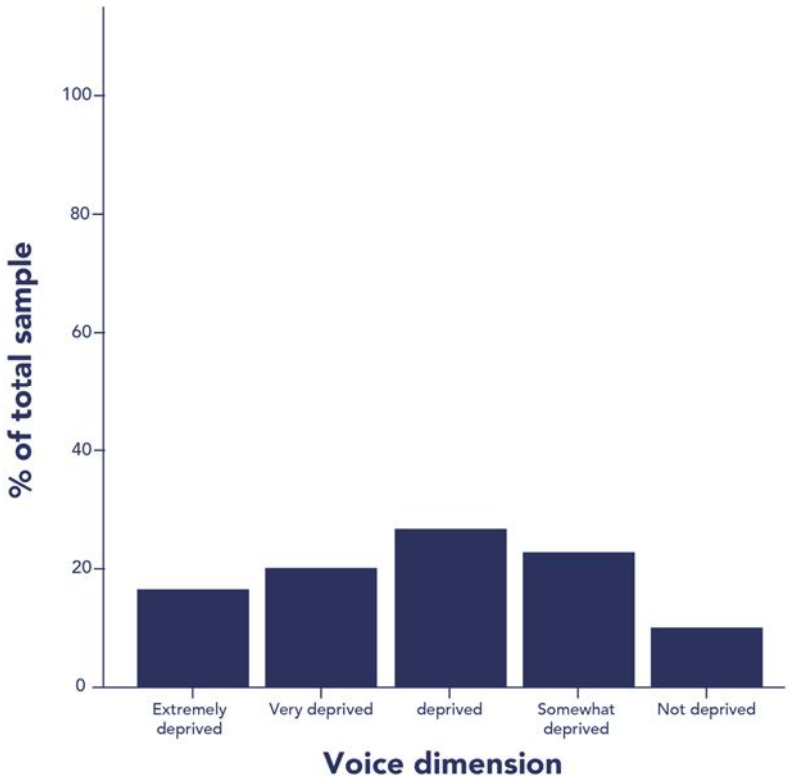


Looking at the indicator-level analyses of sex by age, and sex by sector, allows us to draw some overall inferences about the gendered dynamics of deprivation in relationships in the sample. In general, regardless of age and location in terms of settlement type, women are more deprived than men in their ability to control major life decisions that affect them, such as whether to leave the house, seek health care, and freely associate with others. Despite this, women perceive personal support from family and friends at similar rates to men, occasionally feeling that they receive higher levels of support (such as older women), and sometimes lower levels of support (such as women in urban settlements).

While the Relationships dimension concerns citizens' familial and immediate social groups, the Voice dimension concerns citizens' communities more broadly. Specifically, the Voice dimension assesses citizens' perceived ability to express their opinion in their community, and the extent to which citizens perceive they could affect change in the community. That is, this dimension measures participation and efficacy within a respondent's communities. The reliability of this scale is very high (Cronbach's alpha = 0.96), so we may assume fewer differences at the indicator level than the Relationships dimension.

The overall mean of the Voice dimension is 6.1 (on a scale of 0-10), lower than the Relationships dimension (8.22). This means that overall, respondents perceive more control over decisions and support at the familial and immediate social group level than ability to raise issues and affect change at the community level. 15% of the sample (around 450 citizens) perceive no ability to voice their opinion or affect change in the community. Around 17% (approximately 500 citizens) perceive great difficulty in participation and efficacy in the community.

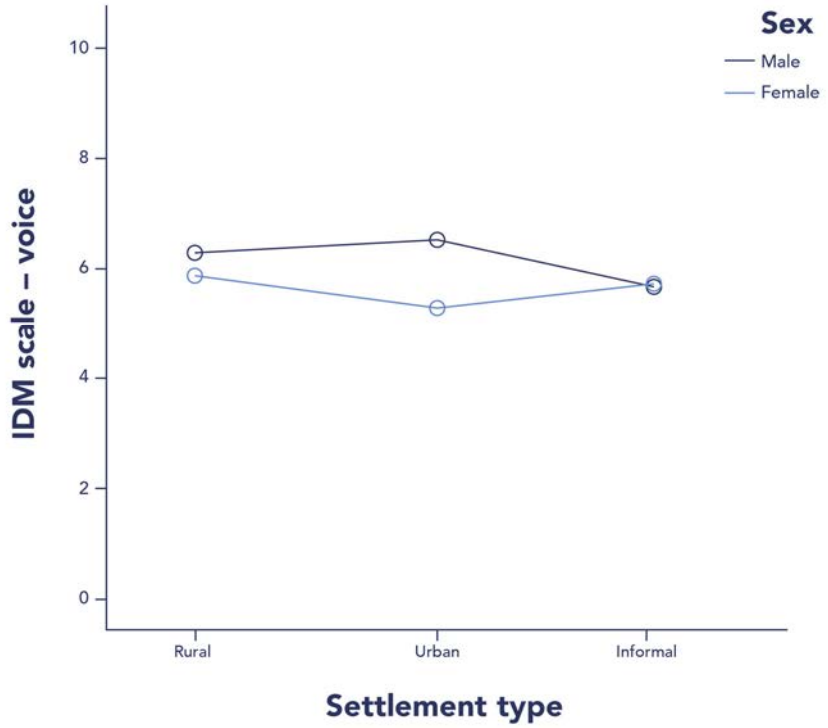
Figure 46: Percent of total sample within each category of voice dimension



There are also demographic differences in the Voice dimension. As expected, women are more deprived than men; Fijians of Indian descent are more deprived than *iTaukei*, and younger age groups are more deprived than older age groups. Although there were no differences in voice by settlement type, there were some quite large differences in Voice between the Tikinas, with dimension scores ranging from 4.1 in Malomalo to 7.8 in Nasavusavu.

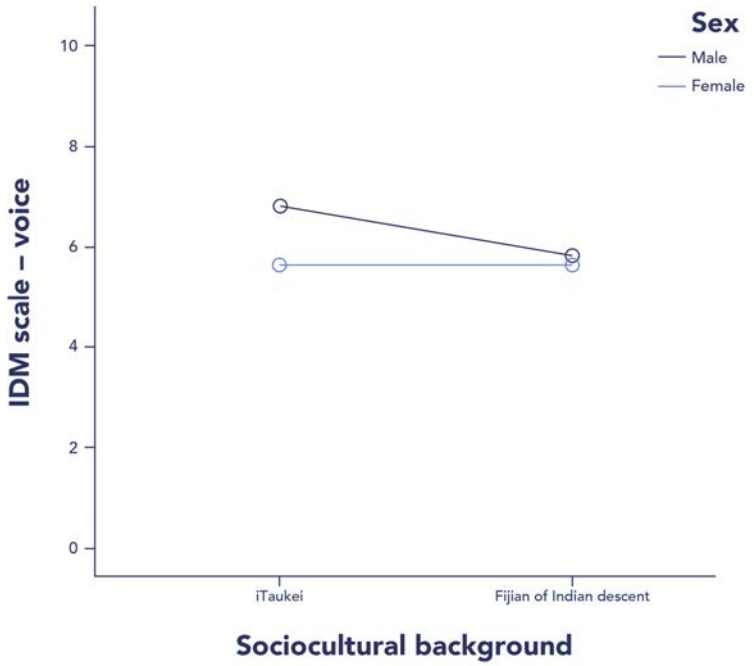
Three interesting interactions emerge within the Voice dimension. The first is the sex x settlement type interaction, which is noteworthy for its similarity to the personal support indicator in the Relationships dimension. That is, the largest gender difference was in urban areas, with women significantly more deprived than men on the Voice dimension.

Figure 47: Mean voice dimension score by sex and settlement type



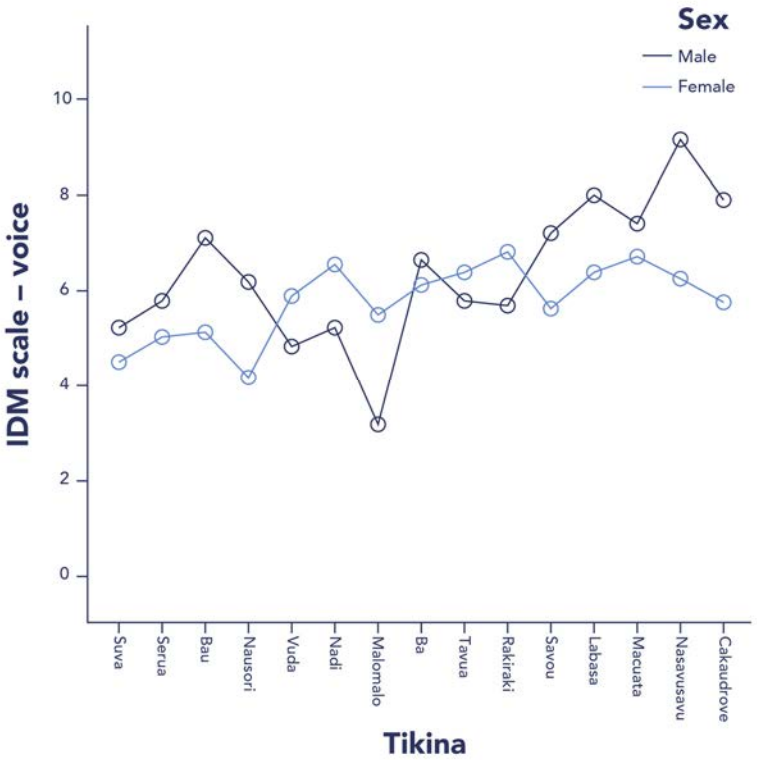
The second interesting interaction in the Voice dimension is between sex and sociocultural background. Specifically, no gender difference was observed in the Voice dimension for Fijians of Indian descent. However, a significant difference was observed between men and women for citizens of *iTaukei* background. *iTauke*i men perceived more ability to speak out in their community than *iTaukei* women or Fijians with Indian background of either gender.

Figure 48: Mean voice dimension score by sex and sociocultural background



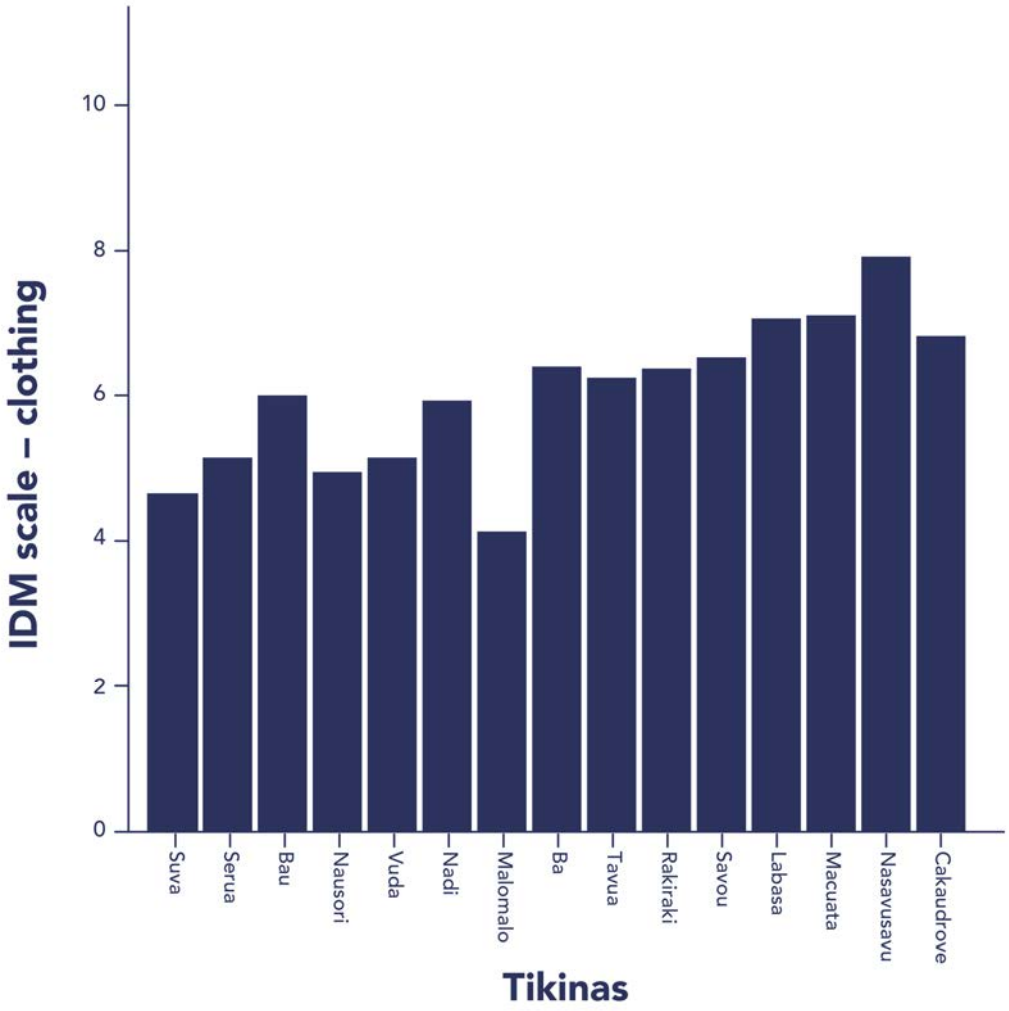
Finally, differences in Voice by Tikina were also gendered. In many Tikinas, women were more deprived in Voice than men (Bau, Nausori, Savou, Labasa, Nasavusavu, and Cakaudrove), and in some Tikinas, men were more deprived than women (Vuda, Nadi, Malomalo, and Rakiraki)

Figure 49: Mean voice dimension score by sex and Tikina



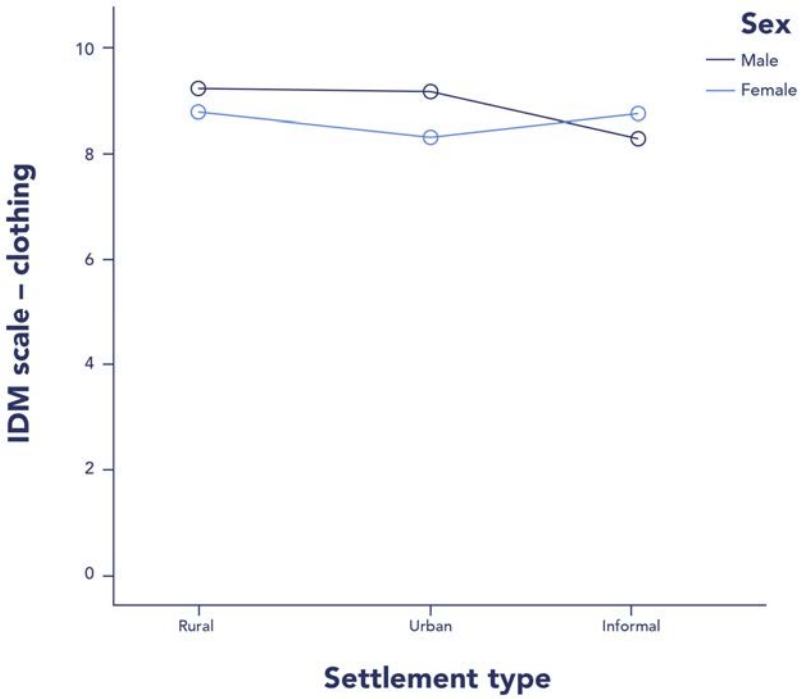
The final social dimension discussed in this chapter is Clothing and personal care ('Clothing'), measured in the IDM survey as citizens' ability to dress in ways that protect them from the elements, and meet the standards of their community. In the Clothing dimension overall it was found that women are more deprived than men, *iTaukei* are more deprived than Fijians of Indian descent, and while there were no age or settlement type differences, some Tikina differences were observed (the Clothing dimension mean score by Tikina is presented below).

Figure 50: Mean clothing dimension score by Tikina



Interestingly, the interaction for sex by settlement type was similar again to that of the Voice dimension and the personal support indicator (see chart below). That is, no sex difference in the Clothing dimension was found in rural or informal settlements, but women in urban areas were more deprived than their male counterparts.

Figure 51: Mean clothing dimension score by sex and settlement type



Reflections: Vanisha Mishra-Vakaoti

The IDM explores deprivation beyond the usual economic measures of poverty, drawing attention to the related social aspects of deprivation. Social deprivation is largely a subjective experience often articulated through qualitative research approaches but can be complemented with statistical data as provided by the IDM. The IDM considers both the material and social aspects of deprivation. In the initial participatory research to develop the IDM individuals with lived experience of poverty identified both aspects in their definition of poverty. The data demonstrates that deprivation can exist (on a social level) even in situations where material needs are met. This finding suggests that the study of the social dimensions of poverty (such as personal and familial support, access to adequate clothing and the ability to engage in and with community issues), in addition to material deprivation, offers a more holistic understanding of deprivation.

The patriarchal nature of Fiji's society most often leaves women and young people with little room to voice their opinions. This is supported by the data which shows that young women (18-25 years) experience the greatest deprivation in controlling their personal decision making. Young people (18-25 years) were also found to be more deprived than individuals in older age groups in having control over personal decision making. This is particularly concerning given that over one third of Fiji's population[59] comprises of people aged between 15 and 35 years.[60] Women (regardless of age) were 3.5 times more likely than men to report having 'some, very little, or no control' over their personal decisions.

In this context, the finding that 25% of women reported having "full control" over their personal decision making is noteworthy. Exploring the circumstances, family structures, values and daily practices of these women could help create useful case studies or practices to highlight across and/or within communities. These statistical findings, and others like them throughout this report, have the potential to inform more in-depth qualitative studies on the issues of personal control and social deprivation.

Of similar significance is the finding that men report that they could not rely on personal support from family and friends if they were in trouble at greater levels than women (6% and 3.6% respectively). It could be that men are more reluctant to seek support but this requires further exploration. The importance of family support for women and children has been stressed in the media[61] and in other studies.[62] The IDM also considers personal agency, in the 'control over personal decision making' indicator. On this indicator 48% of men reported having full control over their personal decisions, compared to only 25% of women. Exploring personal agency separately from personal support will likely strengthen gender sensitivity and further the understanding of gender differences. For instance, it might allow researchers to better contextualize the 50% increase in self-employed women (which rose from 16% to 24%) in 2008-2009.[63]

The ADB – Fiji Country Partnership Strategy[64] found that "households headed by married women have a slightly lower poverty incidence than households headed by married males" and

[59] "2007 Census of Population and Housing, "*Fiji Bureau of Statistics,* accessed 17 May, 2017, http://www.statsfiji.gov.fj/statistics/2007-census-of-population-and-housing

[60] The official definition of youth in Fiji according to the National Youth Policy. "Fiji National Youth Policy," *Youth Policy,* accessed 17 May, 2017, http://www.youthpolicy.org/national/Fiji_2011_National_Youth_Policy.pdf

[61] "Support from Family Crucial for Women's Success, Says Vuniwaqa," Arieta Vakasukawaqa, The Fiji Sun Online, accessed 17 May, 2017, http://fijisun.com.fj/2017/03/11/support-from-family-crucial-for-womens- success-says-vuniwaqa/

[62] "The State of Pacific Youth 2011: Opportunities and Obstacles," *UNICEF Pacific and the Secretariat of the Pacific Community*, accessed 17 May, 2017, https://www.unicef.org/pacificislands/State_of_the_Pacific_Youth_Report_web.pdf

[63] "Country Partnership Strategy: Fiji, 2014-2018,"*Asian Development Bank,* accessed 17 May, 2017, https://www.adb.org/sites/default/files/linked-documents/cps-fij-2014-2018-pa.pdf

[64] Ibid.

that among "the households whose heads are widowed, the female headed households are better off (80% lower poverty rate). However, among households where the head is divorced or has never married, the female headed households have a 71% higher poverty rate." Further analysis of gender, personal support and agency and family dynamics would provide useful insights into what these various individuals are doing to assist themselves transition out of poverty. As an individual-level measure that seeks to collect data from all adults in a household, the IDM makes possible some quantitative analysis of the relationship between gender, personal support and agency and family dynamics. This is important, and can point to areas where further investigation may be fruitful. Complementary qualitative investigation would assist in exploring the inter-relationships between these factors.

The IDM findings that respondents in informal settlements report enjoying less control and support than those in urban and rural areas are also consistent with the ADB findings;[65] its analysis of poverty maps indicates that poverty rates in informal settlements are the highest across all the divisions. This is particularly pronounced in the Western Division where squatter settlements experience a higher rate of poverty than rural areas. A 2013 study by the Market Development Facility[66] explored migration patterns of household members from rural to urban areas. It found that often those who remained behind "may live in deeper poverty as they assist their family get an education and leave the household". This movement of family or community members, including patterns of support and/or remittance, will provide further information relevant to the Relationship Dimension. Specific personal or familial support in issues related to migration and movement out of the community, village, or settlement could be an added factor for consideration in the Relationship Dimension.[67]

The IDM Fiji study found that participants reported greater levels of control over personal decisions and access to personal support at the familial and immediate social group level compared to perceptions of influence and efficacy at the community level. The Voice Dimension of the IDM explores the extent to which participants feel they can affect change in their communities. This finding should be located within its temporal context. In the lead-up to the 2014 general elections, the first since the 2006 military coup, the ability of individuals to raise issues, comment on government programs and civic participation more generally was discussed heavily in the media. The Citizens' Constitutional Forum research[68] on young people and democratic participation in Fiji, published shortly before the general election, sought to provide a preliminary assessment of 'young people's understanding and level of interest in democratic activities' given that almost a quarter of Fiji's population were first-time voters in the 2014 election[69] and about 40% of all voters were under the age of 35.[70] Public debate on social and political issues in Fiji was further restricted as the result of the Public Emergency Regulations introduced in 2009. While these Regulations were lifted in 2012, they were replaced with Public Order Decrees which impacted on ability for civic space and engagement in the lead up to the 2014 elections.

The difference noted in the IDM data on participation and voice by sociocultural background also warrants further qualitative/ethnographic investigation. The 2013 Market Development Facility study[71] explored the difference in poverty levels between Fijians of Indian descent and

[65] Ibid.
[66] "Study on Poverty, Gender and Ethnicity in Key Sectors of the Fiji Economy," *Market Development Facility and Australian AID,* accessed 17 May, 2017 http://marketdevelopmentfacility.org/wp-content/uploads/2013/08/130808_Fiji-Poverty- Gender-Ethnicity_Final.pdf
[67] Migration status (internal/external migrant; non-migrant) and remittances was assessed in the IDM Nepal study.
[68] "Young People and Democratic Participation in Fiji," *Citizens' Constitutional Forum,* accessed 17 May, 2017, http://news.ccf.org.fj/wp-content/uploads/2014/06/Youth-Research.pdf
[69] "The Fiji Election: Partnering to Support Women's Participation," *International Women's Development Agency*, accessed 21 May, 2017, https://www.iwda.org.au/the-fiji-election-partnering-to-support-womens- participation/
[70] "Young People and Democratic Participation in Fiji," *Citizens' Constitutional Forum,* accessed 17 May, 2017, http://news.ccf.org.fj/wp-content/uploads/2014/06/Youth-Research.pdf
[71] "Study on Poverty, Gender and Ethnicity in Key Sectors of the Fiji Economy," *Market Development Facility and Australian AID,* accessed 17 May, 2017, http://marketdevelopmentfacility.org/wp-content/uploads/2013/08/130808_Fiji-Poverty- Gender-Ethnicity_Final.pdf

the iTaukei by looking at communal responsibilities (social, family and church obligations), often not considered in economic studies of poverty. The study found that iTaukei had more extensive social and religious obligations than Fijians of Indian descent. The IDM Relationship Dimension might consider looking at "support offered" to others in addition to support received, to assess the impact of religious engagement more fully on individual circumstances.

The findings of the IDM on the deprivations faced by younger age groups will be key in providing impetus and evidence to help further the youth agenda. The data on younger age groups being more deprived than others in the Voice dimension is supported by the growing body of literature on young people's participation.[72] Given the increasing size of the youth population their participation and involvement in local, national, regional, and international issues is vital. In 2015, Vakaoti[73] explored the question of whether young people's participation in the 2014 elections was token or active citizenship, and this remains a key consideration towards enabling all citizens to contribute to shaping Fiji's future.

The IDM Fiji study has added new insights to the poverty and deprivation literature in Fiji. This is particularly so in relation to the dimension on clothing and personal care. This explores the extent to which participants' clothing and footwear protect them from the elements and the hazards in their environment. The IDM also asks participants to consider the extent to which they can present themselves in public in a way that is acceptable by the standards of their community (in terms of clothing, body odour and grooming). At the time of writing, no comparable literature for Fiji was available, although shame and stigma have been identified as important missing dimensions of poverty and deprivation.[74] The IDM findings on the social face of deprivation convincingly demonstrate the need for a more holistic understanding of poverty beyond material deprivation. In considering additional social dimensions related to poverty, more targeted approaches to poverty alleviation can be developed and implemented.

[72] See for example Patrick Vakaoti, "Young People's Participation in Fiji: Understanding Conceptualizations and Experiences," *Journal of Youth Studies,* (2016), doi: 10.1080/13676261.2016.1260695 & Patrick Vakaoti, "Youth Participation and Security – the Case of Fiji," *University of Canterbury,* accessed 17 May, 2017, https://ir.canterbury.ac.nz/bitstream/handle/10092/12184/Youth%20participation%20and%20 security-the%20case%20of%20Fiji%20Patrick%20Vakaoti.pdf?sequence=1

[73] Patrick Vakaoti, "Fiji Elections and the Youth Vote – Token or Active Citizenship?" in *The People Have Spoken: The 2014 Elections in Fiji,* eds. Steven Ratuva and Stephanie Lawson (ANU Press, The Australian National University, Canberra, Australia, 2016), 157-75.

[74] See for example "Shame, Humiliation and Social Isolation: Missing Dimensions of Poverty and Suffering Analysis," *Oxford Poverty and Human Development Initiative,* accessed 21 May, 2017 http://www.ophi.org.uk/shame-humiliation-and-social-isolation-missing-dimensions-of- poverty-and-suffering-analysis/

CHAPTER NINE
DISABILITY AND DEPRIVATION

9. DISABILITY AND DEPRIVATION

The intersectionality of disability and deprivation is well noted in the literature on poverty, and disability is proposed to be both a cause and a consequence of deprivation. The IDM individual questionnaire incorporates the Washington Group Short Set (WG-SS) of questions on disability[75] to assess disability status, with the intention of enabling disaggregation of IDM data by disability. To disaggregate data by disability, it is necessary to include a disability indicator such as the WG-SS along with the variable of interest (e.g. shelter) in the same data collection activity. Consequently, some analysis of how disability and deprivation are associated in Fiji can be provided by this report.

The stated purpose of the WG-SS to "identify all people whose functional difficulties put them at risk of not being able to participate in society, for example being employed…once we identify who is at risk, we can compare their outcomes (e.g. employment) with those not at risk to see the extent to which those barriers exist"[76]

Scoring

Disability status/ functional difficulties
Indicators: Degree of difficulty

a. Do you have any difficulty seeing, even if wearing glasses?
b. Do you have any difficulty hearing, even if you are wearing hearing aids?
c. Do you have any difficulty walking or climbing steps?
d. Do you have any difficulty remembering or concentrating?
e. Do you have any difficulty with self-care such as washing or dressing?
f. Using your customary language, do you have any difficulty communicating, for example understanding or being understood?

Each item scored on a scale of 1 to 4:

1 = No difficulty
2 = Some difficulty
3 = A lot of difficulty
4 = Cannot do at all

The sum of the disability index has a maximum total score of 24, indicating inability to perform any of the above functions at all, and a minimum total score of 6, indicating full ability to perform all functions.

The mean score on this question for the full sample in Fiji was 6.8 (the possible range of scores being 6-24, with 6 being no difficulties in any category and 24 being full disability in all categories). This indicates overall very low levels of disability in the IDM Fiji sample. The most common functional difficulties were with seeing and walking.

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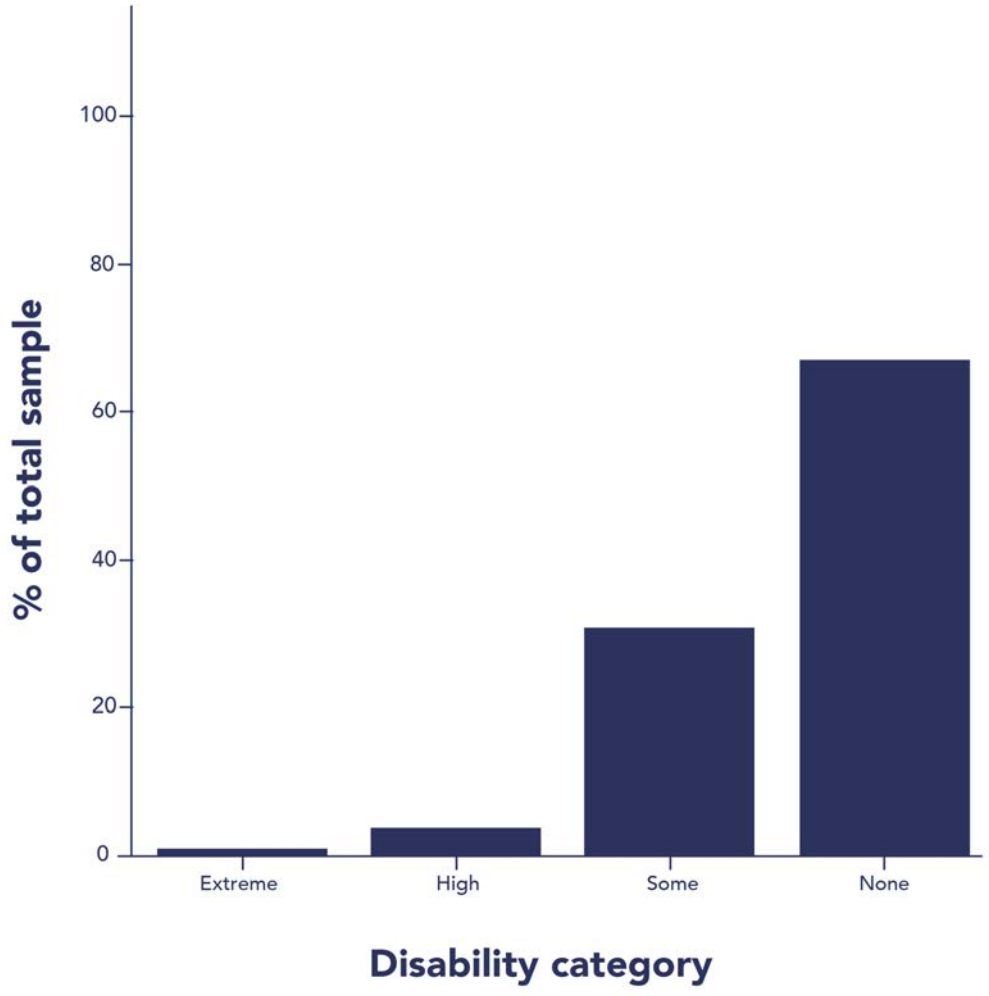
[75] The initial IDM survey incorporates a brief set of questions on disability to screen for limitations in basic activity functioning. The questions were developed for use in census or similar multi-topic survey contexts where only brief information can be sought on any one topic 'to provide comparable data cross-nationally for populations living in a great variety of cultures with varying economic resources. The objective was to identify persons with similar types and levels of limitations in basic activity functioning regardless of nationality or culture.' (United Nations Statistical Commission. (2007). Report of the Washington Group on Disability Statistics: Note by the Secretary-General. Thirty- eighth session, 27 February-2 March 2007, E/CN.3/2007/4. Available at http://unstats.un.org/unsd/statcom/doc07/2007-4e-Disability.pdf).
Use of these questions also recognises that in contexts where disability is associated with significant discrimination and stigma, simply asking respondents whether they have a disability may result in significant under-reporting of functional limitations. Going forward, in consultation with the Washington Group, the survey is likely to incorporate an extended set of screening questions to better capture cognitive functioning and mental health.

[76] http://www.washingtongroup-disability.com/methodology-and-research/the-purposes-of- disability-measurement/

Unfortunately, this makes it not possible for a thorough or reliable analysis of high-level disability with the current IDM Fiji sample. Instead, this section will explore different ways in which 'disability' may be coded, using the terminology of 'degrees of functional difficulties'. In doing so we can create demographic profiles of people with varying degrees of functional difficulties in Fiji, and—acknowledging the limitations of the sample for drawing conclusions about disability and poverty—begin to explore the relationship between degrees of functional difficulty and IDM poverty. Approaches to improving the sampling of people with disabilities will be pursued as a priority as the IDM is further developed.

The Washington Group on Disability Statistics places responses to the six short questions (questions a. to f. in the box above) into categories of severity using the following coding: scores of 6 = 'No disabilities', scores of 7 – 10 = 'Some disabilities', scores of 11-13 = 'High Disabilities', and scores of 14-24 = 'Extreme disabilities'. Using this coding on the IDM data collected in Fiji produces the following distribution of disability.

Figure 52: Percent of total sample in each category of disability

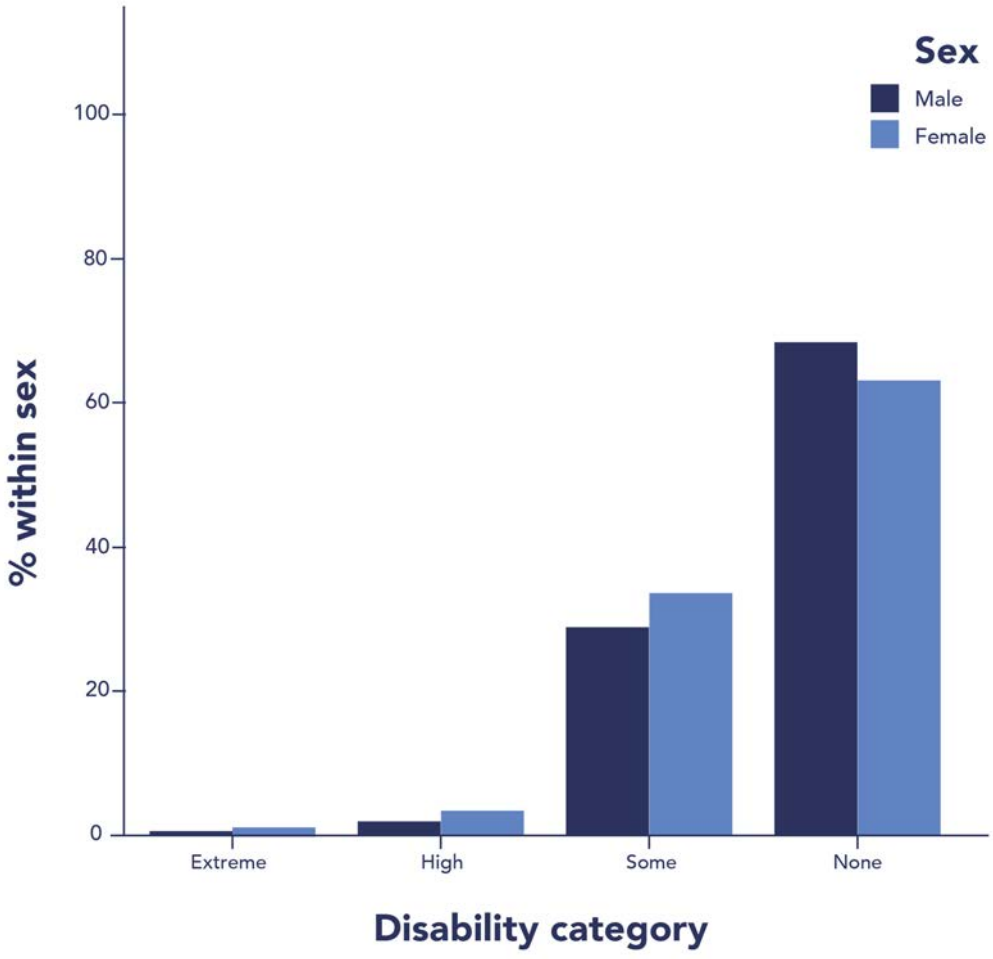


As this chart shows, the majority of the sample (over 60%) experience no disabilities in any categories of functioning. A little over 30% of the sample fall into the category of 'Some disabilities', 3.1% of the sample (91 participants) fall into the category of 'High disabilities', and 0.7% (21 participants) are in the category of 'extreme disabilities'.

One potential issue with using this coding is that for each category of disability, it is unclear whether individuals in each category of disability are comparable in terms of their disability. The 'Some disabilities' category, for example, could describe someone with minimal difficulties with hearing, seeing and walking, as well as someone who is completely blind. That is, using the recommended points-based cut-offs does not discriminate between being unable to perform a function at all and having some difficulties in multiple functions.

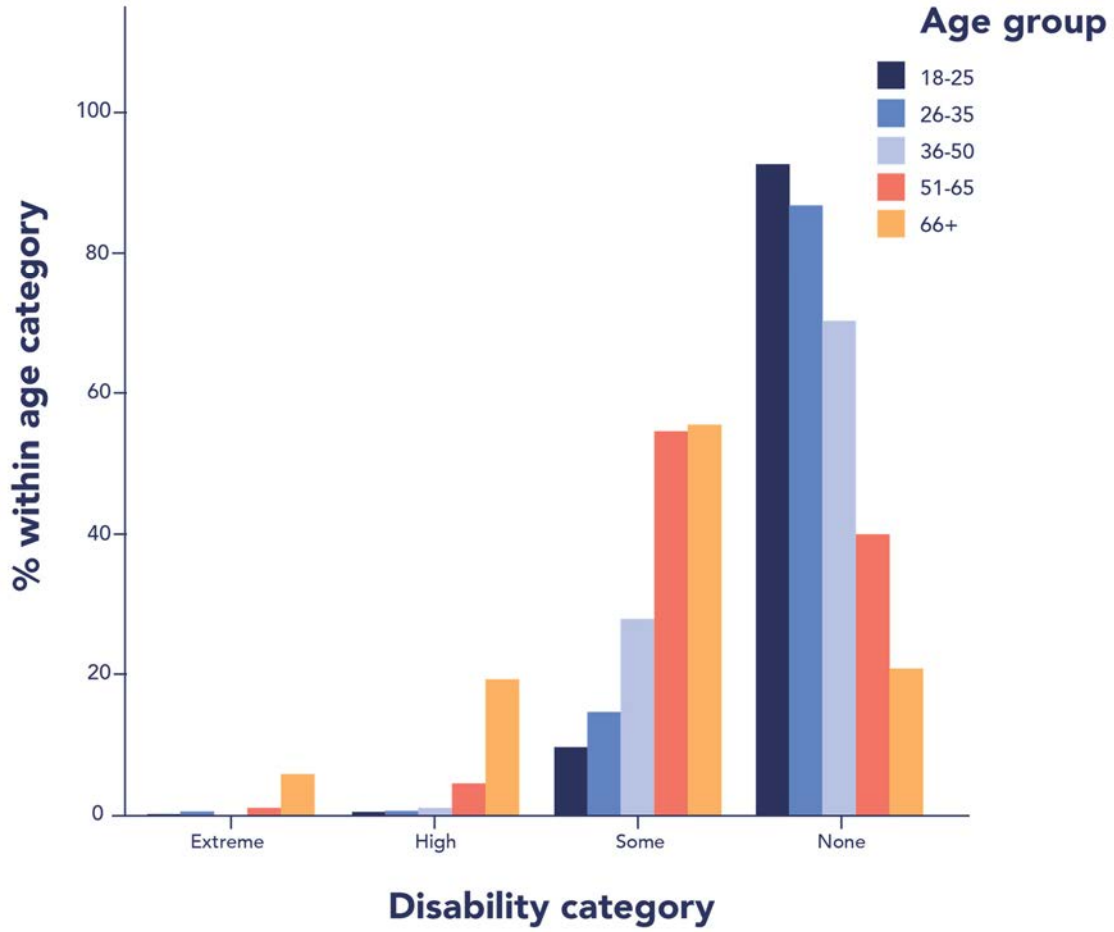
Keeping this caveat in mind, as well as the low numbers of respondents in the higher categories of disability, we can still examine who lives with disability within the sample in Fiji according to the original Washington Group coding. Crosstabulating disability by sex reveals that fewer women (61%) than men (70%) are in the category of 'no disability, and that more women than men fall into each of the categories of disability (Some, High, and Extreme).

Figure 53: Percent of each sex in each category of disability



Crosstabulating disability category by age category also reveals that the majority of respondents who reported higher levels of disability were mostly in the oldest age group sampled (66+). The next oldest age group (51-65) becomes equally represented in the 'Some disabilities' category. As such, many of the difficulties in the higher categories may be assumed to reflect age-related disability.

Figure 54: Percent of each age group in each category of disability



As we can see, coding multiple categories of increasing disability produces small sample sizes in each category. Therefore, some options were explored for producing a dichotomous variable with different cut-offs for what may be considered meaningful levels of functional difficulty vs. no functional difficulty.

1. **At least some difficulty in all functions or severe difficulties in more than one function**

This coding requires placing participants who have some or a lot of difficulty in all functions (seeing, hearing, walking, remembering/concentrating, self-care, and communicating) into the same category as people who cannot perform multiple functions (i.e. cannot see and hear and have a lot of difficulty remembering); and all other participants into another category which may range from no difficulties to some difficulties in a few functions. This produces the following frequencies in each category.

Table 10: Frequency and percent of sample in each category of disability

	Frequency	Percent
None or minimal functional difficulties	2897	97.6
Multiple functional difficulties	70	2.4
Total	2967	100.0

2. Having a lot of difficulty with, or cannot do at all, at least one of the functions

This coding selects only people who have selected the option of 'a lot of difficulty' or 'cannot do at all' for at least one of the functions. This type of coding, as opposed to the additive coding used by the Washington Group or the coding above, eliminates people from being classified as 'disabled' if they only have 'some difficulty' in any function. This produces the following frequencies in each category.

Table 11: Frequency and percent of sample in each category of disability: No severe function difficulties vs at least one severe functional difficulty

	Frequency	Percent
No severe functional difficulties	2878	97.0
Severely affected by at least one functional difficulty	89	3.0
Total	2967	100.0

3. Having at least some difficulty in at least one function

This coding has the effect of essentially 'collapsing' the Washington Group categories into a dichotomous variable consisting of either 'Difficulty' (reported 'Some difficulty' in at least one category) or 'No difficulty' (reporting no difficulties in any functions. This places people who are completely unable to perform multiple functions (e.g. remembering, self-care, communicating) in the same category as those who have, for example, some difficulty hearing. This coding unsurprisingly produces the largest number of people in the 'Some Difficulty' category, presented in the frequency table below.

Table 12: Frequency and percent of sample in each category of disability: No difficulty vs some difficulty

	Frequency	Percent
No Difficulty	1940	65.4
Some Difficulty	1027	34.6
Total	2967	100.0

Two of these options seem to be of the highest interest for analysing the intersection of disability and poverty, and each provides a different perspective on functional difficulty than the Washington Group coding. Option 2 considers citizens who are severely incapable of performing at least one function. This will provide some idea of what deprivation is like for those who cannot perform basic functions. Option 3 considers minor difficulties, but creates a large sample size, which brings more power for statistical testing, especially as we are interested in the intersection of gender, disability, and poverty.

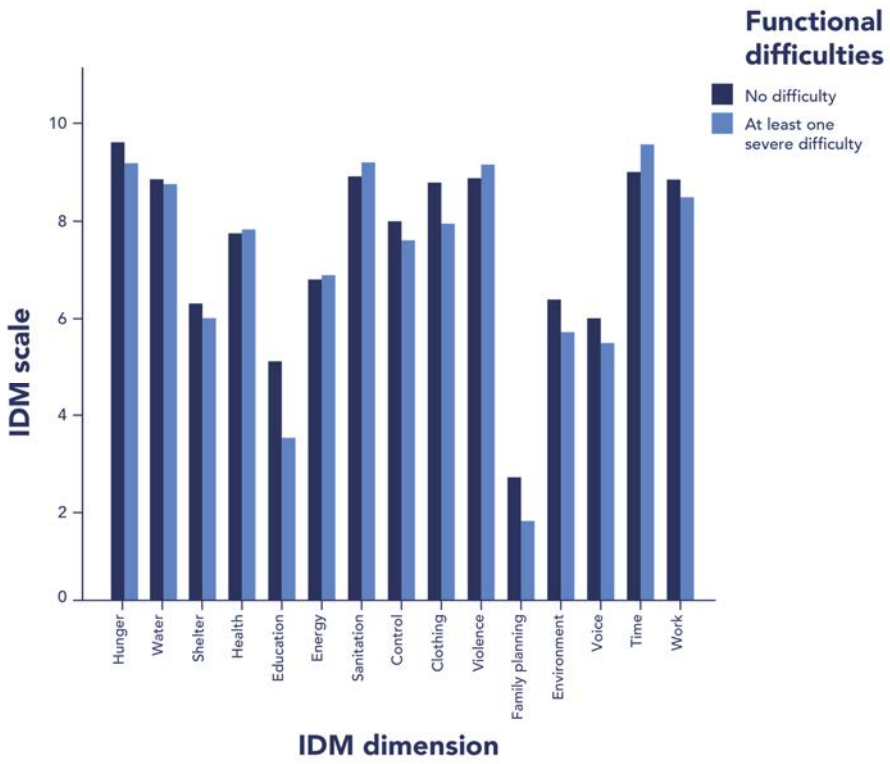
No difficulties vs. having a lot of difficulty with, or cannot do at all, at least one of the functions

Here a comparison was made at the dimension level between people who had no difficulty in any functions, and those who answered 'a lot of difficulty' or 'cannot do at all' for at least one of the functions. Differences in dimension means between the groups were tested for statistical significance. The 'At least one severe difficulty' group were found to be more deprived than other citizens in the dimensions of Hunger, Shelter, Education, Clothing, Environment, and Work. The group 'No difficulty' was more deprived only in the Time dimension.

This illustrates, even with the limitations of sample size noted above, that physical difficulty is associated with more deprivation across multiple dimensions. Causality cannot be claimed, and it is likely that the causality is bidirectional, in that people with disabilities experience more deprivation, and those who are more deprived may experience more severe difficulties due to issues associated with deprivation such as poor nutrition and lack of health care.

The small sample size of the population with severe difficulties is not large enough to test for an interaction between gender, functional difficulties, and deprivation. The third option presented earlier, in which sample sizes between people with and without difficulty is more equal, provides an opportunity for further testing.

Figure 55: Mean dimension score for individuals in each category of functional difficulty: No difficulty vs At least one severe difficulty

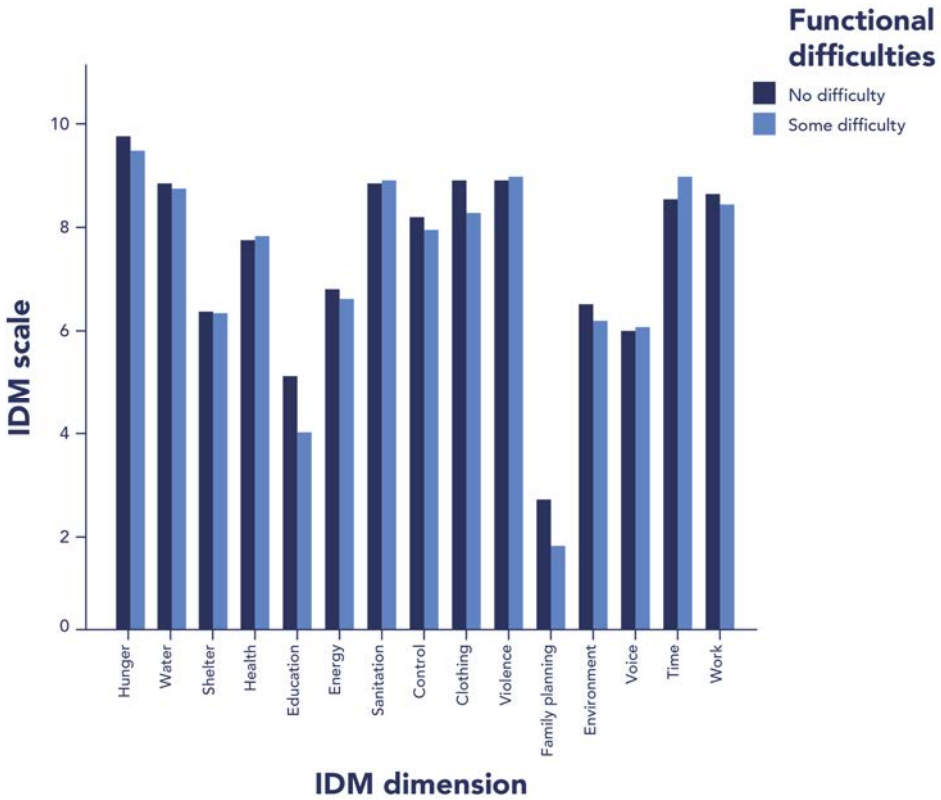


No difficulties vs. having at least some difficulty in at least one function

In this section a comparison was made at the dimension level between people who experience no difficulty in any type of function, and those who indicated they experience 'Some difficulty' in at least one function (up to severe difficulties in all functions). The chart below indicates the mean dimension scores for each of the two categories of functional difficulty. Testing for statistically significant differences between the groups revealed a similar pattern to the previous analysis. People who experience some difficulties are more deprived in the dimensions of Hunger, Shelter, Education, Clothing, Environment, and Work. In this coding, people with some difficulties were also more deprived in the Relationships and Family Planning dimensions (this may be due to the increased sample size providing greater power to the statistical tests). People with no difficulties were more deprived in the Time dimension, as before.

This comparison is helpful as it suggests that a lower threshold for coding functional difficulty produces similar results to more stringent coding, while increasing the sample size for the group experiencing difficulties. This allows us to test for sex differences for people with and without functional difficulties.

Figure 56: Mean dimension score for individuals in each category of functional difficulty: No difficulty Vs Some difficulty



The charts below plot the mean IDM dimension scores for men and women. The first chart represents those without functional difficulties, the second chart represents only those with some functional difficulties. The dark blue bars represent men, and lighter blue bars represent women. In most dimensions, the mean scores for those with some difficulties are lower. The difference between men and women is exaggerated in some dimensions, and decreased in others.

Figure 57: Mean dimension scores for men and women (no functional difficulty)

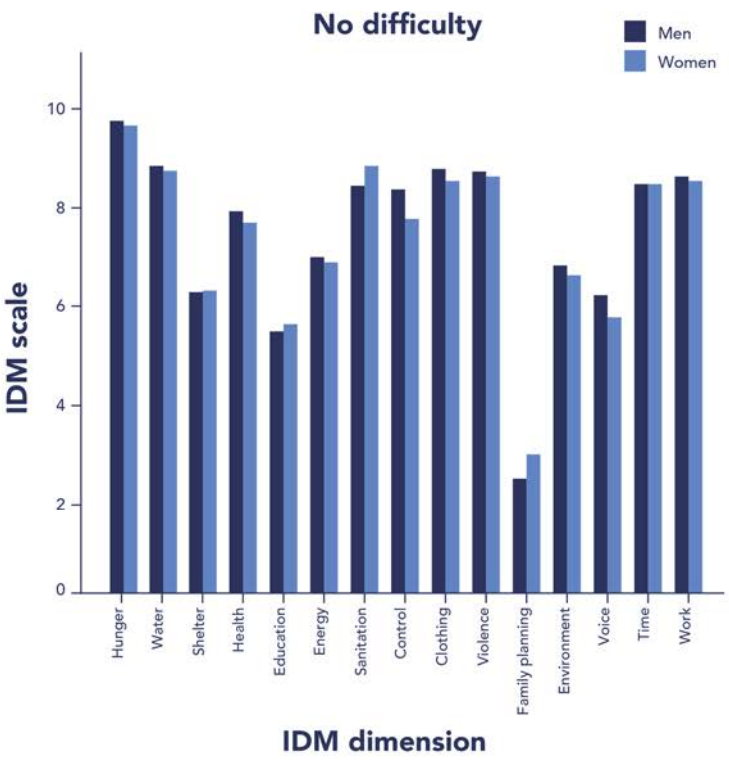
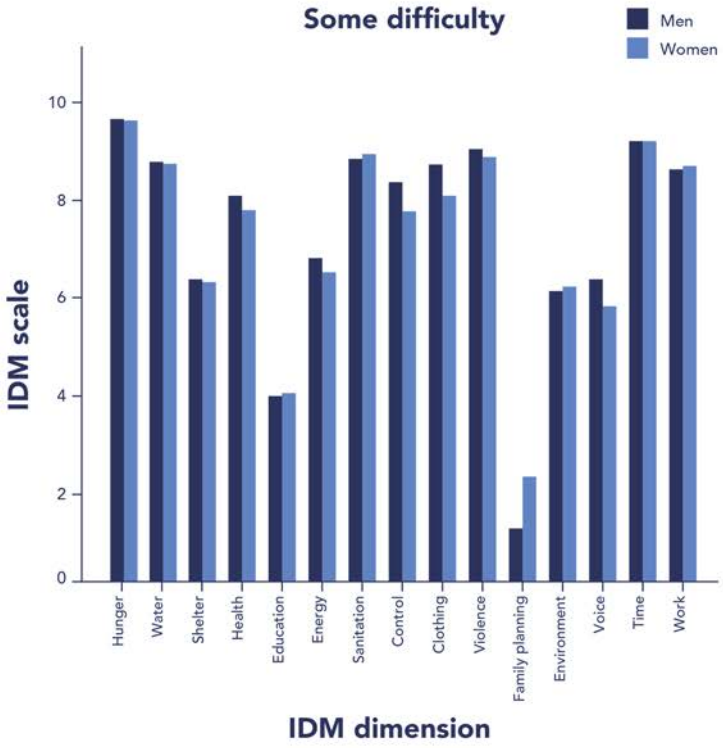


Figure 58: Mean dimension scores for men and women (some functional difficulty)



Sex differences in mean dimension scores were also tested for statistical significance. For people experiencing **no** functional difficulty, women were more deprived in the dimensions of Health, Relationships, Clothing, and Voice, and men were more deprived in the dimensions of Education, Sanitation, and Family planning.

For people experiencing **some** functional difficulty, women were more deprived in the dimensions of Health, Relationships, Clothing, and Voice. It is interesting to note that, aside from Health, gender differences persist for those with functional differences in the social dimensions, indicating that women with functional difficulties struggle most with familial, social, and community engagement.

Reflections: Vanisha Mishra-Vakaoti

There have been significant efforts to strengthen disability research in Fiji. This includes research about disabled persons organisations, and research on women with disabilities.[77] While the research is often fragmented and the data not representative of the entire population, disability research is emerging steadily in Fiji's research landscape and informing disability discourse. However, integration of disability into general data collection in a way that enables routine disaggregation of data by disability is still limited. The 1996 Census included questions about disability for the first time.[78] A baseline survey to determine the number of people living with disability was undertaken by the Fiji National Council for Disabled Persons (FNCDP) in 2009 and published in 2010, although FNCDP considers the finding of 11,402 persons reported with a disability to be a very significant underestimate. A follow up survey was announced in 2015, with consolidated data expected in 2017.[79] The 2017 Census, to be conducted in September, will provide updated nationwide data.

Fiji signed the United Nations Convention on the Rights of Persons with Disabilities (CRPD) in 2010, and is working towards ratification in 2017. In 2016, the Ministry of Health and Medical Services noted that ratification of the CRPD could assist Fiji in prioritising and resourcing data collection.[80] The adoption by Pacific leaders of *The Pacific Framework on the Rights of Persons with Disabilities* (PFRPD) at the 47th Pacific Islands Forum Leaders in September 2016 indicates 'a will to build a Pacific that is inclusive and equitable for all persons with disabilities.'[81]

Against this background, the IDM Fiji report makes a limited yet important contribution to the literature on disability and deprivation in Fiji. The study integrates the Washington Group Short Set of Questions on Disability, designed for use in census or similar multi-topic surveys, to screen for limitations in basic activity functioning. Due to limited sample size and the relatively small numbers of respondents with functional disability in the IDM Fiji sample, there are limitations to the analysis that is possible. The mean score on the disability screening questions was 6.8,[82] which indicates very low levels of disability within the sample. This makes reliable analysis of high-level disability difficult. What this section of the report does provide is an overview of demographic profiles of people with varying degrees of functional difficulties in Fiji. It also allows researchers to identify limitations and possible future improvements in investigating disability and deprivation. The findings on disability and deprivation, especially the sex desegregated data, begin to address a void in the Fiji poverty literature, where the situation of, and challenges faced by, women are limited, or absent.[83] [84]

The Fiji Islands National Policy on Persons Living with Disabilities 2008-2018 defines people with disabilities as "persons with long term physical, mental, learning, intellectual and sensory

[77] For example, "Pacific Sisters with Disabilities", *Pacific Women, UNDP,* accessed 27 May, 2017, http://www.pacificwomen.org/resources/pacific-sisters-with-disabilities/ and, "Making Women with Disabilities Visible", *Fiji National Council for Disabled Persons,* accessed 27 May, 2017, http://www.fncdp.org/docs/WomenDisabilitiesSurvey.pdf

[78] "Achievements", *Fiji National Council for Disabled Persons,* accessed 5 June, 2017, http://www.fncdp.org/achievements.html

[79] "Fiji National Council for Disabled Persons to Determine Number of Disabled Persons in Fiji Through Survey" , *Watisoni Butabua, Fiji Village Online,* accessed 5 June, 2017, http://fijivillage.com/news/Fiji-National- Council-for-Disabled-Persons-to-determine-number-of-disabled-persons-in-Fiji-through- survey-s925rk/

[80] "Lack of Data on Disability", *Arieta Vakasukawaqa, Fiji Sun,* accessed 5 June, 2017, http://fijisun.com.fj/2016/05/22/lack-of-data-on-disability/

[81] "Pacific Leaders' Adopts Regional Framework on Disability," *Pacific Disability Forum,* accessed 5 June, 2017 http://www.pacificdisability.org/News/Pacific-leaders%E2%80%99-adopts-regional- framework-on-disa.aspx

[82] With the possible range of scores being 6 to 24, with 6 being no difficulties in any category and 24 being full disability in all categories.

[83] "Making Women with Disabilities Visible", *Fiji National Council for Disabled Persons,* accessed 27 May, 2017, http://www.fncdp.org/docs/WomenDisabilitiesSurvey.pdf

[84] "Pacific Sisters with Disabilities", Pacific Women, UNDP, accessed 27 May, 2017, http://www.pacificwomen.org/resources/pacific-sisters-with-disabilities/

impairments and whose participation in everyday life as well as enjoyment of human rights are limited, due to socio-economic, environmental and attitudinal barriers."[85] This is consistent with the United Nations (UN) definition of disability, which similarly recognises physical, intellectual or sensory impairment, medical conditions or mental illnesses that are either permanent or transitory in nature.[86] The IDM integrates the questions recommended by the Washington Group on Disability Statistics for inclusion in multi-topic surveys. These focus on the degree of functional difficulties, relating to eyesight, hearing, mobility, memory, concentration, self-care and communication and understanding. Disability literature tends to include physical, visual, hearing, speech, intellectual, psychosocial and multiple disabilities as possible categories.[87] [88] [89] Changes are planned in consultation with the Washington Group, to include an extended list of questions to more fully incorporate cognitive functioning. The methodology section of this report provides further details.

The UN Division for Social Policy and Development Disability states that, "poverty may cause disability through malnutrition, poor healthcare, and dangerous living conditions…. Disability can cause poverty by preventing the full participation of persons with disabilities in the economic and social life of their communities."[90] In its current form the IDM does not allow for investigation of the bidirectional link between poverty and disability, though the report acknowledges its existence. As a point in time measure of multidimensional deprivation, the IDM cannot identify causality. However, it can highlight the relationship between disability and other factors and identify where further investigation may be warranted.

The majority of respondents who reported high levels of disability were from the oldest age group in the sample (66 years and older). This suggests much of the disability in this sample may be age-related. The 2010 *Making Women with Disabilities Visible*[91] study also found that older women (aged 51 years and older) had more disabilities compared to other age groups. In Fiji, the number of people aged 60 and over is projected to increase from 69,300 in 2010 to 170, 500 by 2050.[92] Census data for Fiji confirms that the proportion of the population aged 60 and over has been consistently higher in rural areas compared to urban areas since 1976, and widening.[93] Many communities in Fiji have traditionally had systems in place to care for elderly people who live with disabilities related to age, although rural- urban migration, especially of working age people, may be contributing to some disruption of traditional care arrangements. Structures and systems to hear and respond to the needs and priorities of younger individuals with disabilities are less developed. As children, and young people experience poverty and other social issues differently from adults, it is important for research to be inclusive of them where possible. Plans to develop a companion IDM measure for children will be an important complement to current adult-focused instrument.

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[85] "Fiji Islands National Policy on Persons Living With Disabilities 2008-2018", *Fiji National Council for Disabled Persons*, accessed 27 May, 2017, http://fncdp.org/docs/2008-18_NationalDisabilityPolicy.pdf
[86] "Convention on the Rights of Persons with Disabilities", *United Nations*, accessed 27 May, 2017, https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with- disabilities.html
[87] "Disability, Livelihood and Poverty in Asia and the Pacific," *UNESCAP,* accessed 27 May, 2017, http://www.unescap.org/sites/default/files/SDD_PUB_Disability-Livelihood.pdf
[88] "Making Women with Disabilities Visible", *Fiji National Council for Disabled Persons,* accessed 27 May, 2017, http://www.fncdp.org/docs/WomenDisabilitiesSurvey.pdf
[89] "Pacific Sisters with Disabilities", *Pacific Women, UNDP,* accessed 27 May, 2017, http://www.pacificwomen.org/resources/pacific-sisters-with-disabilities/
[90] "#Envision2030 Goal 1: No Poverty", United Nations Division for Social Policy and Development Disability, accessed 27 May, 2017, https://www.un.org/development/desa/disabilities/envision2030- goal1.html
[91] "Making Women with Disabilities Visible", *Fiji National Council for Disabled Persons,* accessed 27 May, 2017, http://www.fncdp.org/docs/WomenDisabilitiesSurvey.pdf
[92] "Women and Poverty Alleviation", *Fiji Ministry of Social Welfare,* 2000, cited in Govinda Ishwar Lingam and Gillian M. Boulton-Lewis, "Ageing in Fiji: How Older Teachers Perceive Ageing and Their Lives", *American Journal of Human Ecology,* 1, no. 2, (2012): 65-70.
[93] "Population Ageing in the Pacific Islands: A Situational Analysis", *Geoffrey Hayes*, *United Nations Population Fund*, accessed 5 June, 2017, http://countryoffice.unfpa.org/pacific/drive/Ageingpopulation20.10.10.pdf

The IDM findings on the sex differences provide an important comparison for other researchers intending to investigate disability and deprivation. Women and men were found to experience deprivation in different dimensions, again underlining that different groups tend to have varied experiences of poverty. The 2010 *Making Women with Disabilities Visible* report found that "women with disabilities continue to live in isolation, not understanding their right to live and responsibility to participate in development and decision- making processes".[94] Similarly, the IDM study found that women with functional difficulties struggled the most with familial, social and community engagement. With a larger sample, future IDM data collection and analysis has the potential to identify intersectional barriers and disadvantage among women and girls, and provide greater insight into the relationship between gender, poverty and disability.

[94] "Making Women with Disabilities Visible", *Fiji National Council for Disabled Persons,* accessed 27 May, 2017, http://www.fncdp.org/docs/WomenDisabilitiesSurvey.pdf

CHAPTER TEN
LIMITATIONS

10. LIMITATIONS

Measuring multidimensional poverty and creating a composite index from categorical information as described in the chapters above involves a series of important decisions regarding scoring, coding, threshold cut-offs, and conceptual implications. As the IDM is refined and developed, and feedback is sought from stakeholders and local specialists, we will document and share the decision-making processes behind the IDM data and analysis. This section documents various discussions around technical and conceptual issues encountered during the IDM Fiji data analysis, including a discussion of an initial attempt to combine IDM dimensions into an overall composite index.

Generally speaking, there are three kinds of issues that may arise in relation to IDM data. The first is produced through issues arising during fieldwork, as enumerators and participants interact in their environments. Contextual factors including safety issues may also affect data collection, such as an abused woman fearing the consequences of disclosing exposure to violence. Finally, issues relating to interviewer coding may arise (for example, inaccurate calculation of primary and secondary activities over a 24 hour period when completing the time use module in the field).

The second type of issue may be produced through the aggregation process and assigning thresholds within dimensions. As the IDM is a new measure, cut-offs for the five levels of deprivation in each dimension have been set but not yet tested as appropriate in multiple country contexts. In an example from the time use and labour burden dimension (presented in full below), the profile of deprivation for men and women is very sensitive to where the deprivation thresholds are set in terms of the number of hours per day of primary and secondary work and personal time. Adjusting these cut-offs by even half an hour creates different mean scores and categorical profiles that change our interpretation of the time use dimension considerably. Here we also encounter tension between local validity and generalisability. Ten hours per day of formal work or study may be the norm in Fiji around which we base our cut-offs, but these norms (and therefore relative standards of deprivation within a country) may vary from country to country. Judgements about the extent to which the IDM should prioritise local context over comparability between countries, or compromise between the two, will require more country studies to assess between- and within-country variability.

The third issue is the way in which we understand and conceive of ‘deprivation’. One of the examples outlined below involves the time use dimension: does zero hours of work per day represent someone who is not deprived (because they have enough resources to not have to work), or someone who is extremely deprived (because they are chronically unemployed or unable to work)? In the family planning dimension, on the one view, having a reliable source of birth control represents lack of deprivation (in terms of access and resources).

However, it could also constitute some deprivation if the burden of responsibility for, and cost of, birth control is falling disproportionately on this individual. Does regularly using a public or outdoor area as a secondary toilet represent deprivation (lack of access to improved sanitation facilities) or advantage (cultural acceptance of public urination, ease of access)? As will be explained below, these issues are often gendered, and represent differences between men and women relating to social norms, cultural context, and related expectations and assumptions.

Issues are discussed by dimension in this section, with reference to the above three categories of measurement and technical issues. The methods eventually used to calculate the dimension scores (and subsequently used in calculating the overall IDM score) are justified to the extent possible, but we recognise that in many cases an equally compelling case may be made for an alternative approach. Broadly speaking, these issues represent the trade-off inherent in measuring deprivation at the individual level, and aggregating the lived experiences of thousands of people across sex, age, ethnicity, and settlement type, wherein even objective facts may produce

subjectively different interpretations between people or groups. We welcome further discussion and debate around these issues as we seek to improve and develop the IDM as a measure of poverty and gender equity for global use.

Time Use and Labour Burden dimension

Time use and labour burden have been identified as important factors differentiating poor men and women. However, there are no international standards on the extent of labour burden that constitutes deprivation. The IDM measures time use and labour burden in the preceding 24 hours, via an activities sheet in which participants identify what they were doing at each half hour of the preceding 24 hours. Participants are asked to identify what they were doing at different points in the day, selecting from a range of paid work, unpaid work, personal time, and leisure activities. Duration of activities is marked in 30 minutes blocks by the enumerator. Participants are also asked whether they were performing a secondary activity concurrently. This is intended to give visibility to situations where multiple activities are undertaken simultaneously – for example cooking and provision of care for children.

In the Philippines, the average number of hours spent on primary and secondary activities was calculated, and the following coding applied:

Extremely deprived = 16 or more hours Very deprived = 14-15.9 hours Deprived = 12-13.9 hours
Somewhat deprived = 10-11.9 hours Not deprived = less than 10 hours

However, taking an average of primary and secondary time use is problematic; it drastically decreases the overall estimates of time use (as people tend to work significantly fewer 'secondary' tasks than primary). We want our measure to reflect something meaningful in terms of estimating the amount of work performed each day. Using this method in Fiji initially produced results that indicated men were more deprived than women in this dimension, despite women performing more primary work, secondary work, and having less personal time. This outcome led to further scrutiny of the data and the approach used for this dimension in the Philippines trial. The indicators of primary time, secondary time, and personal time during the previous 24 hours are presented below, followed by a discussion of the typicality of this schedule for men and women.

In terms of primary time, men worked on average 8.52 hours per day, whereas women worked on average 8.62 hours per day (a difference of around 6 minutes per day). The reason for the finding that men were more deprived than women becomes clearer when examining the profiles for number of primary hours per day worked, below. The coding above provides a threshold of deprivation of 10 hours per day. Men's work patterns in the Fiji survey (below right) show that the most common number of hours worked for men is 10. This shifts the majority of men in the sample into the category of 'Somewhat Deprived'. Women's most common number of primary hours worked per day is 7, which leaves the majority of women above the threshold in the 'Not Deprived' category. Shifting the threshold between the two categories even 15 minutes upwards, to place the deprivation threshold at 10 hours and fifteen minutes of work per day, would shift all of these men categorised as 'Deprived' back into the category of 'Not Deprived'. This reveals the sometimes arbitrary nature of thresholds in terms of continuous data.

Figure 59: Number of women reporting particular hours of work/study primary time use

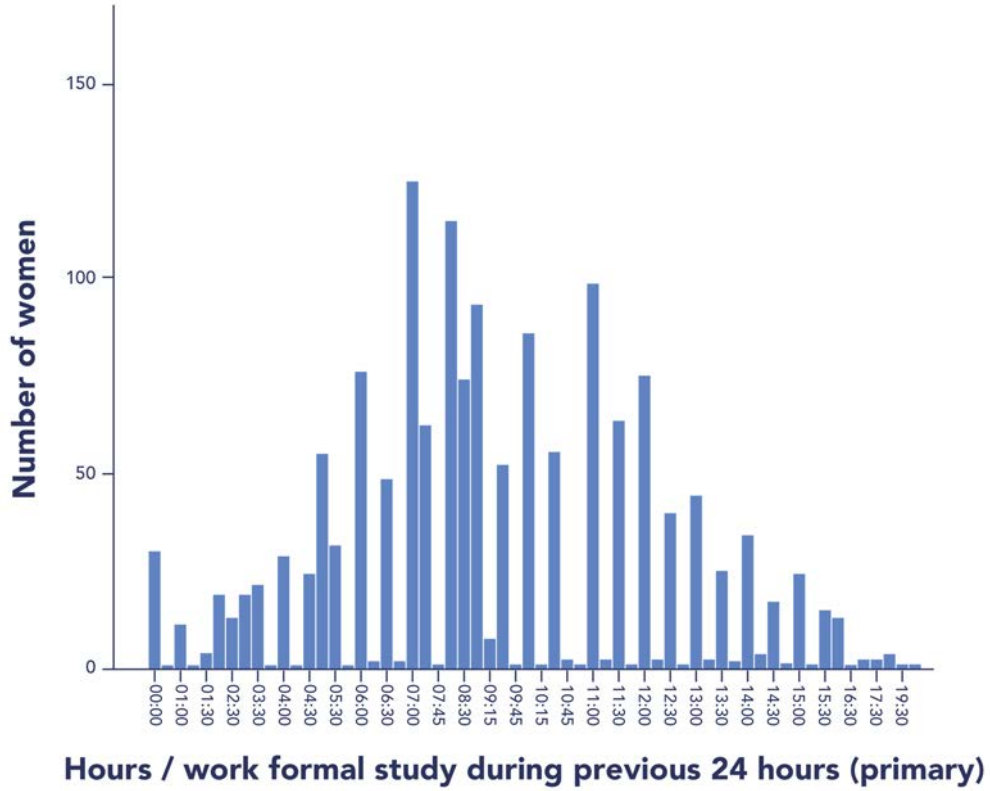
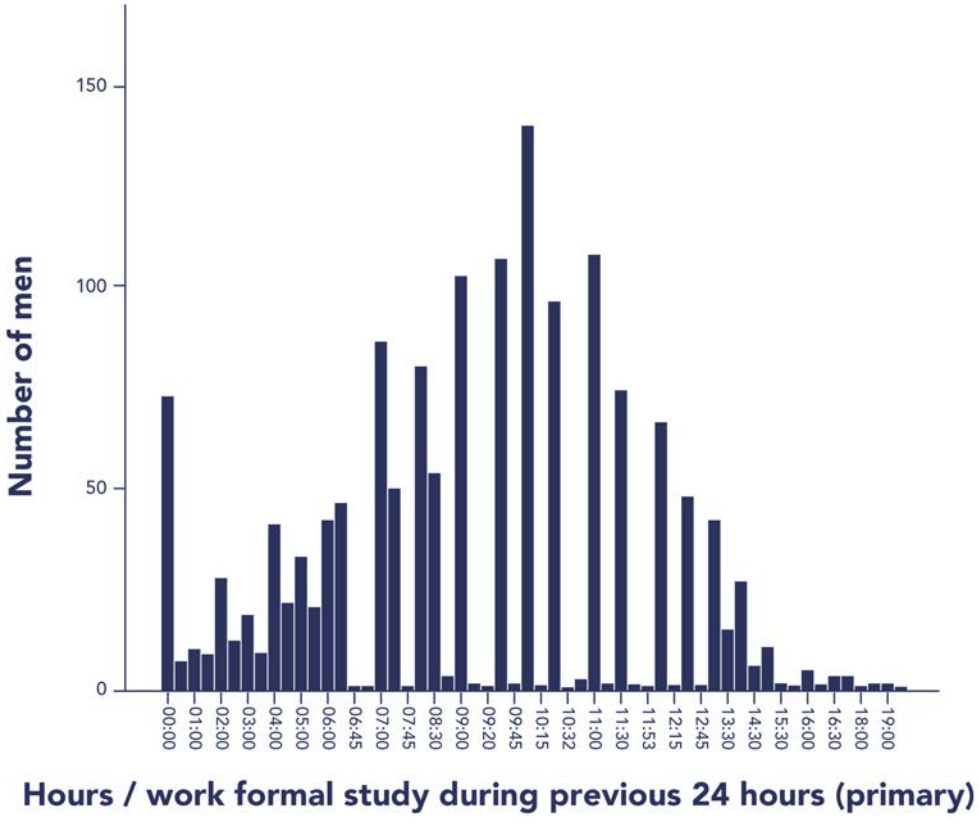


Figure 60: Number of men reporting particular hours of work/study primary time use



In terms of secondary work time, men worked on average 0.20 hours per day and women worked 0.78 hours per day, equivalent to a difference of 36 minutes per day. Women were also more likely to perform multiple activities for very long time periods, with some women indicating up to 19 hours of secondary work per day. 87.3% of men reported no secondary activities compared to only 65.3% of women.

Figure 61: Number of women reporting specific hours of work/study secondary time use

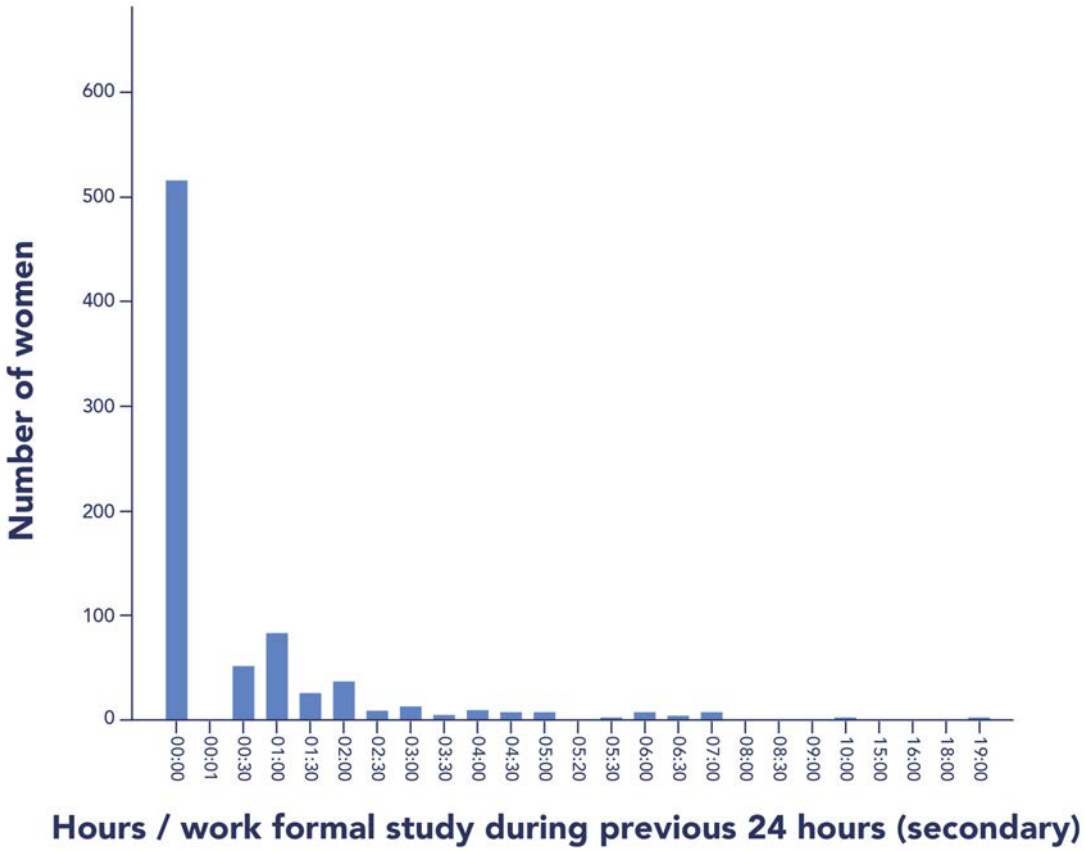
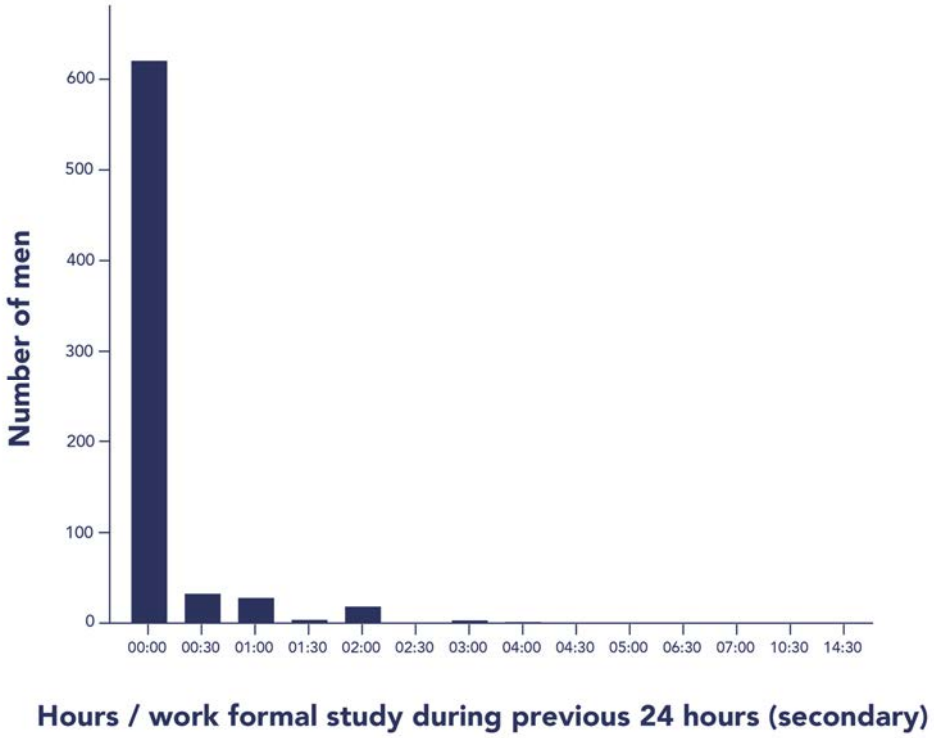


Figure 62: Number of men reporting specific hours of work/study secondary time use



For reported personal time in the previous 24 hours, women averaged 15.15 hours per day and men, 15.31, with men averaging 10 minutes more personal time per day.

Figure 63: Number of women reporting specific hours of personal time use

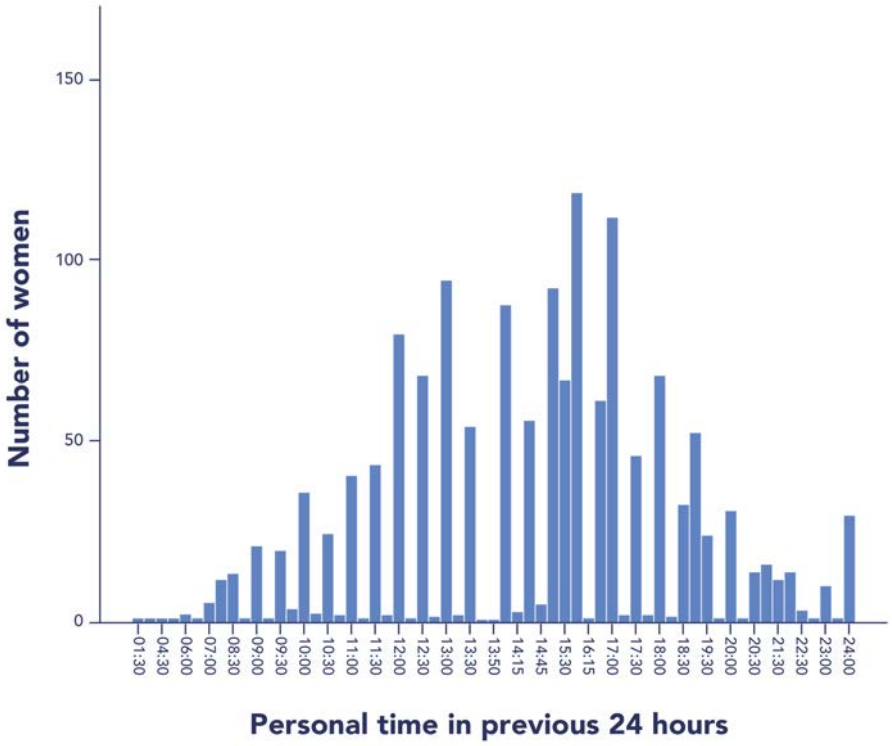
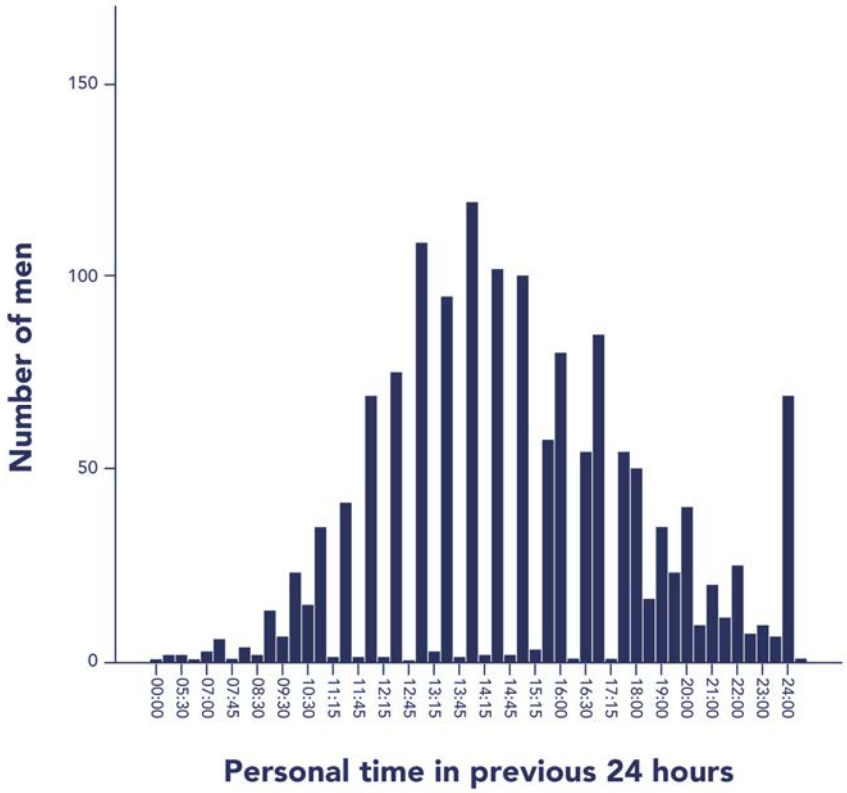


Figure 64: Number of men reporting specific hours of personal time use



That women should perform more primary work, secondary work, and have less leisure time but men be categorised as more deprived calls into question the validity of the method and thresholds applied in the Philippines.

Based on the above investigation into the Time Use and Labour Burden indicators, it was decided that the best way to calculate this dimension was to simply add the number of hours spent on primary and secondary tasks, as multitasking implies extra demands that appear to be gendered. We treat primary and secondary time as equally important, and calculate labour burden as the sum of primary and secondary activities. Accounting for personal time is not necessary with detailed primary and secondary time use data such as these; someone who performs 18 hours of primary paid/unpaid work and reports 16 hours of concurrent paid/unpaid work can be assumed to have very little leisure time. This calculation produces the following profiles for men's and women's paid/unpaid work, with primary and secondary activities summed. Each bar represents the number of men/women in the sample who worked each number of hours per day.

Figure 65: Number of women reporting specific cumulative hours of work/study time use

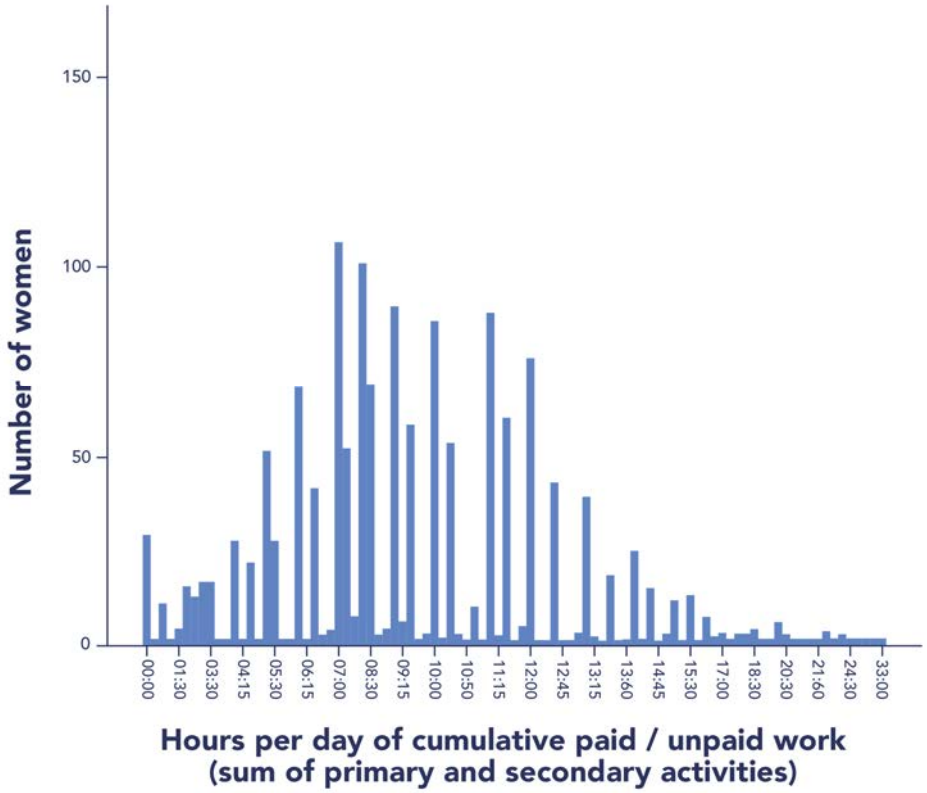
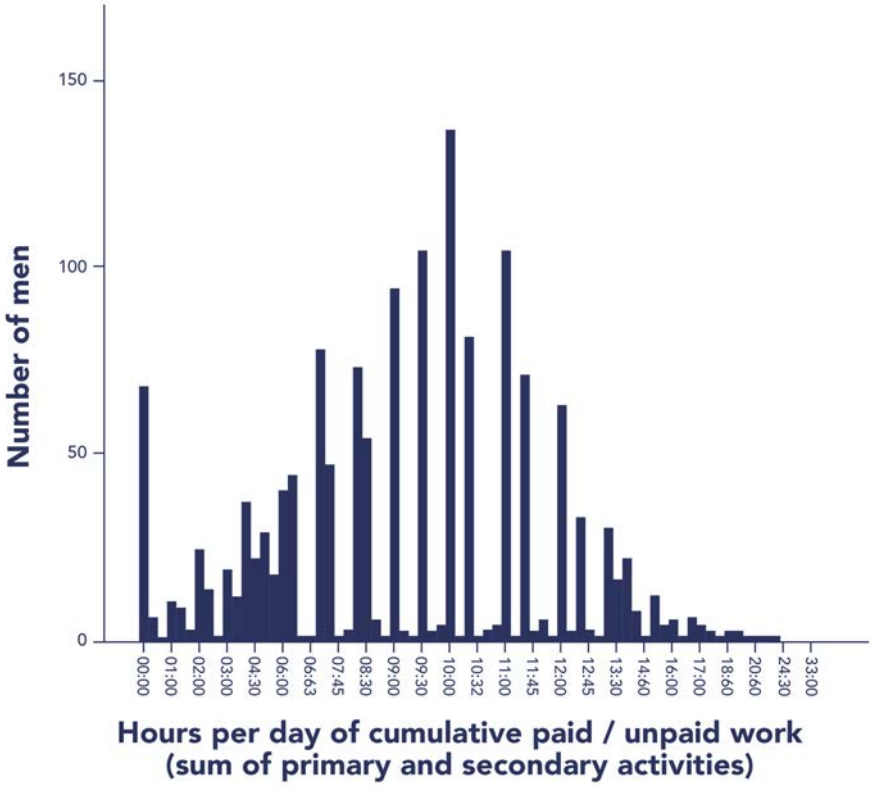


Figure 66: Number of men reporting specific cumulative hours of work/study time use

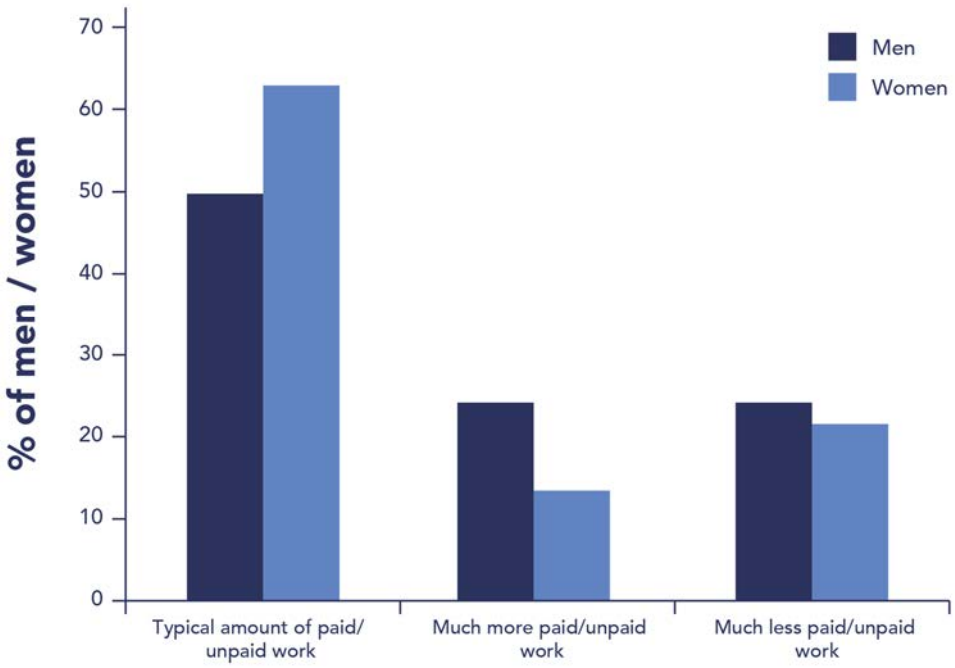


This indicates that the most common total number of hours worked by men is 10, and the most common number of hours worked by women is 7, women perform more concurrent work than men do, with the total number of hours work for women (including concurrent activities) running up to 33 hours, whereas the maximum for men is 20. Women are also more likely to work more than 12 hours per day than men, and are less likely to do zero hours of per day. How do these findings fit with existing studies? Briefly, Narsey's (2007) study on Gender Issues in Employment, Unemployment and Incomes in Fiji using the 2002-03 HIES dataset found that women had a lower Labour Force Participation Rate (LFPR; 31%) compared to men in the formal economy. Women also contribute more labour hours to domestic and community work, which is often unpaid (see also MDF, 2013). The MDF study (2013) validates some of Narsey's findings, such as the finding that women of all ethnicities have a higher work load and work burden when compared to men in both the tourism and horticulture sectors.

Another variable relating to this dimension is the typicality of the preceding day's work for participants. As explained in Wisor et al (2014), the 24 hour clock taken for the preceding day may be more or less typical for participants depending on the day the IDM survey is administered, which could consequently over- or under-estimate labour burden.

Thus, although this information was not used to calculate the time use and labour burden dimension, it does provide an estimate of its reliability. Interestingly, in the Fiji study, men reported considerably less typicality of the prior 24 hour period in terms of their paid and unpaid work. Nearly 63% of women reported that the previous 24 hours was typical of their paid and unpaid work, compared to only 49% of men. Men reported the direction of atypicality at around the same rate (i.e. 25% reported that they had performed much more work than usual in the previous 24 hours, and 26% reported that they had performed much less work than usual in the previous 24 hours). In comparison, only 14% of women reported that they had performed much more work than usual in the previous 24 hours, and 22% reported that they had performed much less work than usual in the previous 24 hours.

Figure 67: Typicality of time use in previous 24 hours



This information may have several possible interpretations and implications. One interpretation is that men objectively encounter more variation in their schedules; that their work (both paid and unpaid) is less reliable than women's; or that they personally keep less routine in their day to day life, whether because they desire it or because it is not demanded of them. A second interpretation is that in looking back holistically, women felt they had underreported their activities for the previous 24 hours. This may mean that men's scores in this dimension can be less reliably interpreted.

However, we can more closely examine those who reported variation in their paid/unpaid work to see if there are gendered patterns that may have led to systematic overestimation or underestimation. Five hundred and eighty participants reported having performed much **more** paid/unpaid work than usual in the previous 24 hours, and 708 reported having performed much **less** paid/unpaid work than usual in the previous 24 hours. Men who reported much more work than usual had worked for 9.39 hours, while women who reported much more work than usual worked for 9.43 hours (a difference of 2.4 minutes per day). Of those who reported much less work than usual in the previous 24 hours, men had worked for an average of 6.43 hours and women an average of 7.23 hours, a difference of 48 minutes per day.

This suggests that in terms of how the time use and labour burden calculator has produced overestimates or underestimates in Fiji, generally, for those whose scores are an overestimate, men and women are performing around the same hours of work per day. For those whose scores are an underestimate, women have still reported nearly an hour more work than men per day. Therefore, women's primary time use average would, on a more typical day, be even higher than reported. As the extent of the underestimation of women's daily labour cannot be quantified, this is not taken into account in our calculation; rather, we ask readers to be mindful of this when interpreting time use data here, and in general with regards to time use data.

Family planning dimension

In analysing the family planning dimension, two issues were noted. The first was the extent of missing data in this dimension compared to other dimensions, and the second was the noticeable difference in deprivation between men and women—with men being consistently found to be more deprived in this dimension, in contrast to existing data (discussed later).

First, missing data can occur when participants choose not to answer a question, the question does not apply to them, or they provide answers that cannot be scored. Participants do not have to provide a reason for refusing to answer a question—in accordance with international human research ethical codes—so we do not have access to the reason behind high numbers of missing data for these questions. Of particular importance in the IDM Fiji study are the rates of missing data for men and women. 12% of men in the sample did not provide information for this question, compared to a massive 35.8% of women. A simple reason for this difference can be found in the methodology: that access to contraception is irrelevant for women over the age of 49 and men over the age of 66 (roughly). These participants do not answer the family planning questions, and may be considered 'missing' data (and impact considerably more women than men). These figures are presented below.

521 women over the age of 49 i.e. N/A (17.5%)
86 missing data (2.89%)

120 men over the age of 66, i.e. N/A (4.04%)
51 missing data (1.71%)
641 participants for whom this question is not applicable (21.60%)
137 missing data total (4.61%)

However, this still does not explain the much higher rate of missing data for women. One possibility for this, raised during the IDM Fiji stakeholder workshop, is the social constraints around discussion of contraception in Fiji, which may have caused participants to decline to answer a question viewed as inappropriate for public discussion, and particularly affected women. Future IDM studies should take into account the sensitive nature of questions about contraception for women, perhaps providing a more private space or method for answering, further assurances of anonymity, or find a less direct way of wording the indicators.

The second interesting finding was the very low scores for men on this dimension. Disaggregating the dimension into its indicators provides some insight into where this large difference emerges.

Table 13: Question: *Do you and your partner have ready access to any types of contraception?*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	582	19.6	20.1	20.1
	No	1675	56.5	57.8	77.9
	N/A	641	21.6	22.1	100.0
	Total	2898	97.7	100.0	
Missing	System	69	2.3		
Total		2967	100.0		

Table 14: Crosstabs for question *Do you and your partner have ready access to any types of contraception?*

		Yes	No	N/A	Total
Sex	Male	291	1013	120	1424
	Female	291	662	521	1474
Total		582	1675	641	2898

We find that 76.1% of the *total* sample does not have access to contraception, and 74.21% of the sample *for whom the question is applicable* does not have access to contraception. This is where the gender difference emerges in the sample. Although an exactly equal number of men and women in the sample answer 'Yes' to the question about access, men are considerably more likely to answer 'No' (351 more men than women answer 'No'). All of these men are given a score of 1 (Extremely deprived) in the family planning dimension.

Table 15: Question: *What methods of contraception do you and your partner have ready access to?*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female sterilisation	118	4.0	20.1	20.1
	Male sterilisation	2	.1	.3	20.4
	IUD	10	.3	1.7	22.1
	Injectables	122	4.1	20.7	42.9
	Implants	58	2.0	9.9	52.7
	Pill	32	1.1	5.4	58.2
	Male condom	182	6.1	31.0	89.1
	Female condom	7	.2	1.2	90.3
	Lactational Amenorrhea Method	1	.0	.2	90.5
	Rhythm	22	.7	3.7	94.2
	Withdrawal	15	.5	2.6	96.8
	Others	19	.6	3.2	100.0
	Total	588	19.8	100.0	
Missing	System	2379	80.2		
Total		2967	100.0		

Table 16: Question: *To what extent, if at all, do you face barriers to using the contraceptive method listed above to prevent, limit, or space pregnancies- for example from your family, from a partner, or from religious authorities?*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Face severe barriers	8	.3	1.4	1.4
	Face some barriers	62	2.1	10.5	11.9
	Face no barriers	518	17.5	88.1	100.0
	Total	588	19.8	100.0	
Missing	System	2379	80.2		
Total		2967	100.0		

Table 17: Crosstabs for barriers question by sex

		Barriers to access			Total
		Severe	Some	None	
Sex	Male	2	29	262	293
	Female	6	33	256	295
Total		8	62	518	588

According to the original IDM scoring method, the two questions about access and method are combined with the Barriers question (for people who use contraception) to produce the following frequency table for this dimension:

Table 18: Family planning dimension scores - frequency table

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	1675	56.5	57.8	57.8
	2.00	1	.0	.0	57.8
	3.00	10	.3	.3	58.2
	4.00	109	3.7	3.8	61.9
	5.00	462	15.6	15.9	77.9
	N/A	641	21.6	22.1	100.0
	Total	2898	97.7	100.0	
Missing	System	69	2.3		
Total		2967	100.0		

This produces the following distributions of deprivation for men and women, in which more men fall into the category of 'Extreme deprivation' in this dimension than women (nearly 80% of men vs. nearly 70% of women).

Figure 68: Percent of women in each category of family planning dimension

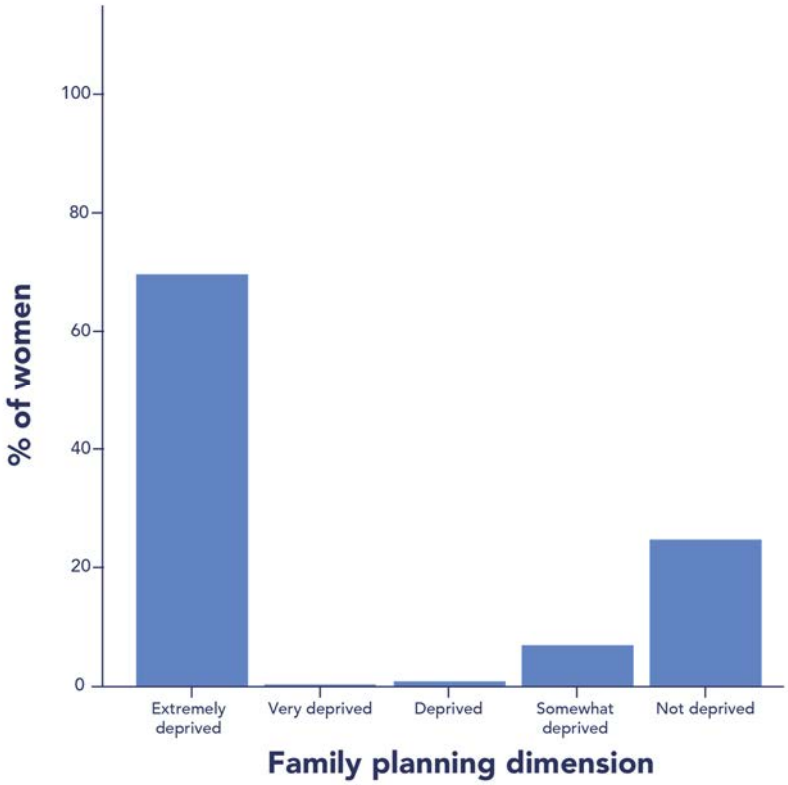
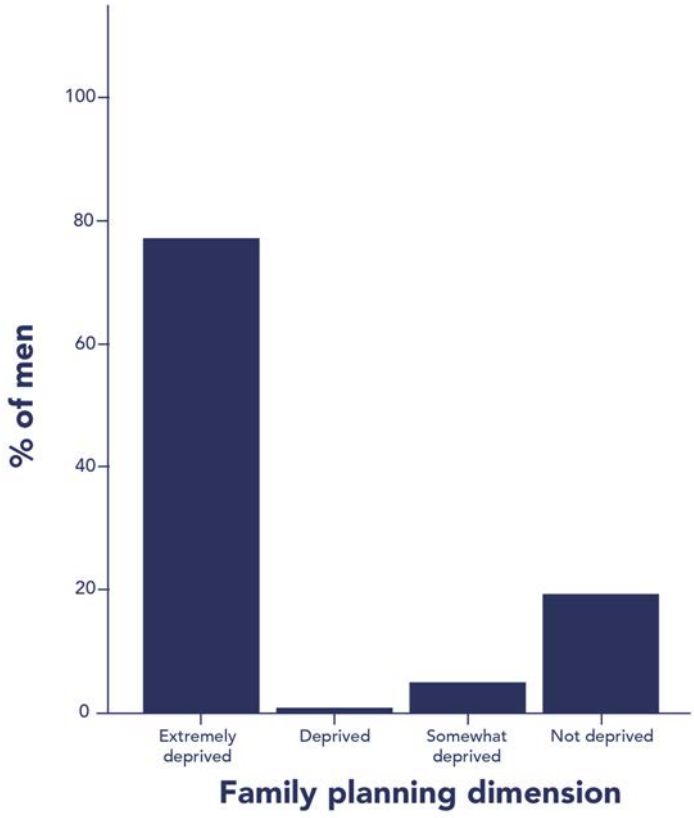


Figure 69: Percent of men in each category of family planning dimension



Three further reflections arise from this investigation into the family planning dimension. First, survey wording may have led to the conflation of access and use, i.e. we interpret respondents as indicating they do not access contraception, when in fact they don't seek to use it.

The second reflection is that these results do not align with existing research into contraceptive access in Fiji. A *Family Planning and Reproductive Health Commodities Needs Assessment: Republic of Fiji* recently published by the Ministry of Health and Medical Services and the UNFPA Pacific Sub-Regional Office, which was conducted in March 2014, provides a 2012 contraception prevalence rate of 44.3%. In contrast, only 25% of our sample for whom the question was applicable indicates ready access to contraception. Perhaps there are differences in question wording or methodology between the IDM study and the existing research, but either way, it indicates that our findings almost certainly provide an underestimate of contraception use.

The third reflection is that in the measurement of access to family planning, we currently treat male and female access equally. That is, men and women are both considered to be deprived if they do not have access to modern methods of contraception or are restricted in their ability to space pregnancies. This is potentially mistaken. First, and relating to the first point, women may have greater access to contraception quite simply because they work harder to procure it, and it may be invalid to mark men as more deprived when they make no such efforts. Second, and more importantly, it is arguably a much greater deprivation for women than men to be without contraception and to face the burdens of unwanted pregnancy.

Family planning data from other countries will assist in disentangling these results, both in terms of the high levels of missing data for women, and the overall lower scores for men. Whether solutions are found in fieldwork (e.g. enhanced privacy measures for participants while collecting sensitive information), or analysis (e.g. weighting women's scores in this dimension more heavily due to the burden of pregnancy), or some combination of the two, improvement of this dimension will be essential given the importance of family planning and reproductive health for poor men and women.

Violence dimension

Violence is one of the IDM's most sensitive dimensions, and also one of the most complex in terms of producing a scalar ranking of deprivation. First, the IDM is committed to measuring violence as a dimension of poverty for both men and women. However, this creates significant challenges in the context of the IDM method of interviewing an entire household, which means that participants know that other adult members of the household will be asked the same questions. This raises potential safety risks, and risks of underreporting of domestic violence due to fear of harmful consequences. That is, asking questions about violence in general and sexual violence in particular raises ethical and data accuracy issues. However, given the significance of violence in the lives of poor women and men, and its costs to individuals, families and communities, it was considered important to find a way to safely include violence in a measure of gender-sensitive multidimensional deprivation.

The methodology applied in Fiji mirrored that of the IDM Philippines fieldwork, which drew on existing survey items and guidance regarding researching violence against women, such as the WHO Multi-country study on women's health and domestic violence against women (2005) and the Demographic and Health Surveys (DHS) module on domestic violence. These surveys and guidance outline the importance of a safe, private and supportive interview context for response rate and accuracy; and provided training for enumerators around the need for sensitivity and ensuring privacy. An introduction to this question was read to each respondent explaining our reasons for asking about violence, stating that no questions would be asked about the location of any acts of violence (i.e. whether they were in public spaces or in the home) or about the perpetrators, and emphasising that all answers would be kept confidential. The right of the

respondent not to answer this module was stressed. Respondents were then asked if they were prepared to answer questions on this topic. We used self-completion for the violence module, with a folder obscuring the respondent's markings on the answer sheet from the enumerator, and a sealed envelope to hold the responses. Icons illustrating the kind of violence being asked about in each question were used on the response sheet to enable completion by respondents without formal literacy. A response rate of 90% in the trial in the Philippines suggested that these provisions, in combination, assured respondents of their safety and privacy in responding to the questions; we note that the response rate was lower in Fiji (81%).

In initial calculations of this dimension, men were shown to be more deprived than women on this dimension. Stakeholders questioned the consistency of these results with national prevalence studies, and the experience of advocacy groups working on the ground such as the Fiji Women's Crisis Centre. However, it should be noted that while there is prevalence data about violence against women, there are no national studies of violence experienced by women and men against which to compare the IDM results. With these concerns in mind, a more careful examination of the violence data was required. Results at the indicator level, along with new coding emphasising the effects of multiple instances of violence, are explained below.

Table 19: Frequencies of responses to violence module questions by sex

Indicator: Freedom from violence

Question	Men % Yes	Women % Yes
A. In the past year, did you experience being hit, slapped, shoved, pushed, punched, or kicked?	14	18.9
B. In the past year, did you experience being beaten, stabbed, burnt, throttled, or otherwise attacked with a weapon, such as a bottle, glass, knife, gun, club, hot liquid, or explosive device?	3.2	2.5
C. In the past year, did anyone use physical force or threats to make you or try to make you have sexual intercourse or perform other sexual acts against your will?	2.2	1.6
D. In the past year, did anyone regularly insult, belittle or humiliate you, make you feel bad about yourself, or try to intimidate you (for example by yelling or smashing things?)	57	58.8
E. If you answered yes to any of the preceding questions, were you subject to any of the violent events more than once?	11	13.8
F. In the next 12 months, do you think it is likely that you will be subject to any of the violent events described in the previous questions?	22.7	15.1

To attempt to aggregate this data, answers from questions A-D were summed to produce a score ranging from 8 (no types of violence reported) to 4 (all types of violence reported). We found that more women (194) than men (156) have experienced more than one type of violence in the last 12 months.

Next, a variable was created measuring 'repeated violence'. Participants were given a score of 2 if they indicated either experiencing more than one episode of violence in the past year, anticipated violence in the next year, or both. They were given a score of 1 if they indicated no to both.

The violence dimension was then coded as follows (total N = 848):

Not deprived	= no violent incidents (252)
Somewhat deprived	= one violent incident (178); OR (none experienced but anticipated (7))
Deprived	= two forms violence (288); OR (one form of violence AND repeatedly (62))
Very deprived	= three forms violence (21); OR (two forms violence AND repeatedly (122))
Extremely deprived	= all four forms violence (8); OR (three forms violence AND repeatedly (33)); OR (four forms of violence AND repeatedly (7))

This produced the following frequency table for men and women.

Table 20: Frequencies of men and women in each category of violence dimension

			Violence Dimension				
			Extremely Deprived	Very Deprived	Deprived	Somewhat Deprived	Not Deprived
Sex	Male	Count	1	28	127	561	460
		% within sex	0.1	2.4	10.8	47.7	39.1
		% within dimension	14.3	51.9	44.1	49.2	50.4
		% of Total	0.0	1.2	5.3	23.4	19.2
	Female	Count	6	26	161	579	452
		% within sex	0.5	2.1	13.2	47.3	36.9
		% within dimension	85.	48.1	55.9	50.8	49.6
		% of Total	0.2	1.1	6.7	24.1	18.8
Total		Count	7	54	288	1140	912
		% within sex	0.3	2.2	12.0	47.5	38.0
		% within dimension	100.0	100.0	100.0	100.0	100.0
		% of Total	0.3	2.2	12.0	47.5	38.0

Women's mean scores on this dimension (8.96) were lower than men's (9.04), but this difference did not reach statistical significance. As noted above, this result was queried by stakeholders as either at odds with reports from experts and practitioners working on the ground in Fiji, or of concern because of the risk that it might be used to undermine existing data on the prevalence of violence against women. Therefore, this result is worthy of discussion.

First, this method treats instances of violence reported during IDM data collection as the same for men and women. However, as discussed in Wisor et al (2014), "men's and women's experience of violence counts equally assuming a similar incident of violence occurred. For example, if a man is hit in a public fight, this scores the same as if a woman is hit by her partner. Arguably, in some instances, the woman's deprivation could be considered as more severe because her exposure to violence is in the home (with implications for her ability to avoid it), because it is more likely to occur again (and fear of this may be ever present), and because it is likely to affect many other aspects of her life. If the man's public fight is not likely to have these similar features (possible future occurrence, affecting many aspects of life) perhaps it should not count equally." Further consideration is being given to the question of what constitutes equivalent questions on violence for men and women, given gendered patterns of violence.

Additionally, there are key ethical issues pertaining to safety in this dimension. The IDM excludes from the questions any information about the location of the violence or the perpetrator, so that respondents who were also perpetrators of violence against other household members would be aware that answers to the survey could not be used to identify them. Changing the questions to identify the location of the violence, in order to attach greater weight to violence in the home, would increase the risks of responding to the survey given the sampling method seeks data from all adult household members.

Even with the precautions taken in the IDM surveying, only 82.3% of women and 79.4% of men agreed to respond to the questions, the lowest response rate of any of the IDM Fiji dimensions. The high missing data level presumably reflects people who are anxious or uncomfortable about

answering, and reminding respondents that they are free to choose not to respond underlines the option of not responding. Anecdotes from the Fiji fieldwork indicate that the information provided to respondents by the enumerator in the lead in to the violence question – that no information is sought about either the perpetrator or the location of the violence – may not be sufficient assurance for respondents when both partners are being interviewed about experiences of violence and know the other is being interviewed. In future, questions in this module could be re-ordered, leading in with a question about overall perceptions of safety and the perceived threat of violence in future. We have also sought further advice from experts on violence against women with regards to the most appropriate methodological context in which to ask about such sensitive issues.

Composite indices

An initial attempt was made to combine data from the 15 IDM dimensions into a single composite index score, ranging from 0 to 100, as presented in earlier reports outlining the IDM methodology (Wisor et al, 2013). However, as stated by the OECD (2008), "the entire enterprise [of creating a composite index] depends on the validity of the aggregate variable in representing the actual resources or achievements of people and the actual trade-offs among component variables." As noted in the introduction to this report, initial scaling, weighting and aggregation of the IDM data in Fiji revealed some issues with the reliability of the methodology. Without full confidence in our index construction method, we have decided not to publish results from this exercise at this point in time. The subsequent IDM Global program has enabled some intensive consideration of the complexities of composite index construction, and offered a way forward. In this section we detail considerations for constructing a multidimensional composite index and testing for sensitivity and robustness of the index[95]. This outlines the pathway forward, which will enable a return to the IDM Fiji data, to apply the revised approach and generate aggregate IDM scores for Fiji.

Dimensions and indicators

As outlined in the introduction to this report, IDM dimensions were identified during the first phase of IDM development between 2009 and 2013, utilising a range of participatory research methods such as key informant interviews, guided group discussions, group brainstorms and poverty ladders. The issue of the gendered nature of poverty was also explored in this first phase of IDM research. From that process, participatory ranking in six countries provided the foundation for reducing 25 candidate dimensions to 15 dimensions, with testing against a series of criteria to determine the most relevant for inclusion in a gender-sensitive measure of individual deprivation.

Indicators underlying IDM dimensions (e.g. health access and health care under the Health dimension) were also generated during the initial participatory phase of research. The survey was constructed using a combination of well-validated questions used in international poverty research and unique questions developed as necessary to capture specific issues as a dimension of poverty. These dimensions, indicators, and questions (items) were used for the IDM Fiji study.

The survey instrument has now been reviewed in light of measurement developments and performance in Fiji and Nepal. This review process has also involved a return to the initial participatory research, to ensure the indicators were grounded in the participatory research phase. The process of review and refinement has also addressed issues such as: consistent

[95] Many ideas presented in this section were discussed at a technical workshop at ANU on the 8-9 May, 2017. Thanks to Jenny Povey, Institute for Social Science Research, University of Queensland; Stephen Howes, Development Policy Centre, ANU; Stephen Haslett, Statistical Consulting Unit, ANU; Gaurav Datt, Centre for Development Economics and Sustainability, Monash University; Rob Bray, Centre for Aboriginal Economic Policy Research, ANU; Victoria Leaver and Susan Shaw, Australian Bureau of Statistics (ABS); and Mira Mirante, National Centre for Social and Economic Modelling, University of Canberra, for their contributions.

timeframes as reference points; containing questions relating to multiple dimensions (e.g. smoke inhalation being related to deprivation in both energy and health dimensions); and designing questions and indicators that may be more transparently and parsimoniously scored. This review has especially concentrated on dimensions and technical issues outlined in Chapter 10, where data from Fiji indicated the need for further screening questions, amended field methods, additional questions, and/or scoring (time use, violence, and family planning). Revised survey instruments (household and individual questionnaires) were sent to more than 100 subject experts for peer review, with feedback received from 40. An updated IDM questionnaire will be piloted in Indonesia in the second half of 2017.

Categorical to numerical transformation

Once questions/items and indicators have been selected, a key feature of the IDM is that the (mostly) categorical information (values or observations that can be sorted into groups or categories, such as shelter type) is transformed into a numerical 1-5 scale to form a dimension score for analysis. The purpose of the 1-5 interval scale is to attempt to create a standard and sensitive scaling of deprivation within a dimension, to measure intensity, and to allow for comparison between dimensions, within groups, and across countries. This categorical to numerical transformation is a controversial aspect of the IDM methodology, for many reasons.

In the IDM Fiji results, 1-5 scaling was premised on the principles outlined in Wisor et al (2013). If you have unprotected water (indicator 1) more than 30 minutes away (indicator 2), you receive a score of 1 (extremely deprived). If you have protected water (indicator 1) piped into your home (indicator 2), you receive a score of 5 (not deprived). Where this process becomes murkier is in the interim scale points, and with multiple additional indicators. For example, is a person more deprived if they have unprotected water close to home, or protected water a further walk away? Can we really say that someone taking a 25-minute journey to collect water is meaningfully less deprived than someone walking 35 minutes? When we add an additional indicator such as water treatment to this dimension, should it be combined in a similar way as the above process (e.g., if the water source is unprotected, treated, and less than 30 minutes away, the person is ‘slightly deprived’), or used to ‘adjust’ scores following combination (e.g. if the extremely deprived person above can treat their unprotected water, they move one rung lower in their level of deprivation)?

These questions become even more complex when comparing multiple dimensions simultaneously. Imagine that the hypothetical individual above, with a score of 2 on the water dimension, is at the same level of deprivation in the water dimension as the clothing dimension, for which they also received a score of 2. But their clothing dimension score was derived from them having difficulty protecting themselves from the elements, and being unable to dress in a way that meets the standards of their community. By directly comparing these two scores, we are saying that having an unprotected, treated, far away water source is *numerically equal* to having environmentally and socially inadequate clothing. Are these truly comparable? Participatory research identified the indicators associated with each dimension, but not how deprivations are ranked within and between dimensions in this way. Further qualitative validation of these 1-5 categories may be necessary in the future. For now, these questions require caution in comparing and contrasting scores between different dimensions. For the purpose of this report, the take-away is that the approach to scoring used for the IDM Fiji study is being refined.

These issues are complex, and there is no one way to transform categorical information into a 1-5 numerical scale. However, we believe the gains in being able to observe and compare the scale of deprivation across dimensions (that can then be decomposed further into item-level information) are worth pursuing, rather than analysing via a dashboard set of indicators (discussed further in the next section), or a cruder binary cut-off (although this option may also be explored to provide a point of comparison in the future).

Weighting

Similar issues emerge when we attempt to combine fifteen IDM dimensions into a single composite score. The OECD (2008) argues that creators of a composite index need to be confident that their index meets two criteria. First, the final number – the summary statistic – should capture some objective reality or truth that relates to the experience of the populations of interest. Second, a single score should be useful (and attractive) for policymakers in a way that dashboard statistics are not, thereby encouraging the uptake of evidence-based policymaking. Opponents to the composite index approach will point to how aggregation creates trade-offs that are impossible to map onto the complexity of human experience, and that attempting to address this through weighting only adds to the artificiality of composite indices. (Here it is important to note that *not* weighting indicators prior to aggregation is still weighting – weights are simply equal between dimensions.) Selection of weights is difficult, and remains the most unsettled issue in multidimensional poverty measurement (Datt, 2017).

Although IDM work to date is yet to produce a composite score that fully addresses all issues relating to the reliability and validity of composite index construction, we are still seeking to capture overall deprivation through a single number that reflects the reality of multidimensional poverty, more broadly conceived. The difference between an IDM score of 76.8 and 76.9 may be negligible in reality, but being able to observe different distributions of composite index scores will tell us something meaningful about the nature of deprivation. A normal distribution of scores suggests a majority of citizens in the middle of the deprivation spectrum, whereas a u-shaped distribution suggests high levels of inequality. What we are ultimately trying to achieve with the IDM is the ability to discriminate, that is, to create a measure that tells us whether men and women, or particular regions, ethnicities, age groups, or any intersection of these factors, are deprived in comparison to each other. An effective composite index facilitates this comparison along multiple dimensions simultaneously.

Of course, this depends on how multiple dimensions are brought together, that is, the process of aggregation and weighting, which are inextricably related. Specifically, in the process of aggregation we must decide whether one dimension 'counts' for more than another towards the overall score. In the context of the IDM, this means that deprivation in a dimension necessary for basic survival (e.g. water) may be weighted so that it is 'worth' more than deprivation in a more social dimension (e.g. voice).

Thus far, attempts to aggregate and weight IDM dimensions (including the Fiji data) involved applying weights to the 15 dimensions based on a three-tier system designed to reflect level of importance, informed by participatory research in the first phase. The five dimensions that were ranked (over six countries) as most important for moving out of poverty were weighted 1.5, the next five most important were weighted at 1.0, and the final five dimensions were weighted at 0.5. What this meant in practice in calculating an aggregate score was that food, water, shelter, health and education received a combined 50% of the weighting; energy/fuel, sanitation, relationships, clothing and violence received 33 % of the weighting; and the final tier of family planning, environment, voice, time use and work received the remaining 17% of the weighting.[96]

Alternative methods of weighting are possible.[97] Ultimately the best approach involves testing a range of weighting options, document the effects, and report a range of estimates based on more than one set of weights. Although there are more and less technical methods of composite index construction, the acceptability of the final outcome will rely largely on transparency and

[96] In relation to the IDM Fiji study, we also note that any aggregation exercise relies on the validity of each dimension comprising it. As outlined in Chapter 10 there are some issues associated with measurement error, bias, and response rates (for the dimensions of time use, violence, and family planning. Aggregation that includes these dimensions may produce unreliable estimates.

[97] For example, nested uniform weighting, nested incidence weighting, subjective welfare weighting, and stated preference weighting. For further discussion of these techniques and associated trade-offs, refer to the upcoming 2017 IDM Methodological Update.

justification for the method, along with explicitly documenting examples of how trade-offs among component variables are operating within the sample of interest.

Finally, it is worth noting that discarding aggregation attempts and leaving dimensions separate to present a dashboard of results leaves the process of synthesising multidimensional information in the hands of decision makers, including which dimensions are most important, and where to devote limited resources. This will involve a similar process of 'weighing up' deprivation in one dimension compared to another, or trying to say something meaningful about the overall state of a country or community, in a way that may be more subjective and less transparent than following the methodology of a measure such as the IDM. Of course, both approaches can be pursued in tandem; an agreed 'IDM method of weighting' could be used to calculate aggregate scores, and a second calculation could be undertaken using weights based on policy priorities in a particular country, region, local government area or among particular population groups, to reflect the contextual importance of particular dimensions.

Identification

The final topic relating to composite index construction is identification; that is, the aggregation method and thresholds used to identify who is poor, and to what extent. One of the most well-known methods is the Alkire-Foster method, which counts overlapping deprivations, i.e. a person is poor if they are deprived in a minimum percentage of dimensions[98]. The IDM approach thus far has taken the union approach, wherein if someone is deprived in any one of the IDM dimensions they may be counted as IDM deprived (rather than requiring deprivation in a specified number/ percentage of dimensions or indicators). IDM deprivation is defined by the extent of deprivation across the dimensions, and the weight of the dimensions. In practice this requires significant deprivation in a number of dimensions to reach the 'deprived' threshold or worse, but the number or percentage of dimensions in which a person must be deprived is not specified. An alternative method of identification is known as the intersection approach, where a person has to be deprived in *all* dimension to be multidimensionally poor. Moving forward, we will examine alternative methods of identification for the IDM index. Importantly, this will be a complex exercise, as we are not seeking to simply identify a binary cut-off (deprived/not deprived), but rather a five-level scale of deprivation.

Sampling

Sampling strategy pertains directly to the purpose of the IDM and the accuracy of information it produces. The approach taken to sampling impacts our ability to answer core questions about individual and intrahousehold measurement, for example, can you be a poor person in a wealthy household? When we talk about variance and inequality in a geographic area or population, to what extent is this occurring within households, between individuals, or across groups? Do men and women within households differ to an extent that gender inequality will not be captured by sampling at the household level, or by individual random sampling? Regardless, is it important to be able to directly measure intrahousehold inequality, rather than estimate it? To what extent do we wish to answer questions about nomadic and semi-attached populations? These are some of the factors to consider in the sampling design approaches described below.

Household definition

The IDM classifies a person as a household member when that person has lived in the household for at least six months or at least half of the week in each week in those months; the person joined the family through marriage less than six months prior; and he or she 'eats from the same pot' with other household members even though they are not related by blood. Issues to consider in household definition include whether defining the household as a group of people who share common resources risks failing to sample some groups that may include lodgers, bonded labourers, or staff who live in the household but do not share resources with the

[98] http://www.ophi.org.uk/research/multidimensional-poverty/alkire-foster-method/

household head. The current definition would also exclude household members who have moved for work and lived away from the household for more than six months, but are contributing economically to the household via remittances.[99] An alternative definition would be to include everyone in the dwelling, that is, to lose the restriction of 'eating from the same pot'.

Intrahousehold sampling

The IDM study in Fiji utilised a sampling design which sought to interview every adult member of a household. This intrahousehold measurement approach is a unique feature of the IDM; however, it brings practical and statistical considerations that need to be addressed.

One of the most pressing is intra-cluster correlation, wherein responses from participants in the same cluster (household) are likely to be similar to each another (Shackman, 2001). When intra-cluster correlation exists, the addition of more household members will not increase the amount of information provided about these individuals.

On the other hand, sampling only one individual per household can also produce bias, as the probability of any particular individual in a household being selected for an interview decreases as household size increases; and household size is associated with an outcome variable of interest (more deprived households tend to be larger than non-poor households in Fiji; Narsey 2008). Without applying sampling weights, this means that more advantaged individuals in one-person households are more likely to be selected for participation, and could lead to an underestimate of overall deprivation. Additionally, sampling only one individual as a basis for assessing household circumstances assumes that the selected individual is either fully knowledgeable about the circumstances of all household members, or is representative of their circumstances, or both. Efforts to move beyond household-level measurement of poverty are one response to the problems generated by this approach.

The benefit of a sample consisting of every individual in a household (such as used for the IDM Fiji study) is that it allows empirical examination of the extent to which sampling design impacts results. This is known as the *design effect*, which compares observed variance under existing sampling design to the estimated variance under a simple random sample design. "The loss of effectiveness by the use of cluster sampling, instead of simple random sampling, is known as the design effect" (Shackman, 2001).

In terms of the IDM, the design effect will differ not just for different dimensions, but for different indicators within dimensions. For example, the design effect for shelter indicators would be high for all members of the household. But within the health dimensions, the design effect for health care access will be higher than health care status (i.e. having quality health care close to a household is a factor more likely to be shared by a household than similar health problems). As stated by Frongilo (1996, p1), "design effects can differ within the same survey markedly, depending upon the variable of interest, the sub-group of the population, and, in regression analyses, the variables in the regression model."

The IDM Fiji and Nepal data allow us to estimate design effects of sampling by selecting (within available data of all adult members in a household) a subsample of a single household member, or a particular configuration of household members (e.g. the primary couple). Design effects could be estimated for each subsample, along with adjustments applied depending on the subsample (e.g. weighting based on inclusion probability for subsamples), and compared to an all-household member sample. Non-response in Fiji was relatively low and not statistically adjusted for in this sample, but we could, for example, adjust for non-response then compare design effects for adjustment and non-adjustment. Another potential source of bias (noted earlier) may be individuals who do not live in households, although estimating design effects of their exclusion would be difficult given lack of prevalence weights of individuals not living in households. Performing and documenting this exercise could inform future sampling strategy

[99] Subsequent IDM field studies have added an absentee roster to capture the contribution of this group.

and analysis, and potentially provide concrete recommendations for our implementing partners in Fiji (FBoS) regarding expected design effects of intrahousehold compared to individual sampling for multipurpose surveys.

Once design effects are ascertained, they can be addressed by specifying a larger sample size than a simple random sample, a wider confidence interval (in line with the size of the design effect), or a particular sampling weight scheme. Finally, the effects of intra-class correlation produced by clustering can also be addressed through analysis techniques such as multilevel modelling, in which "levels in the model are specified that correspond to the stages of sampling; this accounts for the cluster sampling" (Frongilo 2012, p1). For an intrahousehold IDM sample, this may mean specifying the household as a level in the model and controlling for shared household-level variance post-hoc.

Data analysis

The presentation of the analyses in this report were informed by feedback from stakeholders during a workshop in 2016. However, additional analyses beyond those presented in this report are possible, which take advantage of the unique structure of IDM data. During a subsequent technical workshop in 2017, as part of the IDM Global program, experts indicated that when information for all participants in a household is available, it allows us to examine how *relationships* between household members influence individual deprivation, and opens new avenues for inquiry. Avenues of data analysis identified as especially interesting for IDM data include:

- the depth and extent of poverty;
- the multidimensionality of poverty;
- the relationship between multidimensional and material poverty
- the gendered dimensions of poverty;
- the intersectionality of poverty;
- variance and inequality of IDM scores within a household;
- individual deprivation (controlling for shared household deprivation);
- the added benefit of measuring inside a household, instead of just households or individuals;
- develop a profile of poverty at the cross-national, national, and subnational levels;
- multidimensional deprivation across time.

Reflections: Vanisha Mishra-Vakaoti

In this section on the technical and methodological issues encountered during the IDM Fiji analysis, three types of issues were identified[100]. The first pertains to fieldwork, where enumerators and participants attempt to negotiate contextual and environmental factors, and issues related to coding the data. The second is related to the aggregation process and assigning thresholds within the dimensions used in the IDM. As a new measure, thresholds delineating deprivation intensity established using trial data from the Philippines have not yet been tested for appropriateness across multiple country contexts. The third issue is the way 'deprivation' is understood and conceived.

While the IDM is a new measure of poverty and gender equity that is being refined and developed for global use, where possible, country-specific allowances should be made. Of interest to social researchers would be the definition of poverty and deprivation and the agency offered to individuals to define for themselves their levels of poverty and deprivation. Community-based, participatory research, as an adjunct to quantitative measurement, could provide valuable contextual information, and contribute to testing, validating, localizing, weighting, analysing and interpreting IDM data, particularly in the refinement stages of the IDM. True community-based, participatory research is not "done on or with participants; research is designed, carried out, and integrated by the participants in partnership with the researchers."[101] Complementing the quantitative survey with participatory research would be consistent with the rights-based underpinnings of the IDM and could assist in elaborating the necessarily limited information collected by multi-topic surveys, particularly in relation to dimensions such as voice and relationships.

The two main pillars of traditional community-based participatory research are relevant. The first pillar is related to ethics, developed as a response to the exploitation of vulnerable communities. The second pillar is related to community empowerment and grounded in the principle of "'maximum feasible community participation' that guided the poverty programs of the late 1960s and early 1970s."[102] This approach has the potential to empower individuals and communities by offering communities the opportunity to be involved in the development of the research and the research process. The intention to develop a standard report format for IDM data that identifies data-driven policy priorities in particular geographical areas or among particular social groups, combined with participatory processes enabling communities to make their own sense of the results, could support data to be used by communities to engage with decision makers, promoting both accountability and citizen engagement.

Involving communities and their organisations in piloting can improve data collection.[103] For instance, while some missing data in the family planning dimension[104] is linked to survey design, the extent of missing data could possibly have been reduced by consultations with a pilot group about appropriate language, and how to approach the topic in the local cultural context. While piloting was undertaken by FBoS, and enumerators provided valuable feedback to improve the survey instrument, the results indicate that further local discussion about the approach to sensitive dimensions may be useful. The IDM Fiji study acknowledges that, "future IDM studies should take into account the sensitive nature of questions about contraception for women, perhaps providing a more private space or method for answering,

[100] For a detailed discussion of the technical and methodological issues, please refer to Section 11.
[101] "Qualitative Research: Grounded Theory, Mixed Methods and Action Research", Lorelei Lingard, Mathieu Albert & Wendy Levinson, accessed 27 May, 2017, http://www.bmj.com/content/bmj/337/7667/Practice.full.pdf
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[103] "Enhancing Data Quality Relevance, and Use Through Community-Based Participatory Research", Meredith Minkler, *What Counts: Harnessing Data for America's Communities,* accessed 27 May, 2017, http://www.whatcountsforamerica.org/wp-content/uploads/2014/11/Minkler.pdf
[104] 12% of men in the sample did not provide information for this question, compared to 35.8% of women.

further assurances of anonymity, or find a less direct way of wording the indicators." One way to achieve this would be to engage local communities, particularly women, in the beginning stages of study design to identify likely issues and ascertain the most appropriate way to proceed. A similar approach could be useful in identifying locally appropriate strategies for approaching questions in the violence dimension.

Engaging with communities and organisations in study planning, including regarding processes and the wording of surveys can strengthen data quality. Minkler (2014) found that "data collection instruments that reflect lack of familiarity with acceptable terms and local concerns often result in lower participation rates and data of questionable value."[105] The difference in response rates in the trial version of questions in relation to the violence dimension in the Philippines (90% response rate) and Fiji (81%) points to the importance of context-specific strategies and approaches. While the technical and methodological issues section of the IDM Fiji study states that they are, "seeking further advice from experts on violence against women with regards to the most appropriate methodological context in which to ask about such sensitive issues", communities participating in such studies also have expertise to bring, not just in making sense of data, but improving both data collection and use.

Drawing on elements of community-based participatory research can increase the value of the study for both the researchers and community being studied.[106] Involving communities in study design, data collection and sense-making may also help to address the lack of power and agency that is often a part of poverty, and contribute to the change process that is at the core of the IDM program.

[105] "Enhancing Data Quality Relevance, and Use Through Community-Based Participatory Research", Meredith Minkler, *What Counts: Harnessing Data for America's Communities,* accessed 27 May, 2017, http://www.whatcountsforamerica.org/wp-content/uploads/2014/11/Minkler.pdf

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CHAPTER ELEVEN
CONCLUSION

11. CONCLUSION

Fiji was the first Pacific country in which an IDM study was implemented, and the first ever IDM study beyond an initial proof of concept trial. The time, effort, and expertise of the Fiji Bureau of Statistics, and the investment and support of Pacific Women Shaping Pacific Development, made possible the insights and learning from this research that are shared in this report.

Overall, the IDM Fiji study illustrates the importance of individual-level measurement, against multiple gender-sensitive dimensions, using an approach that considers social deprivation, reveals the situation of individuals within the household, allows for disaggregation by disability and demonstrates how scalar measurement enables the analysis of inequality. It shows that rich data can be obtained from a survey taking roughly one hour per participant. By collecting a mixture of household and individual data, as well as subjective and objective data, the IDM provides a more rounded profile of deprivation and how this varies, including by gender, age, geography, sociocultural background and disability. Intersectional analysis highlights the necessity of considering different social identities that may impact individuals' multidimensional poverty. That is, different areas of vulnerability intersect across people's lives, and addressing only one aspect, or focusing on a small number of dimensions, may not adequately address other factors impacting deprivation. This study indicates that we need to collect data that reflects this knowledge of how inequality is produced and reproduced.

The value of the data emerging from the IDM Fiji study encouraged a significant further investment in the IDM by the Australian Government through the Department of Foreign Affairs and Trade, beginning a new phase of IDM work – a global program to further refine and develop the IDM measure and survey instrument, and encourage and facilitate widespread access and use of better gender data. The IDM Fiji study has ensured that the IDM Global program, being implemented in partnership with the Australian National University and IWDA, is informed by circumstances in the Pacific – something that remains all too rare.

Different people will draw different conclusions regarding the meaning and best use of this report in Fiji. Our view is that conclusions regarding this study, and where the data may be most useful, are best drawn by policy makers, experts and advocates in Fiji. There is much more to be written about the findings in this report, including analysing findings against existing research relevant to each dimension. Given the breadth of IDM data, there is significant potential for engagement and analysis with a range of actors. IWDA would welcome the opportunity to work with government and civil society about how the IDM – as measure, method and data – can contribute to sustainable development in Fiji. This includes consideration of where these results – and IDM data generally – would be most useful (for example, at national, regional, *Tikina*, or village level). The specific nature of IDM data also has potential value for civil society advocates focused on gender equality and diversity, disability and inclusion, to support policy analysis and development and programming.

IWDA is also keen to explore the potential for further studies in Fiji in future, once current refinement work has been finalised. Would there be value in a follow up study, for example in areas impacted by Cyclone Winston, to assess the extent to which the response has enabled affected communities to build back better? What would a longitudinal IDM study in Fiji look like? Which comparative analyses might be useful, if possible? In what ways could the IDM assist in monitoring Fiji's progress against the Sustainable Development Goals? How does this work link to other global gender data developments? At the Stakeholder workshop in Suva in February 2016, participants suggested the IDM could contribute as a snapshot update tool, between the ten-yearly Census and the five-yearly Household Income and Expenditure Survey.

When we consider that 'gender data' is currently equated with 'data disaggregated by sex', we can see how far we need to go to accurately measure the extent to which access to development resources and opportunities are gendered. Many areas of women's lives are currently not

measured regularly or at all, such as their ability to dress themselves to the standards of their communities, their control over decision making, their relationships, and their voice in the community. As this report has shown, it is not enough to measure the fuel source of a household, when the gendered impact lies in individual exposure to fumes that disproportionately impacts the health of women, due to deeply gendered norms, roles and responsibilities. When we reflect on how sex-disaggregated data on school enrolment (available only relatively recently) has informed global initiatives on transitioning girls from primary to secondary schooling, or the impact of education on economic empowerment, the potential for better data to help address the barriers limiting women's potential can be seen. This point applies equally to people living with disabilities, and to the diverse individuals for whom intersections of identities that continue to limit human potential, human rights and national capacity.

This report acknowledges the limitations of the data in relation to illuminating deprivations experienced by people living with disability and individuals not identifying as cisgender.[107] Follow up work with advocacy organisations is planned, with the aim of complementing and improving on what is reported here.

When we do not collect detailed data about the factors that shape individual lives, these factors remain invisible, increasing the risk that they will be ignored by policies or development initiatives, or that failure to shape policies and initiatives around actual circumstances leads to a double negative: policy inefficiency and individuals being left behind.

Investing in the collection, analysis, and interpretation of inclusive data such as the IDM provides the information that can inform more inclusive development, and the evidence that change makers need to advocate for it.

[107] Cisgender is a term that describes a person whose sense of personal identity and gender corresponds with their birth sex.

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APPENDIX A
IDM FIJI SAMPLING FRAME
AND PROCEDURE

A. SAMPLING FRAME AND PROCEDURE

Appropriate household sample size was deemed to be 750 households, or 2967 individuals, nationwide in Fiji, as this was estimated to produce an acceptable sampling error of +/-3%. Purposive sampling was used to select the Enumeration Areas (EAs). High poverty incidence and prevalence Tikinas (Areas) were identified from the World Bank (2011) Poverty Mapping study in Fiji, and purposive sampling was then used to select EAs within Tikinas with a high incidence of poverty (i.e. Tikinas with the highest numbers of poor people). EAs by division are presented in Table 1 and EAs by Tikina are presented in Table 2.

Table 1: Summary of EAs and households by Division

Summary of EAs and households by Division	
Division	EAs
North	200
West	200
North West	150
South West	0
Central/Eastern	200
Total households	750

Table 2: Sample size and geographic coverage for a nationally representative survey of 750 households

Sample size and geographic coverage for a nationally representative survey of 750 households	
Sample Size	Tikina/Area
50	Labasa
50	Naitasiri
50	Suva/Lami
50	Vuda
50	Ba
50	Cakaudrove
50	Macuata
50	Savusavu
50	Tavua
50	Rakiraki
50	Saivou
50	Nadi
50	Malomalo
50	Serua
50	Bau
750 households	

Prior to fieldwork commencing, an enumerator travelled to the pre-selected EAs to collect household information including ethnicity and household size. This list was then examined at FBoS to ensure it reflected the representative sample of ethnicity and household composition requirements of the IDM.[108] The household pre-listing was then re-arranged according to the main ethnic groups in Fiji (*iTaukei*, Indian, and others). Within each ethnic group, households were also arranged by categories of size (up to four people; four to seven people; and more than

[108] Although this pre-listing process was aimed at minimising the time and effort of enumerators in the field, some problems were reported once fieldwork commenced. Specifically, the pre-identified households were sometimes difficult for enumerators to locate, or household members had relocated, forcing enumerators to update the household listings in the field.

seven people). Finally, within the rearranged household listing, households were randomly selected.[109]

Table 3: Tikinas Within Settlement Type and Enumeration Areas

Tikina	Settlement type			Total
	Rural	Urban	Informal	
Suva	0	70	119	189
Serua	207	0	0	207
Bau	181	0	0	181
Nausori	0	212	0	212
Vuda	35	166	0	201
Nadi	42	148	0	190
Malomalo	203	0	0	203
Ba	221	0	0	221
Tavua	156	0	36	192
Rakiraki	162	0	0	162
Savou	175	0	0	175
Labasa	48	161	0	209
Macuata	204	0	0	204
Nasavusavu	208	0	0	208
Cakaudrove	171	0	0	171
Total	2013	757	155	2925

Response rates

Table 4 summarises the response rates to the IDM fieldwork survey according to the selected households for a nationally representative sample of 2967 participants. Response rates per Tikina and overall are presented, including the total number of identified households (HH), the total number of identified participants in the EAs (EA HH column), the number of identified appropriate participants (Scratch List column), the identified appropriate participants following checks in the field (Final List column), and the number of participants actually interviewed (18+ years interviewed).

[109] Specifically, from the rearranged list of households of each selected PSU (Primary Selection Unit) the required sample of 15 households would be drawn as a circular systematic sample, randomly starting at an interval derived from the ratio of 15 (the required number of households per PSU) and the total number of household listed per PSU.

Table 4. Response rates by Tikina

Tikina/Area	HH	EA HH	Scratch List	Final List	18 + yrs interviewed	Response Rate %
1. Labasa	75	534	329	215	209	97.2
2. Naitasiri (Nausori Urban)	75	1,027	349	213	212	99.5
3. Suva	75	717	339	196	189	96.4
4. Vuda	75	698	323	202	201	99.5
5. Ba	75	543	332	221	221	10.0
6. Cakaudrove	75	601	329	176	171	97.2
7. Macuata	75	489	346	204	204	100.0
8. Savusavu	75	573	346	211	208	98.6
9. Tavua	75	607	358	200	193	96.5
10. Rakiraki	75	563	349	210	203	96.7
11. Saivou	75	634	340	191	175	91.6
12. Nadi	75	669	273	192	190	99.0
13. Malomalo	75	515	325	210	203	96.7
14. Serua	75	756	342	214	207	96.7
15. Bau	75	670	313	184	181	98.4
Total	1125	9596	4993	3039	2967	97.6

Nonresponses were largely attributed to entire household relocation (e.g. due to lease expiry), household member relocation due to seasonal work or cultural commitments, along with difficulties in locating households from the pre-listed sample.

Procedure

The fieldwork was conducted between February 2015 and September 2015. This period encompassed planning, questionnaire updating, budget revision and confirmation, questionnaire translation into *iTaukei* and Hindi, printing of questionnaires, recruitment and training, pilot exercises, data collection, and data entry.

Enumerators

The selection and hiring of data enumerators and supervisors was conducted by FBoS, using their networks and field offices. Experienced supervisors were recruited from the FBoS pool of field supervisors, all of whom had prior experience in ensuring quality control of data collection and management, along with budget requirements such as acquittal of funds.

In total, 44 enumerators were recruited, comprising 22 males and 22 females. The distribution of enumerators across districts was as follows: Suva 14; Ba 10; Nadi 10 and Labasa 10. The allocation of staff by areas was based on the number of selected areas and their geographic locations. The 44 recruited staff were from the pool of FBoS Household Survey Unit staff, resulting in experienced and current field research workers who were fully acquainted with survey work concepts, definitions and its various terminologies.

Training

Training of supervisors and enumerators was conducted jointly with FBoS and the Divisional Field Superintendent. The training was conducted in three divisions separately for three days

and a pilot exercise in the field on the fourth day. The training materials given to supervisors and enumerators are presented in Appendix B.

Table 5. IDM Survey Field Staff and Household Allocation by Division.

Division		Enumerator		Supervisor		Total Engaged			EA	No of Household (15 hh x EA)
		Male	Female	Male	Female	Male	Female	All		
Central	All	5	5	2	2	7	7	14	20	300
Western	Nadi	4	4	1	1	5	5	10	15	225
	Ba	4	4	1	1	5	5	10	20	300
Northern	All	4	4	1	1	5	5	10	20	300
All Divisions		17	17	5	5	22	22	44	75	1,125

Field Enumeration

The total fieldwork period was ten weeks. This time frame was based on the number of households per enumerator by enumeration area. An average time of one hour per interview was assumed.

Enumerators scheduled interviews with as many household members as possible on their first visit to the pre-selected households. The first interview of the household was with the primary respondent, who provided household-level information as well as their own individual-level information. Female enumerators interviewed female respondents, and ethnicity congruency between participants and enumerators was sought where possible. Respondents were interviewed separately, away from other household members, in a quiet place where interviews couldn't be disrupted.

Participants were first presented with an information sheet describing the project and its aims, as well as eliciting informed consent from participants. Modules (i.e. dimensions) were introduced separately before launching into items (e.g. "Now I'm going to ask you some questions about hunger"). In the case of the module on freedom from violence, a longer introduction was required. At the conclusion of the interview, the respondent was thanked for their time, asked if they had any questions about the interview or survey, and reassured of confidentiality.

Field Monitoring and Evaluation

A local consultant conducted field monitoring and evaluation from the second week of interviews until the completion of fieldwork. The consultant raised minor concerns regarding coding errors by enumerators, such as failure to adhere to Skip instructions in the questionnaires, meaning some questions were being answered unnecessarily. There were also some errors with coding in the Time Use dimension, wherein the total number of time use hours per day summed to more or less than 24. These problems were adjusted in the field through discussions with supervisors and re-training enumerators.

Data Entry and Data Verification

Four experienced data entry operators within the FBoS office in Suva handled the IDM data entry and verification. They also took part in enumeration and supervisory work on IDM Survey to contextualise the data entry and verification. It took 12 days to enter all the data and 11 days for the verification exercise, which involved re-entering the data and checking for disparities.

APPENDIX B
IDM FIJI CODEBOOK

IDM FIJI CODEBOOK

This appendix is intended to complement the statistical analyses presented in the main report by providing descriptive statistics at the indicator level. Each item in the IDM questionnaire is presented here, separated by questions asked at the household and individual level, in the order that they were presented to participants. This codebook may be considered a resource for anyone looking to examine dimension results at the indicator level when they are not presented in the main report. Any further questions regarding supplementary IDM Fiji statistics can be directed towards the authors.

Household Questions

What is the religion of the majority of household members?

	Methodist	Catholic	7th Day Adventist	Assembly Of God	Jehovah's Witness	Other Christians	Hindu	Muslim	Other	Total
Frequency	776	173	132	135	32	378	1073	212	55	2966
Percent	26.2	5.8	4.5	4.6	1.1	12.7	36.2	7.1	1.9	100.0

What is the language used most often in the household?

	English	Fijian	Hindi	Rotuman	Rabi	Chinese	Total
Frequency	51	1555	1353	1	2	4	2966
Percent	1.7	52.4	45.6	.0	.1	.1	100.0

Has any child belonging to this household who was alive at birth died before his or her 5th birthday?

	Yes	No	Total
Frequency	195	2771	2966
Percent	6.6	93.4	100.0

How many children belonging to this household who were alive at birth have died before their 5th birthday?

	Number of children				Missing	
	1	2	3	Total		Total
Frequency	175	23	3	201	2765	2966
Percent	5.9	.8	.1	6.8	93.2	100.0

Does the household, or any household member, possess any of the following that are in working condition?

C.01: TV

	Yes	No	Valid Total	Missing	Total
Frequency	2158	807	2965	1	2966
Percent	72.8	27.2	100.0	.0	100.0

C.02: Radio

	Yes	No	Valid Total	Missing	Total
Frequency	2165	800	2965	1	2966

C.03: Refrigerator

	Yes	No	Valid Total	Missing	Total
Frequency	1646	1319	2965	1	2966
Percent	55.5	44.5	100.0	.0	100.0

C.04: Telephone

	Yes	No	Valid Total	Missing	Total
Frequency	2581	384	2965	1	2966
Percent	87.0	12.9	100.0	.0	100.0

C.05: Bicycle

	Yes	No	Valid Total	Missing	Total
Frequency	214	2751	2965	1	2966
Percent	7.2	92.8	100.0	.0	100.0

C.06: Motorbike

	Yes	No	Valid Total	Missing	Total
Frequency	19	2946	2965	1	2966
Percent	.6	99.3	100.0	.0	100.0

C.07: Car

	Yes	No	Valid Total	Missing	Total
Frequency	607	2358	2965	1	2966
Percent	20.5	79.5	100.0	.0	100.0

C.08: Truck

	Yes	No	Valid Total	Missing	Total
Frequency	79	2886	2965	1	2966
Percent	2.7	97.3	100.0	.0	100.0

C.09: Tractor

	Yes	No	Valid Total	Missing	Total
Frequency	124	2841	2965	1	2966
Percent	4.2	95.8	100.0	.0	100.0

C.10: Computer

	Yes	No	Valid Total	Missing	Total
Frequency	460	2505	2965	1	2966
Percent	15.5	84.5	100.0	.0	100.0

C.11: Internet

	Yes	No	Valid Total	Missing	Total
Frequency	579	2386	2965	1	2966
Percent	19.5	80.4	100.0	.0	100.0

C.12: Land

	Yes	No	Valid Total	Missing	Total
Frequency	1542	1423	2965	1	2966
Percent	52.0	48.0	100.0	.0	100.0

Roofing material (enumerator coded)

	Thatch Or Palm	Wood Planks	Cardboard	Wood	Tin?/Iron	Cement	Roofing Shingles	Other	Total
Frequency	2	4	3	9	2915	25	4	4	2966
Percent	.1	.1	.1	.3	98.3	.8	.1	.1	100.0

Floor material (main material; enumerator coded)

	Earth/Mud	Wood Planks	Palm/Bamboo	Polished Wood	Ceramic	Cement	Carpet	Other	Total
Frequency	77	1301	41	11	150	848	488	50	2966
Percent	2.6	43.9	1.4	.4	5.1	28.6	16.5	1.7	100.0

Exterior wall material (main material; enumerator coded)

	No Walls	Cane/Palm/ Trunks	Bamboo w Mud	Tin/ Iron	Plywood	Cardboard	Re-Used Wood	Cement	Stone W Lime	Bricks	Cement Bricks	Other
Frequency	2	2	19	1534	270	2	56	397	7	4	181	492
Percent	.1	.1	.6	51.7	9.1	.1	1.9	13.4	.2	.1	6.1	16.6

Overall condition of the dwelling

	Very Bad	Poor	Moderate	Good	Excellent	Total
Frequency	32	358	961	1116	499	2966
Percent	1.1	12.1	32.4	37.6	16.8	100.0

Do any other household live in the dwelling?

	Yes	No	Total
Frequency	241	2725	2966
Percent	8.1	91.9	100.0

How many households in total (including the respondent's own) occupy this dwelling?

	Valid 0	1	2	3	4	6	13	Total	Missing	Total
Frequency	1	112	97	15	7	2	8	242	2724	2966
Percent	.0	3.8	3.3	.5	.2	.1	.3	8.2	91.8	100.0

What is the main source of drinking water for members of your household?

	Unprotected Surface	Unprotected Well	Private Vendor	Protected Spring?/Well	Public Tap	Piped Outside Dwelling	Piped Into Dwelling	Other	Total
Frequency	18	57	41	139	62	416	2143	90	2966
Percent	.6	1.9	1.4	4.7	2.1	14.0	72.3	3.0	100.0

How long does it take to reach the water source from your dwelling (one way)?

	Valid 0	1	2	3	4	5	7	8	10	15	20	30	60	90	Total	Missing	Total
Frequency	5	24	60	75	12	92	6	2	44	10	16	36	15	10	407	2559	2966
Percent	.2	.8	2.0	2.5	.4	3.1	.2	.1	1.5	.3	.5	1.2	.5	.3	13.7	86.3	100.0

Do you treat your water in any way to make it safer to drink?

		Frequency	Percent
Valid	Yes	645	21.7
	No	2321	78.3
	Total	2966	100.0

What do you usually do to the water to make it safer?

	Filter	Iodine/Mineral	Boil	Valid Total	Missing	Total
Frequency	117	12	520	649	2317	2966
Percent	3.9	.4	17.5	21.9	78.1	100.0

How would you compare the past four weeks to the past year as a whole for your household in respect to the following:

Accessibility and quality of food?

	Much Better	About The Same	Much Worse	Total
Frequency	797	1731	438	2966
Percent	26.9	58.4	14.8	100.0

Accessibility and quality of water?

	Much Better	About The Same	Much Worse	Total
Frequency	646	1920	400	2966
Percent	21.8	64.7	13.5	100.0

Individual questions

What is your relationship to the primary respondent?

		Frequency	Percent
Valid	Primary Respondent	1124	37.9
	Spouse	799	26.9
	Child	481	16.2
	Child In Law	125	4.2
	Grandchild	27	.9
	Parent	169	5.7
	Sibling	92	3.1
	Nephew/Niece	19	.6
	Nephew/Niece Of Spouse	4	.1
	Cousin	6	.2
	Sibling In Law	29	1.0
	Parent In Law	40	1.3
	Cousin Of Spouse	1	.0
	Other Relative	37	1.2
	Maid	1	.0
	Other	12	.4
	Total	2966	100.0

What is your marital status?

	Married	Divorced	Separated	Widowed	De facto	Single	Total
Frequency	2087	44	27	247	18	543	2966
Percent	70.4	1.5	.9	8.3	.6	18.3	100.0

Are you currently attending school?

	Yes	No	Total
Frequency	125	2841	2966
Percent	4.2	95.8	100.0

What is the highest education level you completed?

		Frequency	Percent
Valid	Preschool	2	.1
	Year 1	9	.3
	Year 2	17	.6
	Year 3	49	1.7
	Year 4	40	1.3
	Year 5	65	2.2
	Year 6	159	5.4
	Year 7	126	4.2
	1st Yr. High School	530	17.9
	2nd Yr. High School	166	5.6
	3rd Yr. High school	459	15.5
	4th Yr. High School	294	9.9
	Yr 2 12	454	15.3
	Yr. 13/ Form 7	109	3.7
	Some Technical	50	1.7
	Completed Technical	73	2.5
	Some University	90	3.0
	Completed University	171	5.8
	Total	2863	96.5
Missing	System	103	3.5
Total		2966	100.0

What is your ethnicity?

	Fijian	Indian	European	Part European	Rotuman	Other	Total
Frequency	1543	1380	5	23	5	10	2966
Percent	52.0	46.5	.2	.8	.2	.3	100.0

Which language do you speak most commonly?

	English	Fijian	Hindi	Rotuman	Total
Frequency	1557	1371	36	2	2966
Percent	52.5	46.2	1.2	.1	100.0

Which religion do you belong to or profess?

	Roman Catholic	Muslim	Hindu	Buddhist	Other Christian	Bahai	Other	None	Unknown	Total	Missing	Sample Total
Frequency	786	181	170	92	35	392	1065	213	15	2949	17	2966
Percent	26.5	6.1	5.7	3.1	1.2	13.2	35.9	7.2	.5	99.4	.6	100.0

Do you have any trouble seeing, even if wearing glasses?

	No Difficulty	Some Difficulty	A Lot Of Difficulty	Cannot Do	Total
Frequency	2341	529	89	7	2966
Percent	78.9	17.8	3.0	.2	100.0

Do you have any trouble hearing, even if using a hearing aid?

	No Difficulty	Some Difficulty	A Lot Of Difficulty	Cannot Do	Total
Frequency	2788	152	25	1	2966
Percent	94.0	5.1	.8	.0	100.0

Do you have any difficulty walking or climbing steps?

	No Difficulty	Some Difficulty	A Lot Of Difficulty	Cannot Do	Total
Frequency	2398	456	101	11	2966
Percent	80.8	15.4	3.4	.4	100.0

Do you have difficulty remembering or concentrating?

	No Difficulty	Some Difficulty	A Lot Of Difficulty	Cannot Do	Total
Frequency	2583	326	55	2	2966
Percent	87.1	11.0	1.9	.1	100.0

Do you have any difficulty with self-care such as washing all over or dressing?

	No Difficulty	Some Difficulty	A Lot Of Difficulty	Cannot Do	Total
Frequency	2867	71	20	8	2966
Percent	96.7	2.4	.7	.3	100.0

Using your usual (customary) language, do you have difficulty communicating, for example understanding or being understood?

	No Difficulty	Some Difficulty	A Lot Of Difficulty	Cannot Do	Total
Frequency	2858	91	15	2	2966
Percent	96.4	3.1	.5	.1	100.0

In the past four (4) weeks, was there ever no food for you to eat because of lack of resources to get food?

	Yes	No	Total
Frequency	351	2615	2966
Percent	11.8	88.2	100.0

How often did this happen? (show and read card)

	Rarely	Sometimes	Often	Total Answered	Missing	Total
Frequency	134	186	31	351	2615	2966
Percent	4.5	6.3	1.0	11.8	88.2	100.0

In the past four (4) weeks, did you go to sleep at night hungry because there was no food?

	Yes	No	Total
Frequency	213	2753	2966
Percent	7.2	92.8	100.0

How often did this happen? (show and read card)

	Rarely	Sometimes	Often	Total Answered	Missing	Sample Total
Frequency	77	120	16	213	2753	2966
Percent	2.6	4.0	.5	7.2	92.8	100.0

In the past four (4) weeks, did you go a whole day and night without eating because there was no food?

	Yes	No	Total
Frequency	124	2842	2966
Percent	4.2	95.8	100.0

How often did this happen? (show and read card)

	Rarely	Sometimes	Often	Total Answered	Missing	Sample Total
Frequency	46	68	10	124	2842	2966
Percent	1.6	2.3	.3	4.2	95.8	100.0

The previous questions about hunger focused on the last 4 weeks. I'm now going to ask you to think back about a longer period. In the past twelve (12) months, was there ever no food for you to eat because of lack of resources to get food?

	Yes	No	Total
Frequency	354	2612	2966
Percent	11.9	88.1	100.0

How often do you have enough water to meet all your personal needs, including drinking, washing (including washing clothes), and cooking?

	Never	Rarely	Sometimes	Often	Always	Total
Frequency	103	272	608	355	1628	2966
Percent	3.5	9.2	20.5	12.0	54.9	100.0

With how many other people did you share the room in which you slept last night?

	0	1	2	3	4	5	6	7	8	9	11	12	42	Total
Frequency	545	1488	525	207	105	43	34	8	2	6	1	1	1	2966
Percent	18.4	50.2	17.7	7.0	3.5	1.4	1.1	.3	.1	.2	.0	.0	.0	100.0

In the last year, did you ever sleep outdoors, in public places such as bus or railway stations, or in temporary shelters provided by government or non-government organisations, because you did not have access to suitable shelter of your own?

	Valid yes	No	Total
Frequency	13	2953	2966
Percent	.4	99.6	100.0

Approximately how many nights in the last year did you sleep in the conditions described in the previous question?

	1	2	3	4	7	60	Total Answered	Missing	Sample Total
Frequency	2	6	1	1	2	1	13	2953	2966
Percent	.1	.2	.0	.0	.1	.0	.4	99.6	100.0

When was the last time you had a significant illness or injury?

	Within Last Four Weeks	Within Last Six Months	Within Last Year	Over One Year	Total
Frequency	749	468	378	1371	2966
Percent	25.3	15.8	12.7	46.2	100.0

Did this illness or injury make it impossible or very difficult for you to perform your usual paid or unpaid activity?

	Yes	No	Total
Frequency	1641	1325	2966
Percent	55.3	44.7	100.0

How long was it difficult or impossible for you to perform your usual paid or unpaid activity because of this illness or injury?

	More Than Two Weeks	Couple of Weeks	Several Days	Total	Missing	Sample Total
Frequency	437	451	742	1630	1336	2966
Percent	14.7	15.2	25.0	55.0	45.0	100.0

The last time you had an illness or injury that needed health care, did you receive this care?

	Yes	No	Total
Frequency	1941	1025	2966
Percent	65.4	34.6	100.0

From whom did you receive health care?

	Traditional Healer	Health Worker	Midwife	Nurse	Medical Doctor	Dentist	Physio	Other	Total	Missing
Frequency	31	12	3	155	1713	14	8	7	1943	1023
Percent	1.0	.4	.1	5.2	57.8	.5	.3	.2	65.5	34.5

Were there any significant problems with any of the following:

Skill of the (mention answer in K.05)?

	Yes	No	Valid Total	Missing	Total
Frequency	102	1840	1942	1024	2966
Percent	3.4	62.0	65.5	34.5	100.0

Cleanliness of the treatment facilities?

	Yes	No	Valid Total	Missing	Total
Frequency	71	1871	1942	1024	2966
Percent	2.4	63.1	65.5	34.5	100.0

Availability of prescribed drugs?

	Yes	No	Valid Total	Missing	Total
Frequency	313	1629	1942	1024	2966
Percent	10.6	54.9	65.5	34.5	100.0

Level of respect with which you were treated, including the way in which issues were explained to you?

	Yes	No	Valid Total	Missing	Total
Frequency	68	1874	1942	1024	2966
Percent	2.3	63.2	65.5	34.5	100.0

Waiting time to receive treatment?

	Yes	No	Valid Total	Missing	Total
Frequency	585	1357	1942	1024	2966
Percent	19.7	45.8	65.5	34.5	100.0

Location of the health care provider?

	Yes	No	Valid Total	Missing	Total
Frequency	289	1653	1942	1024	2966
Percent	9.7	55.7	65.5	34.5	100.0

What was the main reason that you did not receive health care?

	No Suitable Care	Couldn't Afford	Too Far	Did Not Seek	Other	Valid Total	Missing	Total
Frequency	8	28	17	830	141	1024	1942	2966
Percent	.3	.9	.6	28.0	4.8	34.5	65.5	100.0

Have you ever attended school?

	Yes	No	Total
Frequency	2866	100	2966
Percent	96.6	3.4	100.0

How many years were you in formal schooling? (Formal schooling includes university study)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	61	Total	Missing
Frequency	5	19	35	43	68	136	150	437	216	354	350	370	256	129	106	92	53	31	6	9	1	2866	100
Percent	.2	.6	1.2	1.4	2.3	4.6	5.1	14.7	7.3	11.9	11.8	12.5	8.6	4.3	3.6	3.1	1.8	1.0	.2	.3	.0	96.6	3.4

If education below grade 5, answer the following questions, if not, skip to next module.
Are you able to read at all?

	Yes	No	Valid Total	Missing	Total
Frequency	81	200	282	2684	2966
Percent	2.7	6.7	9.5	90.5	100.0

Are you able to read English?

	Yes	No	Valid Total	Missing	Total
Frequency	35	46	81	2885	2966
Percent	1.2	1.6	2.7	97.3	100.0

Please read the following sentences aloud to me. (A card on which the sentences are typed clearly is given to each participant.)

	Cannot Read	Able Only Parts	Able Full Sentences	Valid Total	Missing	Total
Frequency	1	25	9	35	2931	2966
Percent	.0	.8	.3	1.2	98.8	100.0

Are you able to read iTaukei, Hindi, or any other language?

	Yes	No	Valid Total	Missing	Total
Frequency	43	3	46	2920	2966
Percent	1.4	.1	1.6	98.4	100.0

Please read the following sentences aloud to me. (A card on which the sentences are typed clearly is given to each participant.)

	Cannot Read	Able Only Parts	Able Full Sentences	4	Valid Total	Missing	Total
Frequency	1	12	28	2	43	2923	2966
Percent	.0	.4	.9	.1	1.4	98.6	100.0

Are you able to write at all?

	Yes	No	Valid Total	Missing	Total
Frequency	69	210	279	2687	2966
Percent	2.3	7.1	9.4	90.6	100.0

Are you able to write in English?

	Yes	No	Valid Total	Missing	Total
Frequency	27	42	69	2897	2966
Percent	.9	1.4	2.3	97.7	100.0

Please write two sentences about what you did yesterday. (Ensure each participant is provided with a piece of paper and a pen or pencil)

	Illegible	Legible But Poor	Legible And Good	Valid Total	Missing	Total
Frequency	4	18	5	27	2939	2966
Percent	.1	.6	.2	.9	99.1	100.0

Are you able to write iTaukei, Hindi, or any other language?

	Yes	No	Valid Total	Missing	Total
Frequency	37	5	42	2924	2966
Percent	1.2	.2	1.4	98.6	100.0

Please write two sentences about what you did yesterday. (Ensure each participant is provided with a piece of paper and a pen or pencil)

	Illegible	Legible But Poor	Legible And Good	Valid Total	Missing	Total
Frequency	1	16	20	37	2929	2966
Percent	.0	.5	.7	1.2	98.8	100.0

Are you able to do some arithmetic? (A card with the arithmetic questions is given to each participant. Ensure each participant has a piece of paper and a pen or pencil to help with calculations)

	Yes	No	Valid Total	Missing	Total
Frequency	39	240	279	2687	2966
Percent	1.3	8.1	9.4	90.6	100.0

Addition and subtraction problem

	Correct	Incorrect	Valid Total	Missing	Total
Frequency	35	2	37	2929	2966
Percent	1.2	.1	1.2	98.8	100.0

Multiplication and division problem

	Correct	Incorrect	Valid Total	Missing	Total
Frequency	15	14	29	2937	2966
Percent	.5	.5	1.0	99.0	100.0

Do you experience any health problems, such as headaches, dizziness, or difficulty in breathing from exposure to the smoke and fumes from your cooking and/or heating fuel?

	Yes	No	Valid Total	Missing	Total
Frequency	821	1396	2217	749	2966
Percent	27.7	47.1	74.7	25.3	100.0

[SHOW AND READ CARD] How would you rate these problems?

	Severe	Moderate	Minor	Valid Total	Missing	Total
Frequency	157	329	336	822	2144	2966
Percent	5.3	11.1	11.3	27.7	72.3	100.0

What toilet facilities do you normally use when you are at home?

	Bush/Field/River	Pit With Slab	Pit No Slab	Ventilated Pit	Public Flush	Private Flush	Other	Valid Total
Frequency	18	110	225	285	25	2276	27	2966
Percent	.6	3.7	7.6	9.6	.8	76.7	.9	100.0

Do you regularly use a second toilet facility (for example at your workplace or where you spend time outside the house during the day)?

	Yes	No	Total
Frequency	1132	1834	2966
Percent	38.2	61.8	100.0

What is the second most common toilet facility that you use?

	Bush/Field/River	Pit With Slab	Pit No Slab	Ventilated Pit	Public Flush	Private Flush	Other	Valid Total	Missing	Total
Frequency	175	8	22	25	322	559	21	1132	1834	2966
Percent	5.9	.3	.7	.8	10.9	18.8	.7	38.2	61.8	100.0

In general, how much control do you have over personal decisions that have a major impact on your life, such as "...such as whom you will associate with outside of your house, when and from whom to seek health care for yourself, and how to spend your free time?"

	None	Very Little	Some	Fair	Full	Total
Frequency	91	183	644	951	1097	2966
Percent	3.1	6.2	21.7	32.1	37.0	100.0

If you were in trouble, how much support could you count on from friends and family?

	None	Very Little	Some	Fair	Full	Total
Frequency	143	202	599	614	1408	2966
Percent	4.8	6.8	20.2	20.7	47.5	100.0

To what extent does your clothing and footwear protect you from the weather and from hazards in your environment, such as broken glass where you walk?

	None	Very Little	Some	Fair	Full	Total
Frequency	42	155	425	699	1645	2966
Percent	1.4	5.2	14.3	23.6	55.5	100.0

To what extent are you able to present yourself in public, in terms of clothing, body odour and grooming, in a way that is acceptable by the standards of your community?

	Never	Rarely	Sometimes	Often	Always	Total
Frequency	21	124	389	682	1750	2966
Percent	.7	4.2	13.1	23.0	59.0	100.0

Violence or fear of violence is often associated with poverty. For this reason I would like to ask you some questions about your experience of violence and threats of violence. I am asking this question of everyone who is responding to the survey, men and women. I will not ask you about where you may have experienced violence, or who the perpetrator was. Your answers to all questions in this survey, including those about violence, will be kept confidential. As with all questions asked in this survey, if you do not wish to answer please tell me and we will move to the next question.

May I ask you some questions about your experience of violence?

	Yes	No	Total
Frequency	2398	568	2966
Percent	80.8	19.2	100.0

Here is a piece of paper with six pictures with descriptions [HAND RESPONDENT THE ANSWER SHEET AND PEN]. I will read out each question and for each question, please write a check mark if your answer is yes and a circle if your answer is no. You may use this folder (HAND RESPONDENT FOLDER) so I won't be able to see your answers. After answering all six questions, put the paper inside this envelope and seal it before giving it back to me.

In the past year, did you experience being hit, slapped, shoved, pushed, punched, or kicked by any one?

	Yes	No	Valid Total	Missing	Total
Frequency	400	2002	2402	564	2966
Percent	13.5	67.5	81.0	19.0	100.0

In the past year, did you experience being beaten, stabbed, burnt, or otherwise attacked with a weapon, such as a bottle, knife, gun, club, hot liquid or an explosive device?

	Yes	No	Valid Total	Missing	Total
Frequency	69	2332	2401	565	2966
Percent	2.3	78.6	81.0	19.0	100.0

In the past year, did anyone use physical force or threats to make you or try to make you have sexual intercourse or perform other sexual acts against your will?

	Yes	No	Valid Total	Missing	Total
Frequency	46	2355	2401	565	2966
Percent	1.6	79.4	81.0	19.0	100.0

If you answered yes to any of the preceding questions, were you subject to any of the violent events more than once?

	0	Yes	No	Valid Total	Missing	Total
Frequency	1	106	742	849	2117	2966
Percent	.0	3.6	25.0	28.6	71.4	100.0

In the past year, did anyone regularly insult, belittle or humiliate you, make you feel bad about yourself, or try to intimidate you (for example by yelling or smashing things)?

	Yes	No	Valid Total	Missing	Total
Frequency	1391	1010	2401	565	2966
Percent	46.9	34.1	81.0	19.0	100.0

In the next 12 months, do you think it is likely that you will be subject to any of the violent events described in the previous questions?

	Yes	No	Valid Total	Missing	Total
Frequency	452	1949	2401	565	2966
Percent	15.2	65.7	81.0	19.0	100.0

Do you or your partner have ready access to any types of contraception?

	Yes	No	999	Valid Total	Missing	Total
Frequency	582	1675	640	2897	69	2966
Percent	19.6	56.5	21.6	97.7	2.3	100.0

[SHOW AND READ CARD] Which methods do you or your partner have ready access to?

	Female Sterile	Male Sterile	IUD	Inject-ables	Implants	Pill	Male Condom	Female Condom	LAM	Rhythm	With-drawal	Others	Valid Total	Missing
Frequency	118	2	10	122	58	32	182	7	1	22	15	19	588	2378
Percent	4.0	.1	.3	4.1	2.0	1.1	6.1	.2	.0	.7	.5	.6	19.8	80.2

[SHOW AND READ CARD] To what extent, if at all, do you face barriers to using the contraceptive methods you listed above to prevent, limit or space pregnancies – for example from your family, from a partner or from religious authorities?

	N/A	Severe	Some	None	Total
Frequency	2378	8	62	518	2966
Percent	80.2	.3	2.1	17.5	100.0

Large amounts of rubbish or a waste disposal site?

	Yes	No	Total
Frequency	628	2338	2966
Percent	21.2	78.8	100.0

Open sewage?

	Yes	No	Total
Frequency	322	2644	2966
Percent	10.9	89.1	100.0

Air pollution (that is air that smells bad or makes your eyes or throat sting)?

	Yes	No	Total
Frequency	812	2154	2966
Percent	27.4	72.6	100.0

Pools of water where mosquitoes or other disease-carrying insects breed?

	Yes	No	Total
Frequency	847	2119	2966
Percent	28.6	71.4	100.0

Stores of unsecured agricultural or industrial chemicals and waste?

	Yes	No	Total
Frequency	90	2876	2966
Percent	3.0	97.0	100.0

Heavy vehicle traffic for much of the day?

	Yes	No	Total
Frequency	399	2567	2966
Percent	13.5	86.5	100.0

High levels of noise other than from vehicle traffic for much of the day?

	Yes	No	Total
Frequency	417	2549	2966
Percent	14.1	85.9	100.0

Any other significant environmental hazard?

	Yes	No	Total
Frequency	318	2648	2966
Percent	10.7	89.3	100.0

To what extent are you able to raise issues in your community that you feel strongly about, such as crime in the community, the way government programs are implemented or the way you or members of your family are treated at work or by other community members?

	Not At All	Great Difficulty	Some Difficulty	Fairly Easily	Very Easily	Valid Total	Missing	Sample Total
Frequency	456	495	812	708	327	2798	168	2966
Percent	15.4	16.7	27.4	23.9	11.0	94.3	5.7	100.0

To what extent do you think that people like you can change things in their community if they want to?

	Not At All	Great Difficulty	Some Difficulty	Fairly Easily	Very Easily	Valid Total	Missing	Sample Total
Frequency	429	528	825	666	263	2711	255	2966
Percent	14.5	17.8	27.8	22.5	8.9	91.4	8.6	100.0

Now I will ask you about the activities you did this past 24 hours. Let us start with 4am. What did you do at 4am? Did you do anything else during this time? Of these two, which one is the primary activity? Which is the secondary activity? How long did you do the first and second activity during this time?
[Please record a log of the activities of the respondent in the previous 24 hour period, starting at 4am of the previous day and finishing at 3am on the current day. Secondary activities can be registered by placing an 'S' in the relevant cell(s). Follow the protocol contained in the Enumerator Guide.]

*The enumerator is to calculate and record how much time was spent on activities **A-I** (personal care, leisure, entertainment and religious activities), to the nearest half an hour (e.g. 13hrs 30minutes). ONLY PRIMARY TIME spent on these activities should be included in the answer.*

*The enumerator is to calculate and record how much time was spent on activities **J-S** (formal study, paid and unpaid work), to the nearest half an hour (e.g. 9hrs30minutes or 6hrs30mins).ONLY PRIMARY TIME spent on these activities should be included in this answer.*

*The enumerator is to calculate and record any SECONDARY TIME spent on activities **J-S** (formal study, paid and unpaid work) to the nearest half an hour.*

How typical was the 24 hour period we have just discussed in terms of the amount of paid and/or unpaid work that you did?

	Same	Much More Paid	Much Less Paid	Valid Total
Frequency	1678	580	708	2966
Percent	56.6	19.6	23.9	100.0

Do you regularly work for pay?

	Yes	No	Valid Total	Missing	Total
Frequency	1558	1407	2965	1	2966
Percent	52.5	47.4	100.0	.0	100.0

What is the main kind of paid work that you regularly do?

	0	Farm	Construction	Transport	Domestic	Selling	Professional	Skilled	Office	Security	Factory	Scavenging	Begging	Seasonal	14	Valid	Missing	Total
Frequency	1	319	93	99	61	284	84	117	77	49	96	1	2	70	207	1560	1406	2966
Percent	.0	10.8	3.1	3.3	2.1	9.6	2.8	3.9	2.6	1.7	3.2	.0	.1	2.4	7.0	52.6	47.4	100.0

Have you suffered any injury, illness, disability, or other physical or mental harm from your paid work in the last 12 months?

	Yes	No	Valid Total	Missing	Total
Frequency	284	1275	1559	1407	2966
Percent	9.6	43.0	52.6	47.4	100.0

[SHOW AND READ CARD] What effect did this injury, illness or other harm have on you?

	Long Term?-No Work At All	Long Term-Not Same Work	Long Term- Same Work Before	Not Long Term	Valid Total	Missing	Total
Frequency	17	16	126	125	284	2682	2966
Percent	.6	.5	4.2	4.2	9.6	90.4	100.0

[SHOW AND READ CARD] Are you concerned that your paid work will cause you physical or mental harm in the future?

	Very Concerned	Somewhat Concerned	Not Very Concerned	Not Concerned At All	Valid Total	Missing	Total
Frequency	443	409	382	325	1559	1407	2966
Percent	14.9	13.8	12.9	11.0	52.6	47.4	100.0

To what extent do you agree or disagree with the following statements:

Members of my community respect the paid work that I do (that is, my job is a respected one).

	Strongly Disagree	Disagree	Agree	Strongly Agree	Valid Total	Missing	Total
Frequency	27	69	997	467	1560	1406	2966
Percent	.9	2.3	33.6	15.7	52.6	47.4	100.0

I am treated with respect when I do paid work (this includes being free from physical and verbal abuse or demeaning treatment while working).

	Strongly Disagree	Disagree	Agree	Strongly Agree	Valid Total	Missing	Total
Frequency	27	69	997	467	1560	1406	2966
Percent	.9	2.3	33.6	15.7	52.6	47.4	100.0

Do you regularly do unpaid work?

	Yes	No	Valid Total	Missing	Total
Frequency	2271	694	2965	1	2966
Percent	76.6	23.4	100.0	.0	100.0

What is the main kind of unpaid work that you regularly do?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Household	1383	46.6	60.8	60.8
	Community	95	3.2	4.2	65.0
	Subsistence	700	23.6	30.8	95.8
	Seasonal	25	.8	1.1	96.9
	Other	70	2.4	3.1	100.0
	Total	2273	76.6	100.0	
Missing	System	693	23.4		
	Total	2966	100.0		

Have you suffered any injury, illness, disability, or other physical or mental harm from your unpaid work in the last 12 months?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	251	8.5	11.0	11.0
	No	2022	68.2	89.0	100.0
	Total	2273	76.6	100.0	
Missing	System	693	23.4		

Total	2966	100.0	

Have you suffered any injury, illness, disability, or other physical or mental harm from your unpaid work in the last 12 months?

[SHOW AND READ CARD] What effect did this injury, illness or other harm have on you?

	Long Term - No Work At All	Long Term - Not Same Work	Long Term - Same Work Before	Not Long Term	Valid Total	Missing	Total
Frequency	15	24	117	95	251	2715	2966
Percent	.5	.8	3.9	3.2	8.5	91.5	100.0

[SHOW AND READ CARD] Are you concerned that your unpaid work will cause you physical or mental harm in the future?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Concerned	487	16.4	21.4	21.4
	Somewhat Concerned	465	15.7	20.4	41.9
	Not Very Concerned	659	22.2	29.0	70.8
	Not Concerned At All	663	22.4	29.2	100.0
	Total	2274	76.7	100.0	
Missing	System	692	23.3		
	Total	2966	100.0		

To what extent do you agree or disagree with the following statements:

Members of my community respect the unpaid work that I do (that is, my job is a respected one).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	.2	.3	.3
	Disagree	94	3.2	4.1	4.4
	Agree	1646	55.5	72.4	76.8
	Strongly Agree	527	17.8	23.2	100.0
	Total	2273	76.6	100.0	
Missing	System	693	23.4		
Total		2966	100.0		

I am treated with respect when I do unpaid work (this includes being free from physical and verbal abuse or demeaning treatment while working).

	Strongly Disagree	Disagree	Agree	Strongly Agree	Valid Total	Missing	Total
Frequency	13	82	1646	532	2273	693	2966
Percent	.4	2.8	55.5	17.9	76.6	23.4	100.0

[SHOW AND READ CARD] Taking all things together, how happy would you say you are? (The focus of this question is primarily on the respondent's overall feeling or general mood)

	Very Happy	Fairly Happy	Not Very Happy	Not Happy At All	Valid Total	Missing	Total
Frequency	1548	1129	261	26	2964	2	2966
Percent	52.2	38.1	8.8	.9	99.9	.1	100.0

[SHOW AND READ CARD] In general, how satisfied or unsatisfied are you with your life? (The focus of this question is primarily on the respondent's assessment of what they have achieved, or are on the way to achieving)

	Very Satisfied	Fairly Satisfied	Not Very Satisfied	Not At All Satisfied	Valid Total	Missing	Total
Frequency	1346	1256	329	32	2963	3	2966
Percent	45.4	42.3	11.1	1.1	99.9	.1	100.0

Overall, would you categorise yourself as poor or not poor?

	Poor	Not Poor	Total
Frequency	1128	1838	2966
Percent	38.0	62.0	100.0

[SHOW AND READ CARD] How poor would you say you are?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely Poor	63	2.1	5.6	5.6
	Very Poor	177	6.0	15.7	21.3
	Somewhat Poor	548	18.5	48.6	69.9
	Not Very Poor	340	11.5	30.1	100.0
	Total	1128	38.0	100.0	
Missing	System	1838	62.0		
	Total	2966	100.0		

[SHOW AND READ CARD] How poor would you say you are?