



Climate Resilient Honiara

WP2: Community Profiling Methodology
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Executive Summary

This report summarises the work conducted for Work Package 2, 'Community Profiling' of the 'Climate Resilient Honiara' Project.

It outlines the main aims and the activities undertaken to meet the Work Package objectives. Work Package 2 aims to develop community profiles for six hotspot communities: Ontong Java, Kukum Fishing Village, Aekafo-Feraladoa, Wind Valley/White River, Jabros/Gilbert Camp and Koa Hill. Every household in these communities is to be enumerated thereby addressing major knowledge gaps about these communities in Honiara.

Major work to date covers three streams:

1. Survey design

Completed activities include:

- Desktop review of extant literature and existing census and/or survey reports for Solomon Islands, particularly those that focus on urban informal settlements.
- Geospatial data assessment.
- Technical visit to three communities in February 2019.
- Coding of survey and designing collection of geospatial data.
- Feedback from stakeholders and communities.

2. Survey training

Completed activities include:

- Development of training materials.
- Development of training curriculum.
- Training delivery.

3. Survey execution

Completed activities include:

- Gaining feedback on previous in-country enumeration experiences.
- Assessing relevant platforms for providing an integrated approach to collecting spatial and non-spatial data.
- Agreement to use the CRH project as a pilot site for the Cadasta Platform.
- Assessing and improving spatial data accuracy due to technology limitations.

Work Package 2 conducted enumerator training and pilots in September 2019; however, due to technical issues, additional training took place in October 2019. The data collection was expected to be completed by December 2019, though local financing issues meant that this has now been extended into February 2020. Survey data will be processed in Melbourne to develop final community profiles.



List of Figures and Tables

Figure 1. Spatial distribution of six urban settlements targeted by CRH Project (Source: RMIT).....	1
Figure 2. Timeline of WP2 activities (report outputs in red).	2
Figure 3. Types of social capital critical in post-disaster recovery (Aldrich, 2012, p. 34).....	6
Figure 4. Variables that affect household adjustment to hazards and perceived risks (Lindell & Hwang, 2008, p. 550).	7
Figure 5. Overview of survey design methodology.....	8
Figure 6. Example of differences in perceptions of community boundaries (source: Lehmann).	10
Figure 7. Overview of household-level survey	13
Figure 8. Overview of settlement-level survey	19
Figure 9. Field survey workflow (start to completion).	21
Figure 10. Table of contents from enumerators' training manual.....	22
Figure 11. Practising their enumeration and GPS skills.....	23
Figure 12. Practicing surveying and field measuring skills on Day 3 of training	23
Figure 13. Enumerators with their colourful umbrellas.....	24
Figure 14. Group photo at Ontong Java settlement, Day 3 of training.....	25
Table 1. Types of data to potentially capture in community profiling.....	10
Table 2. Approximate number of households per settlement.....	11
Table 3. Overview of activities to date under WP2.....	26

Table of Contents

Executive Summary	i
List of Figures and Tables	ii
1. Introduction	1
1.1. Timeline	2
2. Community Profiling	2
2.1. What's a 'community profile'?	2
2.2. Approaches to community profiling	4
2.3. Community profiling for climate resilience: methodology considerations	5
3. Methodology	7
3.1. Existing information sources	8
3.2. Technical visit (February 2019)	10
4. Survey Design	12
4.1. Household-level survey	12
4.2. Settlement-level survey	19
4.3. Technology and technical considerations	19
4.4. Resource considerations	21
4.5. Enumeration workflow	21
4.6. Training materials	22
5. Pilot Surveys and Training Delivery	22
5.1. Personnel challenges	23
5.2. Technical challenges	24
6. Survey implementation	25
6.1. Lessons learned	25
7. Key Activities	26
8. Bibliography	27
Appendix 1: Fiji survey	i
Appendix 2: Current CRH survey	xi
Appendix 3: List of other survey reports reviewed as input	xxxi
Appendix 4: Example of survey coding	xxxiii



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1. Introduction

The ‘Climate Resilient Honiara’ Project (CRH) is a four-year project funded by the UNFCCC Adaptation Fund and administered by UN-Habitat. It is implemented locally by the Solomon Island Government Ministries of Environment, Climate Change, and Disaster Management (MECCDM) and Land, Housing and Survey (MLHS), as well as Honiara City Council (HCC). RMIT University (Australia) was contracted to provide scientific advice to the project and this multi-disciplinary input is led by Prof. Darryn McEvoy.

The project commenced in 2019 and has the following aims:

- Enhance the resilience of Honiara to current and future climate impacts and natural disasters;
- Focus on vulnerable communities in Honiara;
- Emphasis on youths, women, girls, the elderly, and people with disabilities.

The project focuses on five ‘hotspot’ communities:

- Two coastal, titled communities: Ontong Java and Kukum Fishing Village
- A series of inland informal settlements: Aekafo-Feraladoa (Zones 18-25) (aiming to target at least three zones)
- Two peri-urban settlements on the border of Honiara: Wind Valley/White River and Jabros/Gilbert Camp

In late 2019, the project committed to working in a sixth community, Koa Hill. The six communities are shown in Figure 1.



Figure 1. Spatial distribution of six urban settlements targeted by CRH Project (Source: RMIT).

One of the foundational work packages of the CRH project is Work Package 2 (WP2), ‘Community Profiling’. WP2 identified suitable local enumerators, established and trained local survey teams, and conducted household and community-level surveys to establish baselines. It also provided tablets and software and will present options to integrate satellite, drone, and community mapping.

WP2 leveraged existing UN-Habitat instances of community profiling surveys (such as the survey being used in Fiji and partly deployed in Koa Hill), which were then refined for use in the Honiara context. The goal was to design a survey that is both quick and effective, elicits information on critical issues of vulnerability to climate change and natural hazards, is fit for local purpose, and can be considered together with other sources of socio-economic information (e.g. collected by the national Census). It also attempted to leverage / integrate with existing SIG geospatial datasets.

WP2 also supported the implementation and analysis of the survey. It achieved this through identifying suitable enumerators (in consultation with SI Ministries and Honiara City Council) and sourcing appropriate technology platforms to collect and process the data, with a view toward interoperability with other datasets. The analysis of the data was conducted in Melbourne, with the aim of providing a broad profile of the community that can be used as input into other components of the CRH project, as well as other climate-related decision-making.

1.1. Timeline

WP2 was initially due in June 2019. Due to unexpected issues experienced in Honiara e.g. political unrest from local elections and technology issues, which impacted on the operational aspects of WP2, the activities under WP2 has experience multiple delays. A timeline of activities is provided below in Figure 2. A more detailed timeline is provided in [section 7](#).

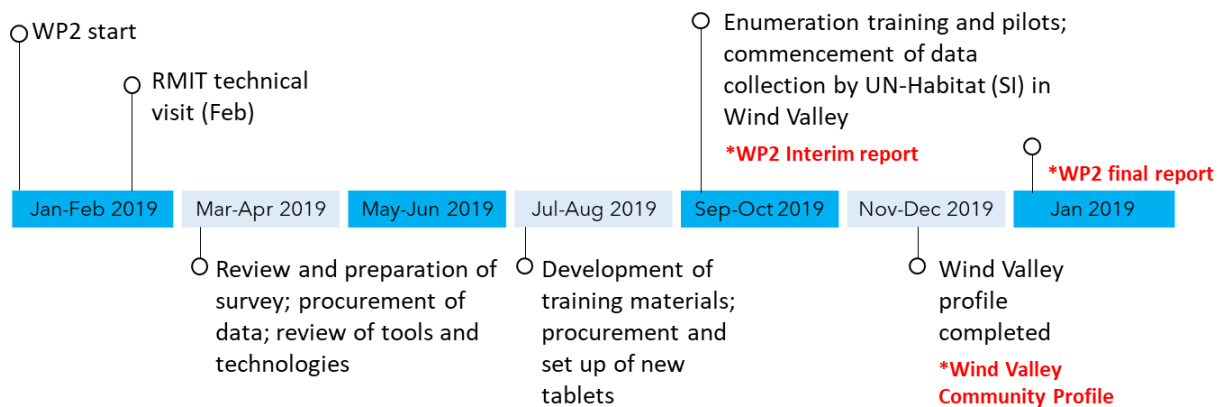


Figure 2. Timeline of WP2 activities (report outputs in red).

2. Community Profiling

2.1. What's a 'community profile'?

Originally, a community profile (CP) was defined broadly, simply a report of a community's needs, physical and social resources and assets, and possible options for action to respond to these needs, but crucially it was noted that a CP should also be part of a **process** that leads to action (Twelvetrees, 1991).

There is general agreement that a CP is the construction of a document consisting of multi-dimensional data of various social, economic, physical and environmental characteristics that shape the lived experience of a community and creates the intersectional conditions for their perceived needs (relative to an outcome). This in turn provides the basis for understanding how these conditions direct strategies for action, as well as enable or inhibit the community's ability to participate in delivering on the intended outcome. Lastly, a participatory and engaged process is important to enrol the community into empowered action.

As CPs became increasingly used as a tool in development work, the product grew to become a comprehensive **description** of the needs and resources of a homogenous group of people, where the homogeneity corresponds to an internally or externally defined concept of community (Hawtin & Percy-Smith, 2007). This information/data could then be used as input into some intervention for improving the quality of life of the community.

This focus on the how a community is defined is also emphasised by donors, e.g. the FAO's operational CP guide to support its work in rural areas (also used by The World Bank) first defines a community as (Carloni, Crowley, & Messer, 2005, p. 15):

“the locus where all members of a group of people having some form of collective claim over a territory and recognizing some form of collective governance can be given the opportunity to influence decisions in matters of public choice that affect their livelihood (i.e. the locus where direct participatory democracy is a concrete possibility)”.

In this definition, themes around territory, governance and mutual identification are key. Thus, a CP as suggested by the FAO becomes a way of constructing structured data around the characteristics of the community that reflect these themes including (*ibid.*):

- social characteristics of the community: population, households, community structure, main livelihood activities;
- territory-based characteristics e.g. land, water and natural resources; infrastructure and services; spatial distribution of houses;
- vulnerabilities e.g. shocks and stresses affecting livelihoods and well-being of villagers, including type and frequency; problem analysis (including problems and opportunities); sources of support; ability to effect change;
- local governance and institutions, and conditions of participation.

The FAO's guidelines indicate that a CP should aim to provide basic information about a community and understanding of the context in which a community lives in. This should be data gathered and assembled before any development interventions are designed. Depending on the aim of the intervention, the community profile could also point to areas where more information might be needed (i.e. it need not be exhaustive).

Many census organisations now develop statistically based CPs. For example, the Australian Bureau of Statistics provides CPs which present a statistical characterisation of an area providing data especially related to people, families and dwellings in a selected geographic area, with the

community is based on place of usual residence (that is, where people usually live, rather than where they were counted at the time of census)¹.

Taking these various conceptualisations into account, for the purposes of the CRH project, a CP is: **the development (i.e. *process*) of a knowledge resource (i.e. *output*) about the social, economic and physical attributes of a community for the purposes of improving climate resilience (*outcome*)**. As the project focuses on informal settlements, we use a definition of a community that is internally defined by the community of focus.

2.2. Approaches to community profiling

2.2.1 Qualitative approaches

There is no specified formulaic way to construct a CP. If the activity is initiated as a social research method, a CP could be constructed as a qualitative dataset based on interviews, which emphasises a highly participatory framework (Blackshaw, 2010). Indeed, relevant to the CRH project, Fünfgeld (2012) adopts this as the recommended approach for constructing a CP for climate adaptation purposes. Payne and Payne (2004) outline three types of social science-based profiling methods and their pros and cons (albeit from a UK perspective):

- Rapid appraisal, which draws on existing data and employs mainly social research methods (e.g. observations and key informant interviews). While relatively cheap and quick to conduct, it tends to rely on ‘common sense’ understanding (vs. true empiricism) and is conducted by untrained staff. As such, it is not recommended as ‘good’ research.
- Priority searching, an approach developed by a local council in the UK in the late 1980s where a survey is developed based on outcomes of an initial focus group interview. The survey therefore aims to identify inconsistencies in opinion.
- ‘Compass’, a 400-question survey developed by the Policy Research Institute in Leeds and the Community Research Unit. The survey allows for changes to be made, but requires sampling and report writing expertise.

However, the latter two approaches have been criticised as embedding a risk of being too disengaged from communities, and for the high-level of resources (i.e. expertise) required (Blackshaw, 2010).

2.2.2 Quantitative approaches

A CP could also be constructed quantitatively by bringing together relevant datasets to a community, as usually undertaken by statistical agencies. This requires a robust and frequently updated census process and hence, dataset, and assumes that internal and external definitions of communities align and are stable (or perhaps even geographically determined). For the CRH project context, this is not always the case since the Solomon Islands national census only occurs once every ten years, or data

¹ <https://www.abs.gov.au/websitedbs/censushome.nsf/home/communityprofiles?opendocument&navpos=230>



are not easily available for communities in questions, or that urban informal settlements may not be recognised and/or well-defined.

Often, the disadvantage of a quantitative approach obviously is that it does not have an explicitly participatory approach compared to a qualitative approach; however, there are strategies for overcoming this such as heavily involving the community in developing and validating the questions used in surveys. There have also been alternative methods developed, mainly stemming from the tradition of rural rapid appraisal and/or participatory rapid appraisal. Here, cCommunity surveys have been developed using participatory statistics or participatory GIS, or even methods like sketchmapping (Chambers, 2015).

In terms of community profiling for in the climate change domain, there does not seem to be many explicit CP examples available – the example of Fünfgeld (2012) provided above is one of the few. However, in other climate-related projects (not necessarily regarding adaptation and resilience), communities' needs and perceptions have been determined using a mix of quantitative and qualitative methods and tools (Gustafson, Cadena, & Hartman, 2018; The Asia Foundation, 2012). In these studies, face-to-face and focus group interviews were generally used as common participatory methods for qualitative data collection involving different types of respondents and key stakeholders. In the Asia Foundation climate perception survey, representation was generally ensured using sampled households and an emphasis on gender parity across participants.

While there does not seem to be an agreed recommended methodology for community profiling, generally, the literature agrees that it is more important for the research process to retain certain principles:

- Must involve community participation, especially since building a profile is dependent on using community knowledge (Blackshaw, 2010).
- Must include basic demographic, physical (i.e. environmental, housing, etc.) and economic data.
- Must relate to a specific, defined community.

2.3. Community profiling for climate resilience: methodology considerations

The aim of the CP developed in this Work Package was to build a baseline understanding of the communities the CRH project is focusing on. This should serve as one of the input sources of data into building local climate resilience.

The basic premise of the CP builds on the three forms of human capital that lie at the heart of many sociological studies into community and development: economic, cultural and social (Bourdieu, 1986). Given the aims of the CRH project, this premise is further contextualised by the definition of vulnerability as outlined in the Honiara Urban Resilience and Climate Action Plan (HURCAP) (Trundle & McEvoy, 2016, p. 12):

$$\text{Vulnerability} = \frac{\text{Exposure X Sensitivity}}{\text{Adaptive Capacity}}$$

Adapting this, we could say that:

- **Exposure** is the extent, frequency, and severity of the climate-related shocks and stresses faced by households;
- **Sensitivity** comprises a collection of multi-dimensional factors that determine how affected the household will be when a climate-related event is experienced;
- **Adaptive capacity** is ability of the household to respond to such an event either through formal or informal means; leveraging social, economic or cultural capital inherent in the household, or available to it.

There are three main types of social capital that is considered in developing the questions for the CP which essentially reflect intra- and inter-community relationships, and extra-community relationships (Aldrich, 2011; Putnam, 2004; Szreter & Woolcock, 2004). These concepts of social capital are shown in Figure 3.

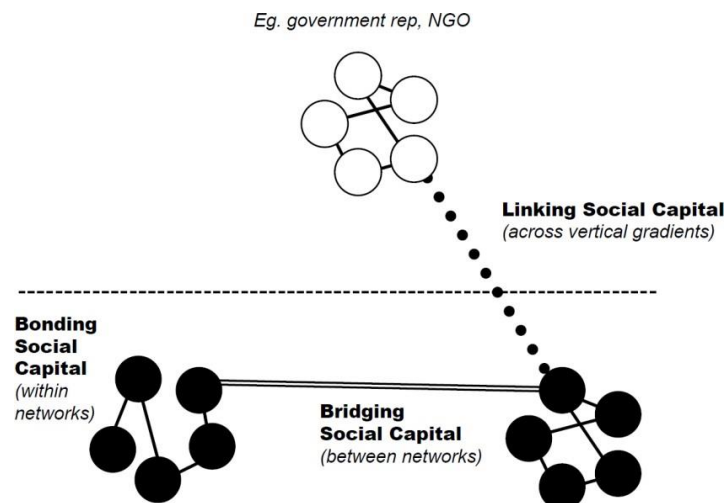


Figure 3. Types of social capital critical in post-disaster recovery (Aldrich, 2012, p. 34).

The three types of social capital are:

- **bonding social capital** reflects the function of those relationships within networks of homogenous individuals (e.g. family members, neighbours, close friends) to mobilise resources and reciprocal support for recovery;
- **bridging social capital** reflects the function of those relationships between networks, i.e. linking a homogenous group to extra-local networks and assets, but still within the same social stature (e.g. across ethnic, religious divides);
- **linking social capital** reflects the function of those relationships “between people who are interacting across explicit, formal or institutionalised power or authority gradients in society” (Szreter and Woolcock 2004: 655).

The questions developed for the household survey also considered research from Lindell and Hwang (2008), who sought to understand how various socio-economic household variables influence how

households adjust to hazards or perceive their personal risk. The authors found that tenure expectations were unrelated to hazard adjustment or perceived personal risk, that ethnicity has some bearing on hazard adjustment, and that hazard proximity was directly as well as indirectly related to perceived personal risk. The authors' conceptual model of hazard adjustment and how this relates to variables are shown in Figure 4.

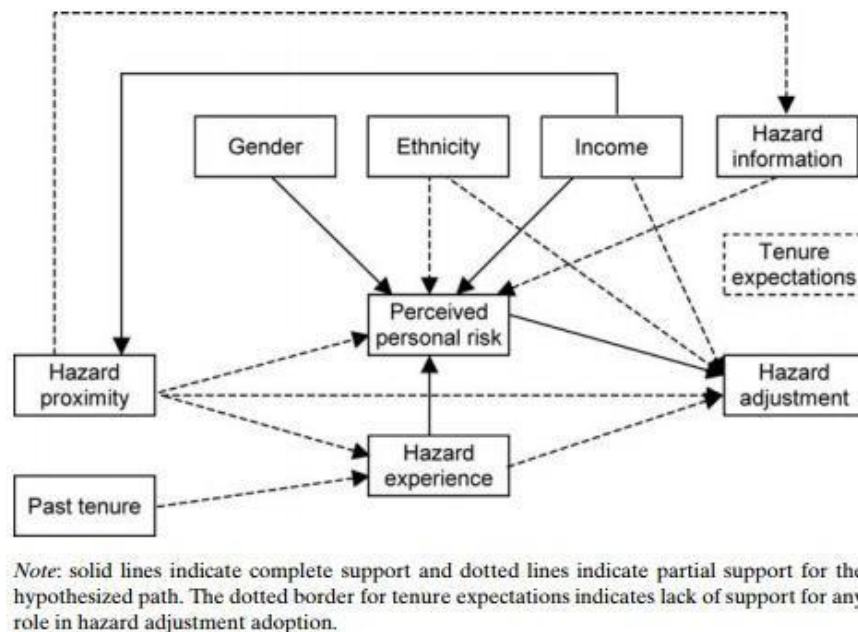


Figure 4. Variables that affect household adjustment to hazards and perceived risks (Lindell & Hwang, 2008, p. 550).

Extending this, various types of information related to aspects of environmental risk analysis was also considered.

To minimise the time taken to conduct the survey, it was decided that the unit of analysis would be the household (rather than the individual) and the form of data collection would be a household survey. In the absence of concrete data that is specific to each of the communities, the household survey is an appropriate data collection method to build an important source of population-based information specific to each settlement/community.

3. Methodology

The approach for designing the survey considered multiple factors: extant literature on climate vulnerability and resilience, previous relevant surveys conducted in Solomon Islands (around 20 different relevant surveys between 2005 and 2018 either by government or NGOs) and existing datasets; participant burden (given the numerous surveys previously conducted in the country, and

how to balance time vs. knowledge production); cultural sensitivities around certain topics (such as land ownership); skill level of surveyors and how this might be facilitated using innovative data collection platforms. Associated with this is the consideration of what types of data might be collected and produced as part of the profiling exercise and it became apparent that multiple social-spatial relationships would need to be identified.

The methodology aspect also grappled with the intrinsic intersectionality of climate change (Kaijser & Kronsell, 2014), especially with the types of knowledge the survey hoped to capture around social relations (e.g. based on gender, ethnicity, socio-economic status, etc.) and how this might translate to resources, vulnerability and perceptions around decision-making regarding climate resilience and co-production of climate actions.

The design also considered how the outcomes of the profiling might be used by other stakeholders. Figure 5 shows the methodology underpinning the CP survey design. This is explained in greater detail below.

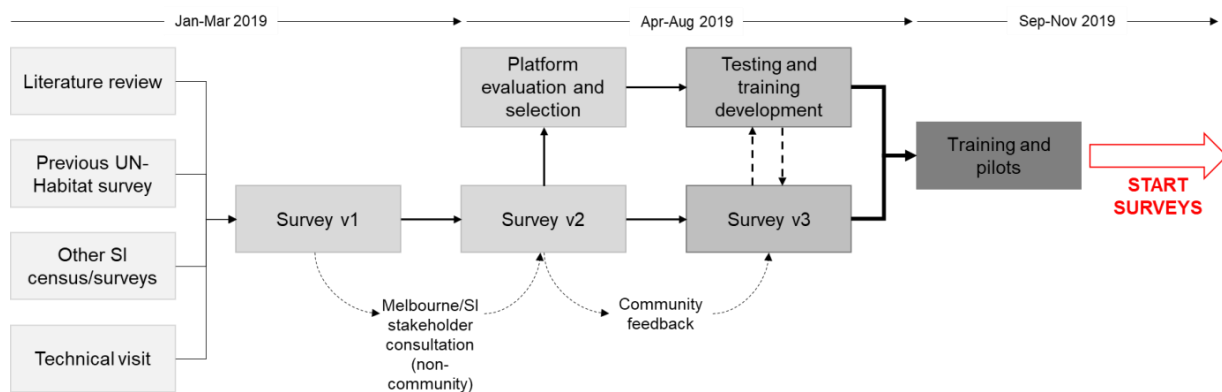


Figure 5. Overview of survey design methodology.

3.1. Existing information sources

5.1.1 Previous community profiling surveys

A previous survey designed for a UN-Habitat project in Fiji provided the initial input for the structure of the Honiara survey. This survey is shown in [Appendix 1](#). Many of the components of the survey have been retained at a high level including socio-economic aspects, land tenure and perceptions of risk and vulnerability.

5.1.2 Previous census/survey reports

Numerous household surveys have been conducted in Honiara and are still cited in literature, including surveys from as early as 2005. As part of the desktop review, multiple reports were assessed, and relevant information was extracted and used for survey design. The complete list of



census/survey reports used to inform the design process is provided in [Appendix 3](#). An example of some of the surveys/reports reviewed are:

- 2005 Honiara slum settlement questionnaire
- 2009 Solomon Islands national census report
- 2010 JICA Country gender profile
- 2012/13 Solomon Islands household income and expenditure survey
- 2015 UN-Habitat slum situational analysis
- 2015 Solomon Islands demographic and health survey
- 2016 Honiara city-wide informal settlement analysis
- 2018 Asian Development Bank Greater Honiara development strategy.

In the interest of a value-add approach, the survey design process attempted to align with terminology (in terms of questions and responses) to contribute to the broader pool of knowledge and to ensure questions were familiar to communities. However, we acknowledge that this runs the risk of coming across as ‘duplicating’ questions (which might be irritating for communities).

5.1.3 Geospatial data

The project had access to multiple geospatial datasets such as:

- ward-level administrative boundaries;
- Honiara and Greater Honiara cadastral boundaries;
- informal settlement zone boundaries.

For the purposes of WP2, informal settlement zone boundaries and cadastral boundaries were the most relevant types of data. However, there was no dataset for building footprints. At the time of data sourcing, the project was able to obtain aerial images (in PDF) of parts of Honiara based on a 2017 LIDAR data capture, but this was not georeferenced. In mid-2019, the CRH project was able to obtain a city-wide LIDAR data set commissioned by the Ministry of Health in 2017. This was used to produce paper maps of the settlements used by the enumerators as well as digital maps for input into the tablet during enumeration.

Maps were created for each community using formal settlement boundaries defined by MLHS in 2006. However, when the team engaged the communities with defining their perception of the physical boundary of the community, this process raised issues concerning externally defined boundaries versus internally defined ones. For example, Figure 6 shows the difference between formal government boundaries (red line), two instances of community perceptions (yellow line and green line) for sections of Wind Valley.



Figure 6. Example of differences in perceptions of community boundaries (source: Lehmann).

This challenge is tackled in the inclusion of questions that elicit information about community boundaries to understand socially cohesive community units – which are important for resilience actions. The survey process will also validate the boundaries by asking households what community they live in, and why they think this.

3.2. Technical visit (February 2019)

To ensure that the community profiling work aligns with ideals of good research and good profiling, the actual surveying process aimed to interact with every household within each targeted settlement, rather than the more typical (and less resource-intensive) focus group approach, as well as serving to eliminate sampling issues (Blackshaw & Woodhouse, 2010). Site visits in February 2019 provided means of engaging with communities in terms of their issues and needs, as well as local government and non-government stakeholders who hold relevant data or may be interested in the project’s outcomes. A field visit to three communities – Ontong Java, Kukum Fishing Village and Aekafo-Feraladoa – was undertaken in February 2019. The trip demonstrated types of data that needed to be captured and explicit challenges for the survey design.

From discussions with community, the following types of data shown in Table 1 appeared to be important to consider for climate resilience and adaptation.

Table 1. Types of data to potentially capture in community profiling.

CATEGORY	DATA TYPE
Natural environment	<ul style="list-style-type: none"> Elevation
Built environment	<ul style="list-style-type: none"> Contiguous objects e.g. Jacobs ladders, paths, roads Man-made water sources (current and extinguished) e.g. wells, bores including depth? Access and road networks Toilets and kitchens Height of structure above ground

CATEGORY	DATA TYPE
	<ul style="list-style-type: none"> Sanitation and household waste disposal points Modifications to household e.g. extensions, self-help projects.
Socio-cultural	<ul style="list-style-type: none"> Permanent v. temporary residents Social capital focused on understanding how a shared sense of public good is created and/or communicated.
Community resources	<ul style="list-style-type: none"> Record location of warning system and sensor. Bridges Church halls Communal toilets (and users)

The communities were also asked to provide estimates for the number of households within their communities. This is shown in Table 2 and allowed us to estimate the resources required to conduct the enumeration work.

Table 2. Approximate number of households per settlement.

SETTLEMENT*	ISZ NO.	APPROX. NO. OF HOUSEHOLDS	HOUSEHOLD SIZE RANGE
Feraladoa	19	1000	7-10 (small), 20 (big)
Matarui	20	150	12 (big)
Jericho	21	60-70	7-10 (avg)
Gwaimaoa	22	100	7-12
Namouliki	23	30	6-12
Aekafo	24	50	5-14
Ontong Java		40 (approx. 1000 ppl.) – permanent households	6-10
Kukum Fishing Village		26	2-22 (single household), up to 42 (double household)
Koa Hill		400	

**There appears to be some discrepancies in names of settlements in Aekafo-Feraladoa in MLHS records.*

For those communities that we could not visit, i.e. Wind Valley and Jabros-Gilbert Camp, we manually counted visible households in Google Earth imagery for Wind Valley (around 400 households), and for Jabros-Gilbert Camp, this is still unknown due to boundary definition issues.

More generally, engaging with SI stakeholders underscored the need to leverage existing resources, as well as complement them to add value to knowledge production specifically about climate vulnerability and/or resilience, but more generally about urban informal settlements in Honiara.

It also raised considerations for a non-sampled survey. Most surveys in Honiara to date have been sampled surveys; it seems this will be one of (if not the first) instance of complete settlement enumeration. This provides a real opportunity to understand if, and what kind of correlations might exist between aspects such as: social groups and household clustering, available natural resources and building stock, etc. Additionally, previous thinking on being able to integrate data from other

household surveys may not be as feasible; possible approaches are simply to carry over broad understanding of socio-cultural characteristics.

There were some issues in developing survey questions. These included:

- **Resource constraints** that needed a balance between the amount of data collected, and the time spent collecting the data.
- As such, there were **information constraints** in the types of general vs. specific data the survey aimed to collect, especially with consideration to information needs of other work packages in the project.
- There was also consideration around **wording** used in the survey, given it was likely to be conducted by local enumerators.

Technical challenges were also identified:

- The **'right' platform** appeared to be tablet-based but complemented by handheld GPS and other paper-based instruments. Even then, a handheld GPS unit only produces an accuracy of 2-3 metres, which is not of adequate accuracy in urban environments.
- Experienced enumerators had commented that they did not like a two-app approach (one for the survey, and another for the geospatial data). Feedback from UN-Habitat staff and local enumerators also suggested the need to develop **sound training resources**.

4. Survey Design

The CP survey was designed as a two-part exercise: 1) household survey with households as the unit of analysis, and 2) settlement survey with settlements as the unit of analysis. The survey is largely **descriptive**, seeking to characterise households' lived experiences.

4.1. Household-level survey

The survey takes a modular approach and sets out seven modules of questions as a basis for understanding various characteristics of each household that potentially introduces vulnerability and/or risk in terms of climate resilience, as well as importance for understanding adaptive capacity. Although this is contextualised for the project, it can be adapted for other survey purposes. An overview of the modules is shown in Figure 7. Each module is then described and the list of questions and the rationale for asking those questions are provided.

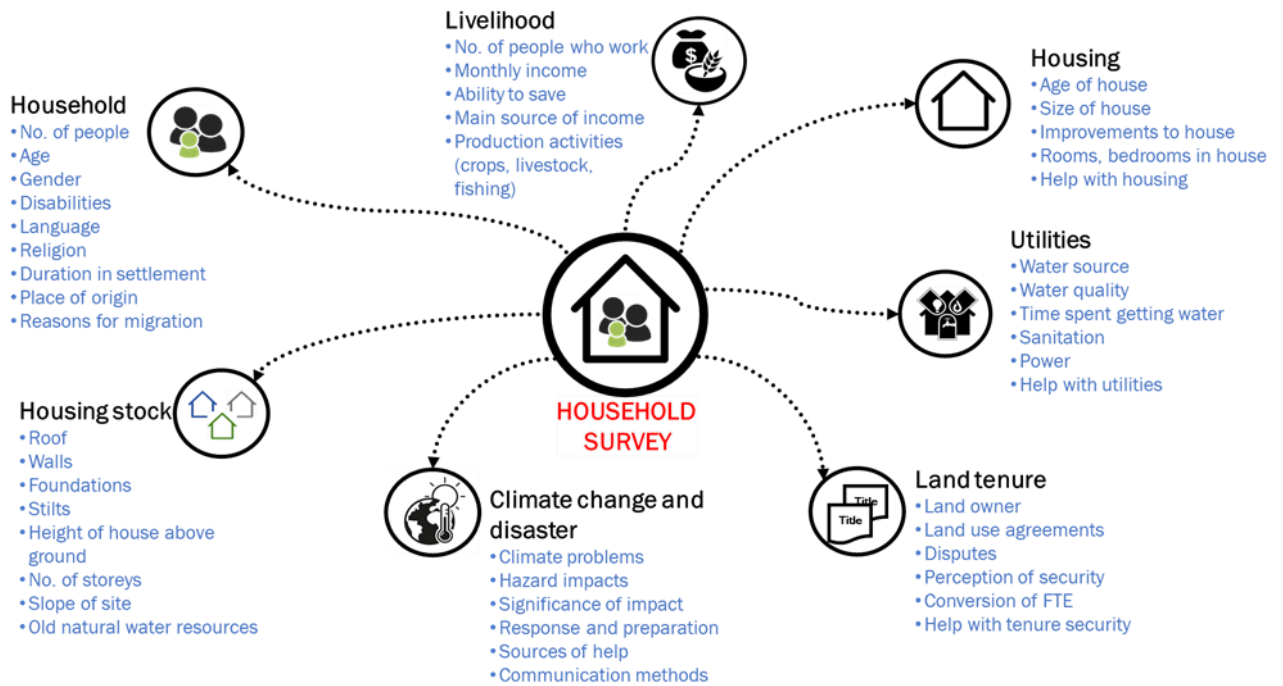


Figure 7. Overview of household-level survey.

6.1.1 Household characteristics

This describes the people who usually live in the household in terms of age, sex, ethnicity, language, religion, mobility, migration purpose and duration of settlement. This aims to provide basic socio-demographic information which will also provide some basic insight into intersectional aspects.

Here, given the patterns of migration from the islands and the significant length of time that these temporary residents stay in Honiara for (feedback from communities that several months was common), it was decided to record the people living in the house “at this moment in time” (i.e. time of survey) as disregarding transient population might lead to under-estimation in preparations and interventions in settlements.

Questions around number of persons, and responses regarding age, disability and religion, were all designed to align with the SI census. Main questions (excludes further information) under this module are:

Household Characteristics Questions	Rationale
1.1. a) What is the name of the community you live in? b) Is the selected community in Q1.1 the main community the household is a part of?	<ul style="list-style-type: none"> Determining household perception/identification of community.
1.2. How many people usually live in this household? ^a 1.3. In this household, how many people are male and how many are female? 1.4. What are the ages of household members? ^b	<ul style="list-style-type: none"> Household demographic statistics
1.5. Are there any members of the household with a disability that impacts their ability to move around independently? ^c	<ul style="list-style-type: none"> Household mobility issues during times of evacuation
1.6. What is the main language used in the household? 1.7. What religion does the household belong to? ^d 1.8. Where is the location of the church the household attends? 1.9. How long has this household been living in this community? 1.10. Where did the first member or group from the household come from?	<ul style="list-style-type: none"> Social networks social structures within community and links to external networks
1.11. The next question asks for the TOP 3 reasons why the household moved to this settlement (1 for most important, and 3 for least important).	<ul style="list-style-type: none"> Migration motivation Perceived needs

^a National average for urban households is 6.5 persons.

^b Answers collected according to census categories of Under 15 years, 15-49 years, and 50 years and over.

^c Answers collected according to census categories of disabilities – walk, remember/concentrate, deaf, blind.

^d Religion: answers follow top five main religions across SI from census.

6.1.2 Livelihood (economic and food) characteristics

This describes the household's food and economic security conditions in terms of ratio of working household members, sources of income, place of work, livestock and fishing activity. This aims to provide basic economic information that can provide insight into livelihood vulnerability and capacity to invest in improved physical conditions. Questions around income sources and savings align with previous surveys like the Solomon Islands Institutional Strengthening of Land Administration Project (SIISLAP) and the census.

Main questions (excludes further information) under this module are:

Livelihood Characteristics Questions	Rationale
2.1. A) How many members of the household currently work? (cash income only) B) Of the people that work, how many work inside or outside the settlement?	<ul style="list-style-type: none"> Economic capacity Economic capital within settlement Indication of population in settlement during working hours

Livelihood Characteristics Questions	Rationale
2.2. What is the current total monthly income? ^a 2.3. Is this income regular? 2.4. Is your household able to save from the monthly income? ^b 1.12. What is the main source of income for the household? ^c	<ul style="list-style-type: none"> • Cash-based production activities • Economic vulnerability/security
2.5. Does the household grow any crops? a) Which members of the household are involved in this activity? b) What type of garden does the household have? c) Is the garden only used by the household or shared with other households? 2.6. Does the household raise any livestock? a) What is the main reason for raising livestock? b) Which members of the household are involved in this activity? 2.7. Does the household fish frequently? a) What is the main reason for fishing? b) Which members of the household are involved in this activity?	<ul style="list-style-type: none"> • Food security/vulnerability • Non-cash production activities • Gender distribution in production activities

^a Annual median income in Honiara is SBD11888 per capita, i.e. 1000/month. Based on this, survey uses categories of \$250 increments up to \$1000.

^b Ability to save question from 2005 SIISLAP survey.

^c Main source of income answer categories aligns with census.

6.1.3 Housing characteristics

This describes existing housing conditions including age of house, floor area, improvements to house, number of rooms, floor material and priorities for improving housing. This aims to provide insight into the structural safety of the house and liveability conditions, and hence resilience to impacts from hazard events. Main questions (excludes further information) under this module are:

Housing Characteristics Questions	Rationale
3.1 When was this house built? 3.2 Do you consider your house safe?	<ul style="list-style-type: none"> • Age and structural integrity of house
3.3 Has the house been improved or extended? a) What changes were made to improve/ extend the house? b) What was the approximate cost of this improvement? c) How was the improvement/ extension mainly paid for? d) What was the main reason for the improvement/ extension?	<ul style="list-style-type: none"> • Improvements and ability to make improvements to house (economic capital)
3.4 How many rooms are there is this house?	<ul style="list-style-type: none"> • Living conditions

Housing Characteristics Questions	Rationale
3.5 How many <u>separate</u> bedrooms are there in the house?	
3.6 In terms of housing, of the following, what would help your household the most?	<ul style="list-style-type: none"> Perceived needs

6.1.4 Utilities characteristics

This describes the household's access to services (formal/informal) including drinking water source and quality, toilets, drainage, waste disposal, power and water connections. The questions aim to provide insight into basic daily sanitation conditions which can indicate household vulnerability to health impacts from hazard events. In particular, the response for water source and water treatment methods align with those from the 2015 Solomon Islands Demographic and Health Survey (SIDHS).

Main questions (excludes further information) under this module are:

Utilities Characteristics Questions	Rationale
4.1 What is the main source of water for your household? ^a 4.2 a) How would you rate the quality of the water? b) How does the household treat the water for drinking? ^a	<ul style="list-style-type: none"> Source and safety of water
4.3 How much time does the household spend getting water every day (round trip)? ^b a) How many people are involved in getting water every day? b) Which members of the household are involved in this activity?	<ul style="list-style-type: none"> Non-cash production activities Gender distribution in production activities
4.4 Are the household's toilet facilities improved or unimproved? a) Are the toilet facilities shared or not shared? b) What type of toilet facility is it?	<ul style="list-style-type: none"> Living conditions
4.5 Does the house have drainage? a) How effective is the drainage?	<ul style="list-style-type: none"> Living conditions
4.6 Where does the household usually dispose its rubbish?	<ul style="list-style-type: none"> Living conditions
4.7 Is the household connected to power? a) Is this power metered? b) What type of meter connection is it? c) NO: What is the household's main source of power?	<ul style="list-style-type: none"> Living conditions
4.8 In terms of utilities, of the following, what would help your household the most?	<ul style="list-style-type: none"> Perceived needs

^a SIDHS 2015 categories for water source and treatment type.

^b SIDHS 2015 categories for time spent.

6.1.5 Land tenure characteristics

This describes existing land tenure arrangements as the household understands it, including landowner identification, type of land use agreement, disputes, perception of tenure security, and whether the household has received an offer of grant to convert to titled land. This aims to provide underlying insight into tenure security and potentially ability to invest in improvements to the living environment. Main questions (excludes further information) under this module are:

Land Tenure Characteristics Questions	Rationale
5.1 Are you, or someone currently living in this house, the owner of this land? 5.2 Do you or someone in the household have legal documents to occupy this land? a) What is the form of this agreement? b) NO: Who is has the legal documents to occupy this land?	<ul style="list-style-type: none"> Tenure security
5.3 Have there been any disputes about the ownership or lease of this land while the household has lived here? a) Who else claimed ownership of this land? b) Is this dispute still ongoing?	<ul style="list-style-type: none"> Dispute resolution process
5.4 In terms of land tenure, does the household feel secure* living here?	<ul style="list-style-type: none"> Perception of tenure security
5.5 The government has started to subdivide and issue offers of grants of FTEs in informal settlements. Has the household received an offer?	<ul style="list-style-type: none"> Ability to take action to improve tenure security
5.6 In terms of tenure security, of the following, what would help the household the most?	<ul style="list-style-type: none"> Perceived needs

6.1.6 Climate change and disaster characteristics

This describes the household's experience of climate-related hazards, disaster preparedness and mitigation strategies. This provides baseline data to major experiential trends in the population. Main questions (excludes further information) under this module are:

Climate Change and Disaster Characteristics Questions	Rationale
6.1 Please rank the TOP 3 most problematic natural or climate-related hazards for your household and their impacts (1 being most problematic and 3 being least problematic).	<ul style="list-style-type: none"> Identification of climate-related hazards
6.2 Of the hazards selected, what are the TOP 3 problems they tend to cause for the household?	<ul style="list-style-type: none"> Impact from climate-related hazards
6.3 How does the household currently respond to these impacts?	<ul style="list-style-type: none"> Ability to deal with impact Adaptation/mitigation actions

Climate Change and Disaster Characteristics Questions	Rationale
6.4 A) When responding to these impacts, what do you think your household does well? (i.e. strengths of the household) B) On the other hand, what do you think your household does not do so well and needs help with? (i.e. weaknesses of the household)	
6.5 Where would the household usually seek help from to respond to these impacts? Tick the TOP 3 only.	<ul style="list-style-type: none"> Sources of help
6.6 What is the main method of communication when the household seeks help?	<ul style="list-style-type: none"> Communication method
6.7 To prepare for a changing climate, who would the household seek help from?	<ul style="list-style-type: none"> Sources of help
6.8 What would help the household to be more prepared for those hazards identified in Q6.1?	<ul style="list-style-type: none"> Perceived needs
6.9 This is a question about disaster preparedness. Which of the following statements are true for the household? Tick all that apply.	<ul style="list-style-type: none"> Adaptation/mitigation actions

6.1.7 Housing stock characteristics

This provides a visual survey of the condition of the housing stock including materials used, condition of housing, height above ground, slope, water sources, toilets and nearest communal space. This supplements insights from housing and utilities characteristics that is externally assessed and not contingent on household perceptions.

Housing Stock Questions	Rationale
7.1 a) Roof: main material b) Roof: condition	<ul style="list-style-type: none"> Structural integrity Thermal comfort Vulnerability to leaks
7.2 a) Exterior wall: main material b) Exterior wall: condition	<ul style="list-style-type: none"> Structural integrity Vulnerability to leaks Thermal comfort
7.3 Floor of the house: main material	<ul style="list-style-type: none"> Vulnerability to leaks Thermal comfort
7.4 Posts of the house: main material	<ul style="list-style-type: none"> Structural integrity
7.5 Height of household floor from ground level	<ul style="list-style-type: none"> Vulnerability to landslides/floods Thermal comfort
7.6 Number of storeys	<ul style="list-style-type: none"> Vulnerability to landslides/floods
7.7 Slope of site that the house is on	<ul style="list-style-type: none"> Vulnerability to landslides/floods

4.2. Settlement-level survey

An overview of the settlement survey is shown in Figure 8. This part of the survey aims to document physical attributes important for vulnerability assessment such as water resources, waste disposal, and communal spaces (e.g. churches, schools, shops). Essentially, data is collected about the following:

- Settlement household waste disposal
- Major community water resources
- Communal toilets
- Communal bathing areas
- Communal spaces (church and school).

The paper-based version of the survey can be found in [Appendix 2](#).

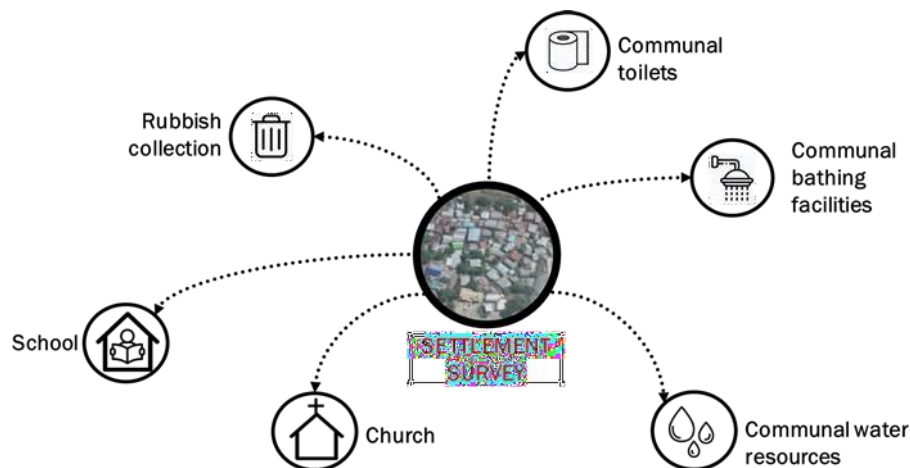


Figure 8. Overview of settlement-level survey.

The settlement-level survey is intended to be executed by one enumerator (likely the survey manager).

4.3. Technology and technical considerations

Based on feedback from enumerators, various survey platforms were considered, particularly those that integrated geospatial and non-geospatial data in one platform. The consideration was also for an app that was non-licensed.

At the time the work started, the survey inherited Kobo and QField (built to work with the open-source QGIS platform) from a previous survey. However, enumerators did not like having to toggle between two applications on the tablet. The other viable open-source application was Survey123 (developed by Esri, the leading geospatial software provider), which at that time also used a



separate app – although in an integrated way – to collect polygon data. A third application, Fulcrum, was also able to collect polygon data but this was a paid application.

As time progressed, updates to the both Kobo and Survey123 meant that both apps were able to collect polygon data with one app – but old tablets being used by the project meant we could not access the newest versions of the applications.

The team also engaged in conversation with UN-Habitat’s Global Land Tool Network (GLTN) to use the Social Tenure Domain Model. However, initial conversations suggested additional resources (e.g. fees).

In the end, a decision was made to work with Cadasta Foundation and to pilot their use of Esri technologies² in the Pacific context. This arrangement would provide access to technical support and training materials, as well as an operational ArcGIS licence. It would also provide access to Esri’s many sources of basemaps, but the Pacific – and especially Honiara – were often limited or out-of-date. Cadasta Foundation’s mission is to be “*the leading provider of technical tools and services to document land and resource rights and thus build stronger, more sustainable communities*”³. They do so by deploying and training users in a “*suite of mobile and web-based tools help users easily and securely document, visualise, analyse, and share crucial land and resource rights data*” so as to empower communities to advocate for “*increased access to public and private services*”¹. Such a pilot would also enable the project to access Cadasta’s technical support and field experience.

One of the issues left to resolve is to seek the communities’ permission to upload their data (disaggregated) to the online Cadasta platform.

Survey questions were coded into the open form standard, XLSForm, which is what many freely available survey applications use (including Kobo) but is also the standard for Survey123. Therefore technically, the survey is not beholden to the platform. An example of the coding is provided in [Appendix 4](#).

However, issues with the existing UN-Habitat tablets meant that Collector could not be downloaded and used (despite the tablet adhering to listed operating system requirements). This caused several issues in terms of survey design (only being able to collect point data), data accuracy (point data would be less easy to triangulate for errors than polygons) and question structure (fitting within the constraints of Survey123).

Finally, to ensure our spatial data was as accurate as possible, external bluetooth GNSS receivers (Garmin GLO2) were purchased to be used with the tablets to improve the GPS accuracy from $\pm 30\text{m}$

² In 2018, Cadasta Foundation signed an agreement with Esri to use their technologies, which also added a layer of corporate protection against data breaches. Now, the Cadasta Platform is essentially a suite of Esri technologies including Collector, Survey123 (mobile, web and desktop-based), ArcGIS online and a web-based dashboard.

³ <https://cadasta.org/about-us/>

to ±3m (approximate). Three wifi dongles were also purchased and loaded with data so that surveyors could submit their surveys in the field during breaks.

Various technical issues also emerged in the field for the duration of the survey process some of which appeared to be environmental (e.g. overheating of old tablets), while others were technology related.

4.4. Resource considerations

The survey was designed to be able to be conducted with low resource requirements. Firstly, the survey was designed to be short, i.e. completed in 40 to 45 minutes. This was in response to feedback from communities that they were constantly subjected to surveys.

Secondly, the issue of who would be the enumerators was also a factor. Ultimately, a decision was made to recruit youth via the Honiara City Youth Council, which would provide local employment and capacity building (both in terms of domain knowledge and technical skills). The survey content was therefore amended to use straightforward language and was checked for relevance to local context.

4.5. Enumeration workflow

A general enumeration workflow was designed to support field activities. This included the use of paper maps and the division of a settlement for assigning enumerators, use of Survey123 and operational requirements, the undertaking of the survey itself, the enumeration approach and how to assign sub-parts of the settlement to the enumerators, and finally, post-survey data management to the secure online ArcGIS server. The field process is shown in Figure 9.

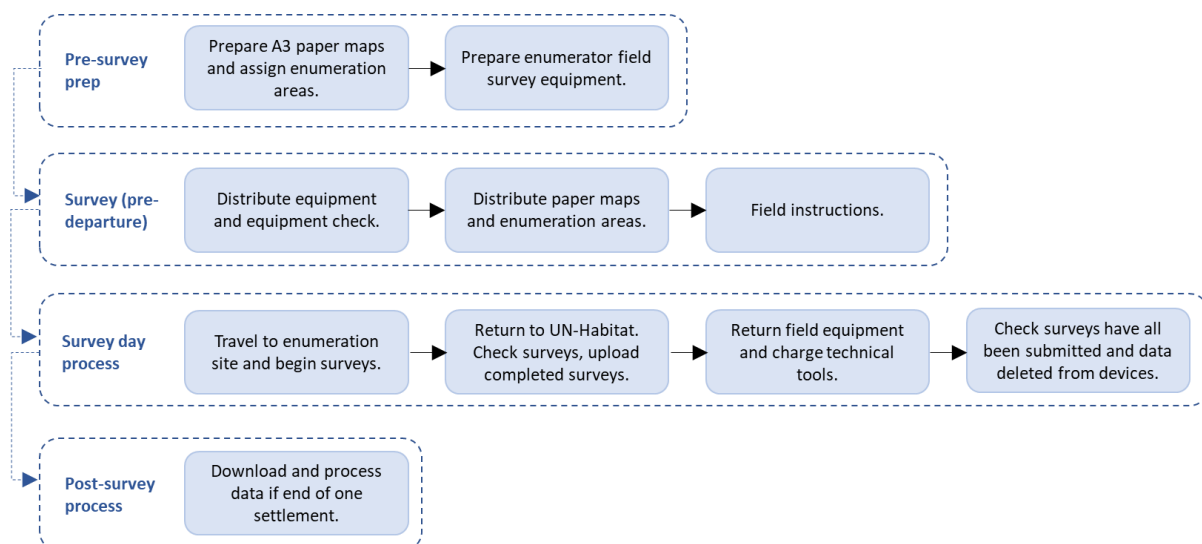


Figure 9. Field survey workflow (start to completion).

4.6. Training materials

Given that previous feedback from enumerators suggested that they wanted and needed more extensive training, the team developed a very detailed manual for the enumerators. A 66-page manual was developed. The table of contents is shown below in Figure 10.

Table of Contents	
1 Training Schedule	Pg. 3
2 Purpose of Survey	Pg. 4
3 Survey Platform	Pg. 6
4 Enumeration Process	Pg. 9
5 General Survey Notes	Pg. 11
<i>Household Survey</i>	
6 Pre-Survey	Pg. 18
7 Consent	Pg. 22
8 Household Characteristics	Pg. 25
9 Livelihood (Economic & Food) Characteristics	Pg. 32
10 Housing Characteristics	Pg. 39
11 Utilities Characteristics	Pg. 42
12 Land Tenure Characteristics	Pg. 51
13 Climate Change & Disaster Characteristics	Pg. 54
14 Housing Stock Characteristics	Pg. 61
15 Field Checklist	Pg. 65
16 Contacts	Pg. 66




Figure 10. Table of contents from enumerators' training manual.

5. Pilot Surveys and Training Delivery

In early September 2019, the RMIT team conducted a three-day hands-on training workshop in Honiara. This included detailed training on the questions and rationale for the questions, field strategies for measuring houses, familiarity with spatial data and working the tablets and GPS receivers. The training also touched on the paper-based surveys and reading of base maps. Days 1 and 2 were classroom-based – see Figure 11; Day 3 was field-based (Wind Valley in the morning and Ontong Java in the afternoon) – see Figure 12. For cultural and safety reasons, each enumeration pair comprised a male and a female.



Figure 11. Practising their enumeration and GPS skills.



Figure 12. Practicing surveying and field measuring skills on Day 3 of training.

5.1. Personnel challenges

Initially 18 members of the Honiara City Youth Council (HCYC) were identified as enumerators. Prior to the workshop, we identified two other enumerators as reserve enumerators. On Day 1 of the training, only 15 enumerators were present; we were able to add one more on Day 2 (total of 16 enumerators). Some of the female HCYC enumerators had other experiences with enumeration work for UN Women but mostly, the group was inexperienced.

The highly enthusiastic group did well, but field-based practice revealed a skill gap in being able to interpret qualitative responses to fit structured response choices. Analysis of submitted pilot data also indicated data quality issues. This led to an additional day of training being conducted the following week.

We also had no way of identifying our surveyors in the field. Given the cost of high-visibility vests in Honiara (SBD33 each in bulk purchase, otherwise SBD38 each), umbrellas were purchased for the group to allow them shade/shelter as well as to stand out. A field first-aid kit was also purchased.



Figure 13. Enumerators with their colourful umbrellas.

5.2. Technical challenges

There were numerous technical challenges right up to hours before the training took place. The project was grappling with equipment challenges, i.e. the tablets being so old (released in 2014) that they were unable to work with the latest version of the Survey123 app. In the walk up to Wind Valley in the morning, although the tablets were not turned on, they had heated up to the point that they failed repeatedly, and enumerators had to revert to the paper-based surveys.

Additionally, the tablets were not reliably connecting to the GPS receivers and the spatial data that was being produced, was corrupt or returned a null value.

Despite these challenges, the group's general feeling was that they felt adequately prepared and were keen to start on the task.

However, once the data collected from the pilot survey was reviewed, it was apparent that the tablets were not working reliably with rows of data missing and GPS data intermittently recorded only. Therefore, a decision was made to purchase new Samsung tablets.



Figure 14. Group photo at Ontong Java settlement, Day 3 of training.

6. Survey implementation

The survey finally commenced in October 2019 with staff from RMIT accompanying the group for the first two days of the survey. The first settlement was Wind Valley. The community was provided with notice a few days prior to the survey.

The survey was conducted over four days, with pairs of enumerators changing with availability and experience. Paper surveys were left with households who were not present for the survey and collected at the end of the survey. An additional day was used to data-enter paper surveys.

The data was processed in Melbourne and took 3 weeks to clean, analyse and report.

6.1. Lessons learned

The first survey provided the basis for several important lessons:

- Checking the data daily provides an easy way to remind enumerators of potential issues in interpreting or recording answers to questions. This is important to do till the enumerators are habituated into the routine of the survey. Once common issue was the way Melanesian languages were recorded in freetext.
- Despite all good intentions and all possible preparations, the technology can still be unreliable in how data is recorded. Issues still remain over GPS attributes. Some surveys also could not be submitted and hence, could not be used.
- Paper-based surveys actually introduced issues. Most were not only partially completed and could not be used. It also delayed the start time of the data analysis phase.



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- It is important for the data analysis phase that the survey completely ends at one time. If new rows of data keep getting added, the analysis must either be delayed or redone. This is a waste of time.

7. Key Activities

Table 3 provides a schedule of activities undertaken in both Melbourne and Honiara as part of WP2.

Table 3. Overview of activities to date under WP2.

MELBOURNE-BASED	MONTH/YEAR	HONIARA-BASED
Review survey and inherited materials	Jan 2019	
Develop survey, scope UAVs, technical visit in Honiara	Feb 2019	RMIT technical visit
Review survey platforms, develop survey	Mar 2019	
LIDAR discussions with Min. of Health; coding survey, negotiate pilot with Cadasta Foundation; preparing maps for survey	Apr 2019	
Negotiate LIDAR and Cadasta Foundation agreements with RMIT; survey sent to Honiara and communities for feedback; discussions with UN-Habitat to deploy survey in Fiji, preparing training materials	May 2019	In-country training and pilots [CANCELLED]
	Jun 2019	In-country training and pilots [CANCELLED]
LIDAR data negotiations	Jul 2019	
	Aug 2019	
Producing interim WP2 report	Sep 2019	Enumeration training and pilots; commencement of data collection by UN-Habitat
Purchase, set up and testing of new tablets	Sep/Oct 2019	
Troubleshooting as necessary	Oct 2019	Enumeration underway [DELAYED] 14-18 Oct – survey commences in Wind Valley
Data processing, analysis and reporting	Nov 2019	Survey complete in Wind Valley
Drafting and finalising report; development of Wind Valley community profile	Dec 2019	Feedback to communities Other surveys stopped due to SI census – to recommence mid-January 2020
	Feb 2020	Community surveys to restart

MELBOURNE-BASED	MONTH/YEAR	HONIARA-BASED
Data processing, analysis and reporting of community surveys; developing community profiles	Feb 2020	Community profiling training for government and NGO participants
Data processing, analysis and reporting of community surveys; developing community profiles	Mar 2020	

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Appendix 1: Fiji survey

The initial survey inherited from an earlier UN-Habitat project based in Fiji is shown below. This provided the initial basis for the survey design. The survey employed Kobo as a survey app and QField as the spatial data collection app. Numbering errors are carried over as is.

1) SURVEY RESPONSE AND BRIEFING

Collection area

Dwelling / structure number

ETHICAL BRIEFING: We are undertaking a survey on for a settlement upgrading project on climate change. This is being undertaken by Live & Learn Environmental Education and UN Habitat. Is the head of the household or their partner available?

Response at household

- No response (no one home)
- Head of household or partner not available - call back
- Survey started
- Cannot talk/refused
- Not my house - not sure if head of household wants to talk
- Other

ETHICAL BRIEFING: [IF AVAILABLE] This survey is part of a project to make this settlement more climate change resilient, e.g. to flooding or storms. To do that we need to know each household's situation, their exposure to weather problems and their priorities and needs. Later we will be undertaking community planning followed by projects on the main problems. Information you provide will be used by Live and Learn, UN Habitat and partners to plan projects for climate change action on the issues that the settlement identify as priorities.

2) HOUSEHOLD COMPOSITION

» 2.1) Household head

2.1.1) NEW QUESTION Is the respondent the household head?

- Yes
- No
- Can't say /refused

2.1.2) First name of household head

2.1.3) Last name of respondent

2.1.4) Sex

- female
- male

2.1.5) Ethnicity of head of household

- iTaukei
- Indo Fijian
- Rotuman
- Other Pacific Island (e.g. i-Kiribati,ni-Vanuatu, Solomon, Samoan, etc.)
- Other foreign countries
- Can't say/Refused

2.1.6) Marital status of household head

- Married
- Never married
- Defacto
- Widowed
- Divorced
- Separated
- can't say/refused



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» 2.2) Household size

How many people are there in the following age groups in your household? [put '0' if nobody in age bracket]

- 0-4 years
- 5-14 years
- 15-24 years
- 25-34 years
- 35-54 years
- 55+ years

2.2 a) NEW QUESTION !CHECK! You have said that there are are [[]] people in this household. IS THIS CORRECT?

- Yes
- No [GO BACK AND CHECK AGE GROUPS TO PUT CORRECT NUMBERS]

» 2.3) SEX

How many males and females are there?

- males
- females

2.3 a) NEW QUESTION !CHECK! You have said that there are [[]] people in the household by age and [[]] people by sex.

!DO THESE NUMBERS MATCH!?

- Yes
- No [GO BACK AND CORRECT NUMBERS IN RELEVANT QUESTION]

» 2.4) HEALTH CONDITIONS (disability)

Thinking now about people with an ongoing health condition/disability....

How many people have A LOT of difficulty either: seeing, hearing, walking, communicating, remembering/concentrating or self care (washing, getting dressed)? [put '0' if no person with a lot of difficulty]

3) MIGRATION

How many years has this household been living here? [if born here age. '0' if can't say/refused]

Where did you live before coming to this settlement?

- Not applicable - Born in settlement
- informal settlement in SAME town
- informal settlement in DIFFERENT town
- formal area SAME town
- formal area DIFFERENT town
- Rural/village area
- Outside Fiji
- Can't say/refused

[For duration of residence under 24 months type number of months: e.g. three months type '3', for 1 year - type '12', for a year and a half - type '18']

4) WORK AND INCOME

» 4.1) Household head activity and income sources

What was the MAIN activity of the Head of Household in the last 7 days

- Self-employed / own business (for cash, not subsistence)
- Employee, working for wages / salary full time
- Employee, working for wages / salary part time or casual.
- Producing goods for own and/ or family consumption (e.g. subsistence farming or fishing)
- None – Unemployed /no work.



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- Volunteer work (community, church, etc.) or unpaid worker helping family business or other households
- Student - full time
- Student - part time
- Retired, pensioner or old age
- Home Duties
- Functioning challenges (e.g. disability)
- Other
- Can't say/refused

What other sources of household income or financial assistance were there in the last 7 days?

- Relatives in household
- Relatives outside household
- Religious or charitable donations
- Gifts in cash or kind
- Social welfare
- Compensation
- None (no other sources of income)
- (in the last year) accessed a formal loan from a financial institution
- Other
- Can't say/refused

» 4.2) Household activities

You have said earlier that there are [[]] people aged 15-55years in this household. Including the household head, which of these activities were these people doing the following in the last 7 days? [MUST ADD UP TO]

- Self-employed or employee – full time [type '0' if nobody]
- Self-employed or employee – part time/casual [type '0' if nobody]
- Unemployed /no work [type '0' if nobody]
- All other activities (student, retired, subsistence farmer/fisherman, functional difficulties, etc.) [type '0' if nobody]

4.2 a) NEW QUESTION !CHECK! You have said there are [[]] people aged 15-55 in the household by age, and [[]] people in this age group doing the above activities. !DO THESE NUMBERS MATCH?!

- Yes
- No [GO BACK TO CHECK AND CORRECT NUMBERS IN RELEVANT QUESTION]

» Household income

In the 7 days, what was the combined household income for all members and from all income sources:

- \$0-\$49
- \$50 - \$99
- \$100-\$199
- \$200 - \$299
- \$300-\$399
- \$400-\$599
- \$600-\$799
- \$800+
- Can't say/refused

On average, how regularly would your household earn this amount

- every week
- 3 weeks per month
- 2 weeks per month
- 1 week per month
- Less frequently
- Can't say/ refused

4.4) NEW QUESTION This is a question about fishing, farming and/or livestock raising done by people in your household, and whether it makes up MORE OR LESS THAN A QUARTER of your household's income and/or food. Are any of the following statements true?



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- FISHING makes up MORE THAN A QUARTER of our household's food and/or income
- FARMING makes up MORE THAN A QUARTER of our household's food and/or income
- LIVESTOCK makes up MORE THAN A QUARTER of our household's food and/or income
- Each by themselves are all below a quarter, but COMBINED fishing, farming & livestock makes up MORE THAN A QUARTER of our household's food and/or income
- We have some fishing, farming and/or livestock, but COMBINED they are all BELOW A QUARTER of our household's food and/or income
- No statements are true [No fishing, farming or livestock for food and/or income]
- Can't say/refused

5) DWELLING

» 5.1) Dwelling size

- Number of rooms
- Number of separate bedrooms
- Cant say / refused number of bedrooms
- Can't say/refused number of rooms or bedrooms

» 5.4) Water and Sanitation

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

- Metered water - Piped into dwelling
- Metered water - piped into compound, yard or plot
- Metered water - public tap/standpipe
- Metered water - piped to neighbor
- Dug well - Protected well
- Dug well - Unprotected well
- Spring water - protected

- Spring water - unprotected
- Rain water: own tank - tap inside dwelling
- Rain water: own tank - tap outside dwelling
- Communal tank
- Open surface water including rivers, stream, dam lake etc
- Communal standpipe
- Borehole - treated or untreated
- Others
- Can't say/refused

5.4.2) What kind of toilet facility do members of your HH usually use?

- Flush to piped sewer system
- Flush to septic tank
- Flush to pit latrine
- Flush to somewhere else
- Pit latrine with slab
- Pit latrine without slab - open pit
- Water sealed
- No facility, beach, bush etc
- Other
- Can't say/refused

How many households do you share your toilet with? [put '0' if not shared]

6) CLIMATE CHANGE AND DISASTER PROBLEMS AND TRENDS

These questions are about the types of climate change problems that your household may have been affected by

» 6.1) Climate problems

In the last three years has your household been affected by any of the following:

- droughts (e.g. lack of water for household use; damage to crops)



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- extreme heat (e.g. resulting in electrical problems, health impacts, crop/fisheries damage to crops)
- flooding (river flooding, local flooding due to poor drainage, heavy rainfall)
- landslides
- storms/cyclones (e.g. destruction to house or goods, disruption to services, access cut)
- diseases such as dengue, diarrhoea, skin diseases
- Sea flooding (high tides affecting housing or other property or activities of the household)
- Earthquakes and/or tsunami
- None (not affected by any of these events)

» 6.2) Weather problems getting better or worse

You mentioned that you had been affected by weather problems, these are some questions about whether they have been getting better or worse

Since you first came to live here, has the issue of DROUGHTS been getting:

- Better
- Same
- a little worse
- a lot worse
- Can't say/refused
- Not relevant

Since you first came to live in this area, has this EXTREME HEAT been getting:

- Better
- Same
- a little worse
- a lot worse
- Can't say/refused
- Not relevant

Since you first came to live in this area, has this FLOODING been getting:

- Better
- Same
- a little worse
- a lot worse
- Can't say/refused
- Not relevant

Since you first came to live in this area, has this LANDSLIDES been getting:

- Better
- Same
- a little worse
- a lot worse
- Can't say/refused
- Not relevant

Since you first came to live in this area, has these STORMS/CYCLONES been getting:

- Better
- Same
- a little worse
- a lot worse
- Can't say/refused
- Not relevant

Since you first came to live in this area have these DISEASES such as dengue, diarrhea, skin diseases been getting:

- Better
- Same
- a little worse
- a lot worse
- Can't say/refused
- Not relevant



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Since you first came to live in this area has this SEA FLOODING (high tides affecting housing or other property or activities of the household) been getting:

- Better
- Same
- a little worse
- a lot worse
- Can't say/refused
- Not relevant

» 6.3) Climate problems - top 3

Which is the #1 most problematic climate hazard?

- Droughts
- Extreme heat
- Flood
- Landslides
- Storms/cyclones
- Diseases such as dengue, diarrhea, skin diseases
- Sea flooding
- No #2 problem climate hazard
- No #3 problem climate hazard
- Can't say/refused

Which is the #2 most problematic climate hazard?

- Droughts
- Extreme heat
- Flood
- Landslides
- Storms/cyclones
- Diseases such as dengue, diarrhea, skin diseases
- Sea flooding
- No #2 problem climate hazard
- No #3 problem climate hazard

- Can't say/refused

Which is the #3 most problematic climate hazard?

- Droughts
- Extreme heat
- Flood
- Landslides
- Storms/cyclones
- Diseases such as dengue, diarrhea, skin diseases
- Sea flooding
- No #2 problem climate hazard
- No #3 problem climate hazard
- Can't say/refused

» 6.4) Impacts from climate problems

What are the main problems you have because of ? [DO NOT READ OUT - multiple responses]

- Impact on ability to earn income
- Impact on crops or fishing
- Damage to property
- Impacts physical health (injury, disease or death)
- Impacts on mental health (anxiety, depression)
- Impacts on community relationships
- Other impacts (please specify)
- Can't say/refused

What are the main problems you have because of ? [DO NOT READ OUT - multiple responses]

- Impact on ability to earn income
- Impact on crops or fishing
- Damage to property
- Impacts physical health (injury, disease or death)



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- Impacts on mental health (anxiety, depression)
- Impacts on community relationships
- Other impacts (please specify)
- Can't say/refused

What are the main problems you have because of ? [DO NOT READ OUT - multiple responses]

- Impact on ability to earn income
- Impact on crops or fishing
- Damage to property
- Impacts physical health (injury, disease or death)
- Impacts on mental health (anxiety, depression)
- Impacts on community relationships
- Other impacts (please specify)
- Can't say/refused

» 6.4.a) Other impacts

You mentioned that there are other impacts of , what are these? [type here]

You mentioned that there are other impacts of , what are these? [type here]

You mentioned that there are other impacts of , what are these? [type here]

6.5) Thinking about how does your household currently minimise or cope with the impacts? [TYPE HERE]

6.6) Thinking about , what are the factors stopping you from minimising or coping with impacts? [DO NOT READ OUT - multiple responses]

- Lack of early warning systems for when will happen
- Lack of skills for housing improvements
- Lack of finance for housing improvements
- The physical aspects of the environment are difficult to change/manage (e.g. flood patterns, pollution)

- The physical aspects of the settlement design are difficult to change/manage (where houses, roads and drainage are located)
- Lack of/poor infrastructure in settlement (houses, roads, drainage are badly designed/in poor condition)
- Lack of/poor rubbish management (e.g. rubbish blocking drains or polluting water)
- Lack of tenure security
- Lack of/poor water supply in my household and/or the settlement
- Lack of/poor sanitation in my household and/or the settlement
- Community does not work together to solve problems
- Women do not have opportunities to make/influence decisions
- Young people do not have opportunities to make/influence decisions
- Lack of education
- Lack of alternative cash income sources
- Lack of land/equipment for farming (e.g. irrigation, tools, fertilizer)
- Lack of opportunities/equipment for fishing (boats, nets)
- We get no help from the council/government
- Lack of time (busy working/looking after family)
- Can't say/refused
- Other reason #1 (please specify)
- Other reason #2 (please specify)
- Other barrier #1 [type here]
- Other barrier #2 [type here]

7) GENERAL PROBLEMS, NEEDS and CONCERNS

Thinking now about general problems your household faces and what may be necessary to help with or overcome these problems

7.1) PROBLEMS) What are the main problems you face in your daily life? [DO NOT READ OUT - select all that apply]

- Lack of clean water
- Lack of food



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- Lack of (clean) sanitation
- Lack of electricity
- Lack of education
- Housing/tenure
- Diseases/health
- Discrimination
- Victim of crime
- No or low employment
- Lack of income
- Lack of savings
- Crops failed
- Livestock problems
- Flood impact
- Storm impact
- Drought impacts
- Other problem #1 (please specify - next page)
- Other problem #2 (please specify - next page)
- Can't say/refused
- No problems - all is fine
- Other problems
- Other problem #1 [type here]
- Other problem #2 [type here]

7.2) HELPING WITH PROBLEM. What would you need to help or overcome these problems? (select all that apply)

- Training/education on possible impacts and techniques
- Land tenure
- Protected house
- Better crops
- Clean Water
- Better sanitation
- Other solution #1

- Other solution #2
- Can't say/refused
- Other solutions
- Other solution #1 [type here]
- Other solution #2 [type here]

» OLD QUESTION Other concerns

- Other concern #1 [type concern]
- Other concern #2 [type concern]

8) STRENGTHS

8.1) For projects to be successful we need to build on community strengths and support. Are there people in your household where the following is true [read out - multiple responses possible]

- Have any/basic skills in construction (carpentry concreting, plumbing, electrical)
- Have done community organizing, e.g. helping get a group community activity to happen (coaching a sport team, organizing a church or community activity)
- Environmental management activities, e.g. planting trees, digging drainage
- Have experience in using computers
- Have experience in managing money for anything other than the household, e.g. a small business.
- Have child care experience (looking after non-family children).
- Have experience in managing people, e.g. at a workplace.
- Works in a government office
- Have attained high school certificate (senior high school completion) or higher
- at least a half of the household has health insurance or free health care
- have attended discussions with electors in last year
- Cant say



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- Refused
- Other

7.3) Are there other skills or interests people in your household may wish to contribute for an upgrading project? [type here]

9) DWELLING ASSESSMENT, SETTLEMENT & SURVEYOR

Please take photo of dwelling and respondent

[Click here to upload file.](#) (< 5MB)

Thank you for your participation and we look forward to your involvement in the projects to come. Do you provide consent for your information to be used by Live and Learn Environmental Education, UN Habitat and partners for the purposes of settlement upgrading?

OK

» [To be completed by the surveyor after leaving] 9.2) Dwelling structure assessment

Main materials of exterior walls

- Wood
- Masonite
- Metal/iron/aluminium
- Concrete/cement/bricks
- Traditional materials
- tent/temporary materials
- Other
- Can't say/refused

Condition of exterior walls

- Good
- Average



- Poor
- Can't say/refused

Main materials of roof

- Wood
- Metal/iron/aluminium
- Concrete/cement/bricks
- Traditional materials
- Tent
- Other (specify below)
- Can't say/refused

Condition of roof

- Good
- average
- poor
- Can't say/refused

Dwelling photo #2

[Click here to upload file.](#) (< 5MB)

Dwelling photo #3

[Click here to upload file.](#) (< 5MB)

Add GPS Point

GPS coordinates can only be collected when outside.

- latitude (x.y °)
- longitude (x.y °)
- altitude (m)
- accuracy (m)

» 9.3) Settlement name and surveyor



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Name of settlement

- Vuniivi - Lami
- Wainivokai - Lami
- Qauia - Lami
- Kalekana - Lami
- Bilo Settlements - Lami
- Qauia - Lami
- Wainivokai - Lami
- California - Lautoka
- Veidogo - Lautoka
- Vunato - Lautoka
- Taiperia - Lautoka
- Navutu Stage 2 - Lautoka
- Naqiroso - Lautoka
- Kulukulu - Sigatoka
- Vunikavika - Sigatoka
- Nawajikuma - Nadi
- Korociri - Nadi
- Other settlement (please specify)

Other settlement name [TYPE HERE]

Surveyor first name and initial [e.g. 'Lepani K']



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Appendix 2: Current CRH survey

Write the reference number below and on also on the map: _____

COMMUNITY PROFILING SURVEY: HOUSEHOLD-LEVEL SURVEY

Team Number: _____

Enumerator Names: _____

*Given name and surname initial only.

Survey Date (DD/MM/YY): _____

Settlement Name:

*If in Aekafo-Feraladoa, please include zone number.

- Aekafo-Feraladoa: z18 z19 z20 z21 z22 z23 z24 z25
- Ontong Java-Lord Howe
- Kukum Fishing Village
- Jabros-Gilbert Camp
- Wind Valley-White River
- Koa Hill

Is the house you are about to survey represented by a numbered building footprint on the map?

- Yes
- No

IF tick Yes:

Building footprint number on map: _____

IF tick No:

Mark the location of the house on your paper map. Assign a reference to the point in the format TX-Y, where "TX" is your assigned team number and "Y" is a number starting from 1.

PRE-SURVEY

We are working on behalf of UN-Habitat and are walking around this settlement today to collect information about households and their vulnerability and resilience to natural and climate-related hazards.

Is there someone* here now that is able to respond on behalf of the household?

*Respondents must be aged 18 years and above.

- Yes: CONTINUE TO CONSENT
- No: END PROCESS FOR HOUSE (Thank respondent for their time).

PARTICIPANT INFORMATION AND CONSENT FORM (PICF)

This survey is part of a UN-Habitat funded project about Climate Resilient Honiara.

The survey has around **60 questions** and will take **40 to 50 minutes** to complete.

After the survey, we would also like to take some pictures of your house and the surrounding area. The data collected will be used to gather information about climate resilience in your community so that we can identify the potential problems and concerns of the people that live here.

The data collected will be held and stored securely at RMIT University in Australia and will be reported in a way that does not identify individuals.

The survey is completely voluntary, and you may stop at any time. You are also free to withdraw your information at any time from the project.

More information about the project can be accessed by contacting the UN-Habitat Office in Honiara.



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Are you aged 18 years and above?

- Yes: CONTINUE READING
- No: END PROCESS FOR HOUSE (Thank respondent for their time).

Are you the head of the household?

- Yes: CONTINUE READING
- No: CONTINUE READING

Enumerator to complete: Is the respondent male or female? Male Female

Do you understand the aim of the survey and the types of data collected and consent to participate?

- Yes: CONTINUE READING
- No: END PROCESS FOR HOUSE (Thank respondent for their time).

Do you understand that your participation is voluntary, and you can withdraw at any time?

- Yes: CONTINUE READING
- No: END PROCESS FOR HOUSE (Thank respondent for their time).

Do you consent for your information to be used by UN-Habitat and partners for the purposes of settlement upgrading?

- Yes: CONTINUE READING
- No: END PROCESS FOR HOUSE (Thank respondent for their time).

Do you understand that if you have questions after today, you can contact the local UN-Habitat Office in Honiara?

- Yes: CONTINUE READING
- No: END PROCESS FOR HOUSE (Thank respondent for their time).

SECTION 1: HOUSEHOLD CHARACTERISTICS

Introduction

The next **11 questions** are about understanding who **usually** lives in this household, household activity and connection to community.

"usually" means permanent residents and does not include temporary residents, e.g. family members visiting for a short period (a few months, not more than a year) and intend to return to their home island.

1.1) What is the name of the community you live in?

- Aekafo-Feraladoa: z18 z19 z20 z21 z22 z23 z24 z25
- Ontong Java-Lord Howe
- Kukum Fishing Village
- Jabros-Gilbert Camp
- Wind Valley-White River
- Koa Hill
- Other (more info needed - freetext below)

IF tick Other:

Please provide more information about which community you belong to and why?

Freetext:

Is the selected community in Question 1.1, the main community the household is a part of?

- Yes
- No (more info needed - freetext below)

IF tick No:



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Please provide more information about why the household does not consider itself a part of the selected community in Question 1.1, and which other community does the household interact with.

Freetext: _____

1.2) How many people usually live in this household?

Number: _____

1.3) In this household, how many people are male and how many are female?

*Total number of males and females must not exceed total number of people living in the household.

Male: _____

Female: _____

*Validation: total no. of males and females must be equal to the answer in Q1.1.

1.4) What are the ages of household members?

* Number of people whose ages are recorded must not exceed the TOTAL people living in the household.

No. of people under 15 years: _____

No. of people between 15 - 49 years: _____

No. of people 50 years and above: _____

*Validation: total no. of males and females must be equal to the answer in Q1.1.

1.5) Are there any members of the household with a disability that impacts their ability to move around independently?

- Yes

- No

IF tick Yes:

What kind of disability do they have? Tick all that apply.

- No. of people that cannot walk: _____
- No. of people that cannot remember/concentrate: _____
- No. of people that are deaf: _____
- No. of people that are blind: _____

1.6) What is the main language used in the household?

Freetext: _____

1.7) What religion does the household belong to? Tick one only.

* If the household is an intermarriage family, please select the main church the household attends.

- Church of Melanesia
- Roman Catholic Church
- South Sea Evangelical Church
- Seven Day Adventist
- United Church
- Jehovah Witness
- Baha'i Faith
- Muslim
- Other (more info needed - freetext below)
- Can't say/Refused to answer

IF tick OTHER, please provide more information about household religion.

Freetext: _____

1.8) Where is the location of the church the household attends?



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- Inside the settlement
- Outside the settlement

1.9) How long has this household been living in this community?

- Less than 1 year
- Between 1-4 years
- Between 5-9 years
- More than 10 years ([more info needed below](#))

IF tick More than 10 years:

Please write the number of years: _____

1.10) Where did the first member or group from the household come from?

Tick one only.

- Central Province
- Choiseul Province
- Guadalcanal Province (not Honiara)
- Isabel Province
- Makira-Ulawa Province
- Malaita Province
- Rennel and Bellona Province
- Temotu Province
- Western Province
- Malaita Outer Islands
- Other ([more info needed - freetext below](#))
- Can't Say/ Refused to answer

IF tick OTHER, please provide more information about household religion.

Freetext: _____

1.11) The next question asks for the TOP 3 reasons why the household moved to this settlement (1 for most important, and 3 for least important).

- Environmental problems in the home Province
- Social or economic problems in the home Province (no work or conflict)
- More opportunities (work, education)
- Health (access to hospital)
- To be with family
- Other ([more info needed - freetext below](#))
- Can't say/Refused to answer

IF tick OTHER, please provide more information about household religion.

Freetext: _____

SECTION 2: LIVELIHOOD (ECONOMIC & FOOD) CHARACTERISTICS

These next **8 questions** collect information about food and economic security conditions of the household.

2.1) How many members of the household currently work?

No. of people bringing in a cash income: _____

Of the people that work, how many work inside or outside the settlement?

Work inside the settlement: _____

Work outside the settlement: _____

***Validation: total no. of people that work must be equal to the answer in Q2.1.**

2.2) What is the current total monthly income? *Tick one only.*

*** Total income earned by all members of the household.**



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- Less than \$250
- \$251- \$500
- \$501- \$750
- \$751- \$1000
- \$1001- \$1500
- \$1501- \$2000
- More than \$2000
- Can't say/Refused to answer

- Transfer income (remittances, pensions etc.)
- Other sources ([more info needed - freetext below](#))
- No income
- Can't say/Refused to answer

IF tick OTHER SOURCES:

Why is the household unable to save?

Freetext:

2.3) Is this income regular?

“regular” means monthly income stays the same every month and is received at the same time every month.

- Yes
- No ([more info needed - freetext below](#))

IF tick No:

Why is this income not regular?

Freetext:

2.4) Is your household able to save from the monthly income?

- Yes
- No ([more info needed - freetext below](#))

IF tick No:

Why is the household unable to save?

Freetext:

2.5) What is the main source of income for the household? Tick one only.

- Wages/Salary
- Own business (non-subsistence)
- Subsistence income (fishing, crops, handicrafts)
- Property income

2.6) Does the household grow any crops?

- Yes ([more info needed below](#))
- No

IF tick YES:

What is the main reason for growing crops?

- Subsistence
- Sale

Which members of the household are involved in this activity?

Tick one only.

- Male youth (under 15 years)
- Female youth (under 15 years)
- Both male and female youth (under 15 years)
- Men (15-49 years)
- Women (15-49 years)
- Both men and women (15-49 years)
- Men (50 years and older)
- Women (50 years and older)
- Both men and women (50 years and older)



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What type of garden does the household have?

- House garden (more info needed below)
- Bush garden (more info needed below)

IF HOUSE GARDEN:

Where is the garden located? Provide a description and a drawing of the location.

Drawing:

IF BUSH GARDEN:

Where is the garden located if it is not in this settlement? Provide a description and a drawing of the location.

Drawing:

Is the garden only used by the household or shared with other households?

- Household use
- Shared use

2.7) Does the household raise any livestock?

- Yes (more info needed below)
- No

IF tick YES:

What is the main reason for raising livestock?

- Subsistence
- Sale

Which members of the household are involved in this activity? Tick one only.

- Male youth (under 15 years)
- Female youth (under 15 years)
- Both male and female youth (under 15 years)
- Men (15-49 years)
- Women (15-49 years)
- Both men and women (15-49 years)
- Men (50 years and older)
- Women (50 years and older)
- Both men and women (50 years and older)

2.8) Does the household fish frequently?

- Yes (more info needed below)
- No

IF tick YES:

What is the main reason for fishing?

- Subsistence
- Sale

Which members of the household are involved in this activity? Tick one only.

- Male youth (under 15 years)
- Female youth (under 15 years)
- Both male and female youth (under 15 years)
- Men (15-49 years)
- Women (15-49 years)
- Both men and women (15-49 years)
- Men (50 years and older)
- Women (50 years and older)
- Both men and women (50 years and older)



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SECTION 3: HOUSING CHARACTERISTICS

These next 6 questions collect information about your housing conditions.

3.1) When was this house built?

Enter year built: _____

3.2) What is the approximate size of the house?

Estimated floor area (in square metres): _____

3.3) Has the house been improved or extended?

- Yes (more info needed - freetext below)
- No (more info needed below)

IF tick YES:

What changes were made to improve the house?

Freetext: _____

What was the approximate cost of this improvement?

Cost (in SBD thousands): _____

How was the improvement mainly paid for? Tick one only.

- Household savings
- Family loans or gifts
- Remittances (e.g. from family)
- Credit from the Bank
- Other (more info needed - freetext below)
- Can't Say/Refused to answer

IF tick OTHER:

What changes were made to improve the house?

Freetext: _____

IF tick NO:

If it was possible, what type of improvement would the household like to make to the house? (If the household had the money, materials etc.)

* If the household had the money, materials etc.

Freetext: _____

3.4) How many rooms are there in this house? Tick one only.

* Please include kitchens and bathrooms, but not outside toilets or structures without walls.

- One room
- Two rooms
- Three rooms
- Four or more
- Can't Say/Refused to answer

3.5) How many separate bedrooms are there in the house? Tick one only.

- One bedroom
- Two bedrooms
- Three or more bedrooms
- Can't Say/Refused to answer

3.6) In terms of housing, of the following, what would help your household the most? Tick one only.

- Better quality housing
- More space (e.g. bigger house) (more info needed - freetext below)
- Access to finance to improve housing



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- Better skills to improve housing
- Other (more info needed - freetext below)
- Can't say/Refused to answer

IF tick 'MORE SPACE' or 'OTHER':

Please specify what kind of space the household would like to add:

Freetext:

SECTION 4: UTILITIES CHARACTERISTICS

These next 8 questions collect information about your household services.

4.1) What is the main source of water for your household? Tick one only.

- Piped into house (approved connection) (more info needed below)
- Piped to yard/plot (approved connection) (more info needed below)
- Tapped water from mains connection (not approved)
- Public tap/standpipe
- Tube well or borehole
- Borehole (registered)
- Borehole (unregistered)
- Protected well
- Unprotected well
- Own well
- Protected spring
- Unprotected spring
- Rain water
- Bottled water
- Tanker truck/cart with small tank
- Surface water
- Other (more info needed - freetext below)
- Missing

IF tick PIPED IN TO HOUSE (APPROVED CONNECTION) or PIPED TO YARD/PLOT (APPROVED CONNECTION):

Is there a meter?

- Yes
- No

IF tick 'OTHER':

Please specify what kind of water connection the household has.

Freetext:

4.2) How would you rate the quality of the water? Tick one only.

- Good (no need to treat for drinking)
- Average (need to treat for drinking) (more info needed below)
- Poor (results in ill health e.g. diarrhoea) (more info needed below)

IF tick AVERAGE or POOR:

How does the household treat the water for drinking?

- Boiled
- Bleach/chlorine added
- Strained through cloth
- Ceramic, sand or other filtered
- Other (more info needed – freetext below)
- No treatment

IF tick OTHER, please provide more information about water treatment.

Freetext:

4.3) How much time does the household spend getting water every day (round trip)? Tick one only.

- Water on premises



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- Less than 30 minutes (more info needed – freetext below)
- 30 minutes to 1 hour (more info needed – freetext below)
- 1 hour to 2 hours (more info needed – freetext below)
- More than 2 hours
- Don't know

IF tick 'LESS THAN 30', '30 MINUTES TO 1 HOUR' or 'MORE THAN 2 HOURS':

How many people are involved in getting water every day?

Freetext:

Which members of the household are involved in this activity?

- Male youth (under 15 years)
- Female youth (under 15 years)
- Youth (under 15 years) - both genders
- Men (15-49 years)
- Women (15-49 years)
- Both men and women (15-49 years)
- Men (50 years and older)
- Women (50 years and older)
- Both men and women (50 years and older)

4.4) Are the household's toilet facilities improved or unimproved?

- Improved (more info needed below)
- Unimproved

IF tick IMPROVED:

Are the toilet facilities shared or not shared?

- Not Shared (more info needed below)
- Shared (more info needed below)

IF tick NOT SHARED:

What type of toilet facility is it? Tick one only.

- Flush/pour flush to piped sewer system
- Flush/pour flush to septic tank
- Flush/pour flush to pit latrine
- Ventilated improved pit (VIP) latrine
- Pit latrine with slab
- Composting toilet
- Other (more info needed – freetext below)

IF tick OTHER:

Please provide more information about the type of non-shared toilet the household uses.

Freetext

IF tick SHARED:

Draw the location of the shared toilet and the location of each household that shares the toilet.

Drawing:

What type of toilet facility is it? Tick one only.

- Flush/pour flush to piped sewer system
- Flush/pour flush to septic tank
- Flush/pour flush to pit latrine
- Ventilated improved pit (VIP) latrine
- Pit latrine with slab
- Composting toilet
- Other (more info needed – freetext below)



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IF tick OTHER:

Please provide more information about the type of non-shared toilet the household uses.

Freetext

IF tick UNIMPROVED:

What type of toilet facility is it? Tick one only.

- Flush/pour flush not to sewer/septic tank/pit latrine
- Pit latrine without slab/open pit
- Hanging toilet/hanging latrine
- No facility or bush/field/sea/river/beach
- Other (more info needed – freetext below)

IF tick OTHER:

Please provide more information about the unimproved toilet facility.

Freetext

4.5) Does the house have drainage?

- Yes (more info needed below)
- No (more info needed – freetext below)

IF tick YES:

How effective is the drainage? Tick one only.

- Good- drains well
- Average
- Poor- always had the liquid waste flowing and smells

Please provide more information about how the household deals with not having drainage.

Freetext:

4.6) Where does the household usually dispose its rubbish? Tick all that apply.

- Into river/ creek/ stream
- Into sea
- Into HCC provided bin
- Burn our rubbish
- Bury our rubbish
- Other (more info needed – freetext below)
- Can't say/Refused to answer

IF tick OTHER:

Please provide more information about how the household disposes its rubbish.

Freetext:

IF tick NO:

4.7) Is the household connected to power?

- Yes (more info needed below)
- No

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IF tick YES:

Is this power metered?

- Yes (more info needed below)
- No

IF tick YES:

What type of meter connection is it?

- Cash power connection
- Kilowatt power connection





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IF tick NO:

What is the household's main source of power?

- Solar panels
- Kerosene
- Gas
- Other (more info needed – freetext below)

IF tick OTHER:

Please provide more information about the power source.

Freetext:

4.8) In terms of utilities, of the following, what would help your household the most? Tick one only.

- Better quality water
- Better quality sanitation
- Better utility services
- Better quality infrastructure
- Better accessibility
- Better quality housing materials
- Other (more info needed - freetext below)
- Can't say/Refused to answer

IF tick OTHER, please provide more information about what would help the household most in terms of utility services.

Freetext:

SECTION 5: LAND TENURE CHARACTERISTICS

These next **6 questions** collect information about your household's land tenure characteristics.

5.1) Who do you understand to be the owner of the land your house is on? Tick one only.

- The government
- Private owner
- Customary land
- Other (more info needed – freetext below)

IF tick OTHER, please provide more information about who the owner of the land is.

Freetext:

5.2) Do you or someone in the household have an agreement with the landowner or leaseholder to occupy this land? Tick one only.

- Yes – landowner (more info needed below)
- Yes – leaseholder (more info needed below)
- No
- Unsure

IF tick YES - LANDOWNER:

What is the form of this agreement? Tick one only.

- Fixed Term Estate Title (FTE) (more info needed below)
- Temporary Occupation License (TOL) (more info needed below)
- Other (more info needed – freetext below)
- Can't say/Refused to answer

IF tick FTE:

FTE Number: _____

Expired? Yes No



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IF tick TOL:

FTE Number: _____

Expired? Yes No

IF tick OTHER, please provide more information about form of agreement.

Freetext: _____

IF tick YES - LEASEHOLDER:

What is the form of this agreement with the leaseholder? Tick one only.

- Commercial rental arrangement
- Family member co-occupancy agreement
- Family member rental arrangement
- Other (more info needed – freetext below)
- Can't say/Refused to answer

IF tick OTHER, please provide more information about form of agreement.

Freetext: _____

5.3) Have there been any disputes about the ownership or lease of this land while the household has lived here?

- Yes (more info needed – freetext below)
- No

IF tick YES:

Who else claimed ownership of this land?

Freetext: _____

- Yes
- No (more info needed – freetext below)

IF tick NO:

How was the dispute resolved?

Freetext: _____

5.4) Does the household feel secure* living here?

"secure" here means that the household feel that they cannot be easily moved off the land

- Yes
- No (more info needed – freetext below)

IF tick NO:

What would make the household feel more secure?

Freetext: _____

5.5) The government has started to subdivide and issue offers of grants of FTEs in informal settlements. Has the household received an offer?

- Yes (more info needed below)
- No

IF tick YES:

Has this offer been converted to an FTE?

- Yes
- No (more info needed – freetext below)

IF tick NO:

Why not?

Freetext: _____

Is this dispute still ongoing?



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5.6) In terms of tenure security, of the following, what would help the household the **most**? Tick one only.

- More secure land tenure: being issued a FTE or TOL
- Having access to fair conflict resolution process
- Access to land information
- Other (more info needed – freetext below)
- Can't say/Refused to answer

IF tick OTHER:

Please provide more information about what would help the household in terms of tenure security.

Freetext:

SECTION 6: CLIMATE CHANGE & DISASTER CHARACTERISTICS

These next **8 questions** collect information about your household's experience and strategies around climate change and disaster events.

6.1) Please rank the **TOP 3** most problematic natural or climate-related hazards for your household and their impacts (1 being most problematic and 3 being least problematic).

Rank	Hazard	Is the impact from this hazard staying the same or getting worse?
[]	Extreme heat	<input type="checkbox"/> Same <input type="checkbox"/> Getting worse
[]	Flooding (river)	<input type="checkbox"/> Same <input type="checkbox"/> Getting worse
[]	Flooding (sea)	<input type="checkbox"/> Same <input type="checkbox"/> Getting worse

Rank	Hazard	Is the impact from this hazard staying the same or getting worse?
[]	Landslides	<input type="checkbox"/> Same <input type="checkbox"/> Getting worse
[]	Storms/Cyclones	<input type="checkbox"/> Same <input type="checkbox"/> Getting worse
[]	Storm surge	<input type="checkbox"/> Same <input type="checkbox"/> Getting worse
[]	Water/food borne diseases (diarrhoea, typhoid)	<input type="checkbox"/> Same <input type="checkbox"/> Getting worse
[]	Mosquito-borne diseases (malaria, zika, dengue)	<input type="checkbox"/> Same <input type="checkbox"/> Getting worse
[]	Prolonged exposure to bacteria (leprosy)	<input type="checkbox"/> Same <input type="checkbox"/> Getting worse
[]	Other (more info needed – freetext below)	<input type="checkbox"/> Same <input type="checkbox"/> Getting worse
[]	Can't say/Refused to answer	<input type="checkbox"/> Same <input type="checkbox"/> Getting worse

Enumerators: Please ensure a different hazard is provided and responses are not repeated.

IF tick OTHER:

Please provide more information about hazard type.

Freetext:

6.2) Of the hazards selected, what are the **TOP 3** problems they tend to cause for the household? Tick the **TOP 3** only.

- Impact on ability to earn income
- Impact on crops or fishing
- Impact on ability to provide food



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- Damage to property
- Impacts physical health (injury, disease or death)
- Impacts mental health (anxiety, depression)
- Impacts on ability to care for dependant members of household (e.g. Children, elderly, disabled etc.)
- Impact on family relationships
- Negative impacts on community relationships
- Relocation (temporary)
- Relocation (permanent)
- Other impacts (more info needed – freetext below)

IF tick OTHER:

Please provide more information about what problems the identified hazards cause for households.

Freetext:

6.3) How does the household currently respond to these impacts?

Freetext:

6.4) When responding to these impacts, what do you think your household does well? (i.e. strengths of the household)

Freetext:

On the other hand, what do you think your household does not do so well and needs help with? (i.e. weaknesses of the household)

Freetext:

6.5) Where would the household usually seek help from to respond to these impacts? Tick the TOP 3 only.

- Immediate or extended family in the settlement
- Wantoks in the settlement
- Immediate neighbours
- Chiefs
- CDCs
- Church
- Honiara City Council
- Other government ministries (more info needed – freetext below)
- Home province
- NGOs
- Other (more info needed – freetext below)

IF tick 'OTHER GOVERNMENT MINISTRIES' or 'OTHER':

Please provide more information about the organisation the household seeks help from.

Freetext:

6.6) What is the main method of communication when the household seeks help? Tick one only.

- By mobile phone
- In person
- Other method (more info needed – freetext below)

IF tick 'OTHER METHOD':

Please provide more information about method of communication.

Freetext:

6.7) To prepare for a changing climate, who would the household seek help from? Tick the TOP 3 only.

- Immediate or extended family in the settlement
- Wantoks in the settlement
- Immediate neighbours



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- Chiefs
- CDCs
- Church
- Honiara City Council
- Other government ministries (more info needed – freetext below)
- Home province
- NGOs
- Other (more info needed – freetext below)

IF tick 'OTHER GOVERNMENT MINISTRIES' or 'OTHER':
Please provide more information about the organisation the household seeks help from.

Freetext:

6.8) What would help the household to be more prepared for those hazards identified in Q6.1?

Please refer to Question 6.1 for the hazards you identified and selected.

Freetext:

6.9) This is a question about disaster preparedness. Which of the following statements are true for the household? Tick all that apply.

- We have access to early warning systems, e.g. flood warning system, SMS alerts, radio alerts, community notification systems.
- We have an evacuation plan, either for our household or settlement.
- We are connected to formal Honiara City or ward-level disaster risk reduction networks.
- Other (more info needed – freetext below)
- None of these

IF tick OTHER:

Please provide more information about the organisation the household seeks help from.

Freetext:

FINAL REMARKS

We are almost finished with the survey. Do you have any final remarks about living in this settlement and your experience with climate change and disasters?

Prompt for what is good about living in this settlement and what is not so good. Leave blank if participant has no remarks.

What does your household feel is good about living in this settlement? This could also be about the community's strengths in responding to climate change impacts.

Freetext:

What does your household feel is challenging about living in this settlement? This could also be about the community's weaknesses in responding to climate change impacts.

Freetext:

Do you have any final remarks about living in this settlement and your experience with climate change and disasters that was not covered in this survey?

Freetext:

VISUAL ASSESSMENT: HOUSING STOCK CHARACTERISTICS

This final part of the survey is a visual assessment of your house. We will walk around your property and record the materials for your house and the facilities around it. Please join us but this is not necessary if you do not want to do so.



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The respondent is free to walk around with the enumerators for this part of the survey. Although this is not necessary, it may be helpful.

7.1) Roof: main material:

- Wood
- Copper/Metal/Iron/Aluminium
- Traditional materials (thatched/palm leaves)
- Tent or temporary materials
- Other ([more info needed – freetext below](#))



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IF tick OTHER:

Please provide more information about the roof material.

Freetext:

Roof: condition

- Good
- Average
- Poor

7.2) Exterior wall: main material:

- Wood
- Copper/Metal/Iron/Aluminium
- Concrete/Cement/Bricks
- Fibro/Masonite
- Traditional materials (thatched/palm leaves)
- Tent or temporary materials
- Other (more info needed – freetext below)

7.3) Exterior wall: condition

- Good
- Average
- Poor

7.4) Floor of the house: main material:

- Earth/ Sand
- Coral/Pebbles
- Wooden planks
- Palm/Bamboo
- Parquet or polished wood
- Ceramic tiles
- Carpet
- Other

- Can't Say/Refused to an

IF tick OTHER:

Please provide more information about the Floor material.

Freetext:

7.5) Posts of the house: main material:

- Wood
- Metal
- Concrete/Bricks/Blocks
- Mixed materials (more info needed – freetext below)
- Can't say/Refused to answer
- Not applicable

IF tick MIXED MATERIALS:

Please provide more information about the materials of the posts.

Freetext:

7.6) Height of household floor from ground level:

- 0.5m
- 1m
- 1.5m
- 2m and above
- Not Applicable

Number of storeys:

- Single Storey
- Double Storey
- More than 2 Storeys



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7.7) Slope of site that the house is on:

- Low (mostly flat)
- Medium
- High (takes substantial effort to walk up hill)

The data collected will be held and stored securely at RMIT University in Australia and will be reported in a way that does not identify individuals.

The survey is completely voluntary, and you may stop at any time. You are also free to withdraw your information at any time from the project.

More information about the project can be accessed by contacting the UN-Habitat Office in Honiara.

PART 2: SETTLEMENT LEVEL RESOURCE SURVEY

Surveyor Name: _____

*Given name and surname initial only.

Survey Date (DD/MM/YY): _____

Settlement Name: _____ *Zone: _____

*If in Aekafo-Feraladoa, please include zone number

PARTICIPANT INFORMATION AND CONSENT FORM (PICF)

Enumerator note: This consent must be completed by the village chief or designated delegate.

This survey is part of a UN-Habitat funded project about Climate Resilient Honiara.

This part of the survey only contains around **6 questions** regarding the settlement and will take around **30 minutes** to complete. We will be walking around taking some pictures of the settlement.

The data collected will be used to gather information about climate resilience in your community so that we can identify the potential problems and concerns of the people that live here.

Are you the chief of the settlement, or a delegate, aged 18 years and above?

- Yes: CONTINUE READING
- No: END PROCESS FOR HOUSE (Thank respondent for their time).

Enumerator to complete: Is the respondent male or female? Male Female

Do you understand the aim of the survey and the types of data collected and

consent to participate?

- Yes: CONTINUE READING
- No: END PROCESS FOR HOUSE (Thank respondent for their time).

Do you understand that your participation is voluntary, and you can withdraw at any time?

- Yes: CONTINUE READING
- No: END PROCESS FOR HOUSE (Thank respondent for their time).

Do you consent for your information to be used by UN-Habitat and partners for the purposes of settlement upgrading?

- Yes: CONTINUE READING
- No: END PROCESS FOR HOUSE (Thank respondent for their time).

Do you understand that if you have questions after today, you can contact the

local UN-Habitat Office in Honiara?

- Yes: CONTINUE READING



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- No: END PROCESS FOR HOUSE (Thank respondent for their time).

Tag location of community water resources. Repeat if multiple locations exist.

SETTLEMENT CHARACTERISTICS

8.1) Does the settlement have their rubbish collected in HCC bins?

- Yes
- No

IF tick YES:

Where are the bins located?

Tag location of HCC bins. Repeat if multiple locations exist.

IF tick NO:

Please provide more information about how the settlement's rubbish is collected.

Freertext: _____

8.2) Does the settlement have any major water resources that the whole community uses?

- Yes
- No

IF tick YES:

What is the type of community water resource? This can be natural (e.g. dug wells), or man-made (e.g. water tanks, SIWA connection, etc.) Tick one only.

- Well
- Borehole
- Community Tank
- SIWA water
- Other Water Resource: _____

8.3) Does the settlement have a communal toilet?

- Yes
- No

IF tick YES:

Where are the toilets located?

Tag location of communal toilet in the settlement. Repeat if multiple locations exist.

Is this toilet for males or females?

- Males
- Females

8.4) Does the settlement have a communal bathing area?

- Yes
- No

IF tick YES:

Where is the bathing area located?

Tag location of bathing area in the settlement. Repeat if multiple locations exist.

Is this bathing area for males or females?

- Males
- Females

8.5) Does the settlement have a church?

- Yes
- No



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IF tick YES:

Where is the church located?

Tag location of church in the settlement.

Is the church hall used for other purposes?

Yes

No

IF tick YES:

Please specify how church hall is used:

Freetext: _____

Is this usage regular?

Yes

No

IF tick NO:

If the settlement does not have a church, where is the next nearest church used by the community?

*The answer should be a place name.

Freetext: _____

How far away is this church? Provide answer in Kilometres.

*The answer should be an approximate number of kilometres.

Freetext: _____

Which religion does it serve?

- Church of Melanesia
- Roman Catholic Church
- South Sea Evangelical Church
- Seven Day Adventist
- United Church

- Muslim
- Other: _____
- Can't say/ Refused to answer

8.6) Does the settlement have a school?

- Yes
- No

IF tick YES:

Where is the school located?

Tag location of school in the settlement.

Is the school also used for other purposes?

Yes

No

IF tick YES:

Please specify how school is used:

Freetext: _____

Is this usage regular?

Yes

No

IF tick No:

- Jehovah Witness
- Baha'i Faith



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If the settlement does not have a school, where is the nearest school for this community?

Fretext: _____

How far away is it? Provide answer in kilometres.

*The answer should be an approximate number of kilometres.

Fretext: _____



Appendix 3: List of other survey reports reviewed as input

The table below provides an overview of all the various census and/or surveys undertaken in Solomon Islands previously used to inform the survey design. The surveys provide the basis for defining question types and response choices in the Community Profiling surveys.

Owner	Year	Report Title	Relevant Content Type
<i>Related to Solomon Islands</i>			
MLHS, Honiara City Council (HCC), UN-Habitat	2005	Honiara Slum Settlement Questionnaire	Socio-economic questions Terminology
National Statistics Office (NSO)	2009	National Population and Housing Census National Report	Socio-economic questions Terminology
JICA	2010	Country Gender Profile: Solomon Islands	Backgrounding
Justice for the Poor	2010	Women, State Law and Land in Peri-Urban Settlements on Guadalcanal, Solomon Islands	Backgrounding
NSO	2011	National Population and Housing Census National Report: Statistical Bulletin 06/2011	Socio-economic data Terminology
UN-Habitat	2012	Solomon Islands: Honiara Urban Profile	Backgrounding Socio-economic data Terminology
UNICEF	2013	Urban WASH Survey	Backgrounding Socio-economic data Spatial data Terminology
UN-Habitat, UNDP	2014	Honiara Solomon Islands Climate Change Vulnerability Assessment: Abridged Report	Backgrounding Socio-economic data Terminology
MLHS, UN-Habitat	2015	Slum Situational Analysis Based on Socio-Economic Survey Slum Situational Analysis: Socio-economic survey field report	Socio-economic data Survey methodology QuickTapSurvey software Data collection and processing
MLHS	2015	Honiara's Future: An Investigation to Identify Land for Urban Expansion	Backgrounding Spatial development data
MLHS, HCC	2015	Honiara Local Planning Scheme 2015	Backgrounding Spatial development data
NSO	2015	Solomon Islands 2012/13 Household Income and Expenditure Survey	Backgrounding Socio-economic data Terminology
NSO, World Bank Group, AusAid	2015	Solomon Islands Poverty Profile based on the 2012/13 Household Income and Expenditure Survey	Backgrounding Socio-economic data Terminology
NSO, Ministry of Health and Medical Services (MHMS)	2015	Solomon Islands Demographic and Health Survey 2015: Final Report	Backgrounding Socio-economic data Terminology
UN-Habitat, RMIT University	2016	Honiara Urban Resilience and Climate Action Plan	Backgrounding



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Owner	Year	Report Title	Relevant Content Type
SI Government (SIG), HCC, UN-Habitat	2016	Honiara City-wide Informal Settlement Analysis: A Joint Strategy for the Honiara City Council and the Solomon Islands Government	Backgrounding on urban informal settlements Methodology, terminology
MLHS	2016	Funding Public Infrastructure in New Urban Subdivisions: Options for Consideration – Main Report	Backgrounding
DFAT, CSIRO, SPREP	2017	Turning Climate Science into Services” Workshop Report	Backgrounding Data input considerations
Solomon Islands Electricity Authority	2017	Solomon Islands Electricity Access and Renewable Energy Expansion Project (Phase 2)	Background
MLHS, UN-Habitat	2018	Honiara Informal Settlements Upgrading Project	Socio-economic questions Survey methodology Kobo and QField software
MLHS, Asian Development Bank	2018	Greater Honiara Urban Development Strategy and Action Plan (Vol. 1 and 2)	Backgrounding
<i>Related to Survey Methodology</i>			
UNFPA	2010	Population Situational Analysis	Survey Methodology Data collection and processing
UNECE, World Bank Institute	2010	Developing Gender Statistics: A Practical Tool	Gender responsiveness
The Asia Foundation	2012	Climate Change Perception Survey - Bangladesh	Survey methodology
World Bank, International Household Survey Network	2013	Quick Reference on Completing an Assessment Form for Global Assessment of How (well) Gender Issues are Addressed in Household Surveys	Gender responsiveness
FAO	2018	Guidance note on gender-sensitive vulnerability assessments in agriculture	Gender responsiveness



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Appendix 4: Example of survey coding

begin_group	housing	HOUSING CHARACTERISTICS
note	housing_intro	These next 6 questions collect information about your housing conditions.
text	housing_built	3.1) When was this house built?
select_one yes_no	house_safe	3.2) Do you consider your house safe?
text	house_safe_no	If No, why not?
select_one yes_no	housing_investment	3.3) Has the house been improved or extended?
text	housing_investment_what	What changes were made to improve/extend the house?
integer	housing_investment_cost	What was the approximate cost of this improvement/ extension?
select_one resource	housing_investment_paid	How was the improvement/extension mainly paid for?
text	housing_investment_paid_other	Please specify other means of paying for the improvement/extension:
text	housing_investment_no	If it was possible, what type of improvement/extension would the household like to make to the house?
text	houseing_investment_prevent	What do you think prevents the household from making improvements/ extensions to the house?
select_one resilience	housing_resilience	What was the main reason for the improvement/ extension?
text	houseing_resilience_other	If Other, please specify:
select_one rooms	housing_rooms	3.4) How many rooms are there in this house?
select_one bedrooms	housing_bedrooms	3.5) How many <u>separate</u> bedrooms are there in the house?
select_one housing_help	housing_help	3.6) In terms of housing, of the following, what would help the household the most?
text	housing_help_space	Please specify what kind of space the household would like to add:
text	housing_help_other	Please specify what the household would like help with:
end_group		