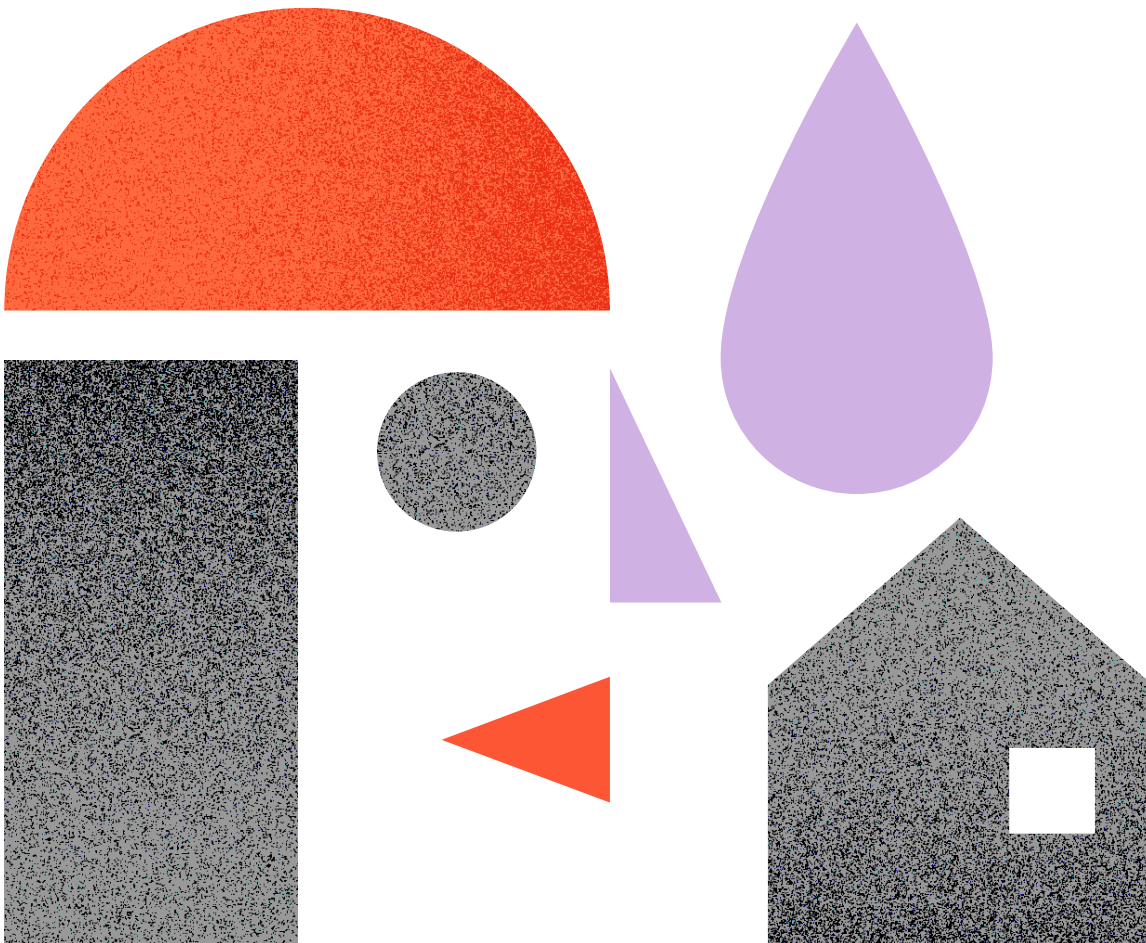


9 March, 2021

Solomon Islands Study 2020 Technical Guide



Terminology

From 1 August 2020, IWDA is taking forward earlier work known as the Individual Deprivation Measure (IDM) as a new, flagship program, [Equality Insights](#).

In this document, the Individual Deprivation Measure or IDM are used when referencing previous work or resources produced under the IDM program until 30 July 2020.

Acknowledgements

The IDM was a collaborative intellectual endeavour over some 12 years, to which many contributed. This guide benefits from work completed during a four-year program (2016-2020) to ready the IDM for global use, undertaken in partnership with the Australian National University and funded by the Australian Government, including the work of the ANU IDM team, Sharon Bessell, Janet Hunt, Helen Suich, Mandy Yap, Masud Hasan and Trang Pham. It also draws on work undertaken by IWDA with the Fiji Bureau of Statistics and funded by the Australian Government (2015-2017). The original research that developed the IDM (2009-2013) was a four-year, international, interdisciplinary research collaboration, led by the ANU, in partnership with IWDA and the Philippine Health and Social Science Association, University of Colorado at Boulder, and Oxfam Great Britain (Southern Africa), with additional support from Oxfam America and Oslo University. It was funded by the Australian Research Council and partner organisations.

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I. Introduction

Introduction

Equality Insights was launched by the International Women’s Development Agency in August 2020 as a flagship program to build on the legacy of the Individual Deprivation Measure.¹

Equality Insights is an individual-level gender-sensitive measure of multidimensional poverty, underpinned by twelve years of research and development, field testing and expert review and audit. It was developed to provide an alternative to household-level measurement, to strengthen and complement existing approaches to poverty measurement.



Equality Insights collects individual-level data about fifteen dimensions of life plus assets from all adults in a household. It can provide users with new insights into multidimensional deprivations experienced by populations of interest, beyond income and monetary wealth. It offers insights into material, social, economic, environmental, and political factors shaping poverty and inequality. Primary survey data collection from individual adults² makes possible analysis by gender, age (*Equality Insights* has no upper age cut off), disability (via the Washington Group Short Set questions), socio-cultural background, marital status, number of children, rural/urban, other characteristics as relevant, and intersections of these. Sampling every adult in a household enables insights into any differences in deprivation inside households, including analysis of the ‘invisible poor’, to reveal the proportion of a population, and its demographic make-up, who live in better off households, but are individually deprived.³ Within-household data can also be used to estimate the degree of intrahousehold inequality in a population or sub-population, and the extent to which this inequality impacts men and women differently.

¹ *Equality Insights* takes forward IWDA’s work on the Individual Deprivation Measure (IDM). A history of the Individual Deprivation Measure (IDM) can be found at <https://www.individualdeprivationmeasure.org/future-directions/>.

² Typically, *Equality Insights* defines adult as an individual 18+. In certain circumstances, we have used local circumstances to justify setting the threshold of ‘adult’ at 16. If altering the age threshold for the category ‘adult’, careful attention should be paid to the ethics implications, particularly regarding child rights and child protection.

³ A publication on combining *Equality Insights* and a wealth index to reveal deprived individuals in not deprived households is forthcoming (2021).

This document

The Individual Deprivation Measure (IDM) study in the Solomon Islands was implemented between January and April 2020 in order to gain insights into the economic, social, political, and environmental dimensions of the lives of the people of Central and Guadalcanal Provinces. It was the final study in a four-year program (2016-2020) to ready the IDM for global use. The combination of individual-level measurement, data about fifteen dimensions of life plus assets, including dimensions and questions that are gender-sensitive, and a sampling strategy that interviews all adults in a randomly selected household, can provide users with new policy relevant insights into factors shaping poverty and inequality.⁴

Researchers from the International Women's Development Agency (IWDA) worked with Dignity Pasifik, a women-led research company based in Honiara, to collect data on multidimensional deprivation from all adults in selected dwellings. A total of 1862 respondents from 849 households were included in the study.

A series of composite indices, one for each dimension, are used to summarise deprivations and highlight inequalities. These are hierarchical in structure; dimensions are composed of themes which are constructed from indicators, each corresponding to one or more survey questions. This structure is designed so users can disaggregate the index down to item level, gaining more granular detail surrounding *how* an individual is deprived.

This document provides technical guidance to those wishing to understand the detail of the composite index construction methodology and scoring scheme used for the Solomon Islands 2020 study.

It is based on the guide to scoring procedures for the IDM South Africa study (Suich et al. 2020). The South Africa Country Study Report laid out the most up-to-date procedures used across the program at the time of both studies. There are some key differences in scoring of indicators and the aggregation function used to construct themes and dimensions between South Africa and Solomon Islands and these are explained in the relevant sections. Elsewhere, the description of the approach aligns with the equivalent report for South Africa.

Chapter I provides brief introduction to the program and its history. Chapter II details the mathematics of the aggregation methods used in the composite index construction. Chapters 1 – 15 outline the decisions made to quantify differing levels of deprivation by scoring survey responses.

⁴ Initial findings from the Solomon Islands study are available



— II.

Index Construction

Index Construction

Methodology

A composite index is constructed for each dimension to summarise and convey the rich information collected through the IDM survey by a single number. Critical to the construction of any composite measure is the rigour and transparency of the process. Here, we outline the details of the index construction methodology used in the Solomon Islands.

Equality Insights (formerly IDM) is hierarchical; dimension scores are constructed from theme scores which are constructed from indicators which correspond to one or more survey questions. This structure is designed so users can disaggregate the index to any level, gaining more granular detail surrounding *how* an individual is deprived. Table 1.1 provides an overview of all dimensions and the themes, indicators and survey questions that form them.

Numerical scores are allocated at the indicator level and are based on an individual's survey responses. The measure moves beyond binary thresholds of deprivation and indicator scores are based on multiple cut-offs. The number of categories of deprivation and corresponding cut-offs varies by indicator, the details of which are outlined in **Chapters 1 - 15**.

In some cases, due to missing data or an 'other' response, we were unable to derive an indicator score. Where a respondent gave an 'other' answer, we classified these under the most appropriate scored response where possible. In cases where it was still not possible to calculate an indicator score for the purposes of aggregation, we imputed its value as the midpoint (2.5).

Theme and dimension scores fall between 1 - 4 and are calculated by taking an unweighted, arithmetic mean of rescaled component scores. These scores are then grouped into four categories of deprivation:

1 = most deprived,

(1, 2] = deprived,

(2, 3] = somewhat deprived and

(3, 4] = least deprived.

INDEX CONSTRUCTION METHOD

For indicator I within theme t within dimension d let:

- S_{dti} be an individual's score,
- m_{dti} be the minimum possible score, and
- M_{dti} be the maximum possible score.

The method used to aggregate responses and assign dimension score(s) to an individual is as follows:

1. To assign indicator scores (S_{dti}), combinations of responses to one or more survey questions are ranked on a scale from 1 (most deprived) to M_{dti} where M_{dti} may vary between indicators. Continuous responses are typically grouped before being ranked.

2. All indicators are rescaled to a [1, 4] interval:

$$z_{dti} = \frac{S_{dti} - m_{dti}}{M_{dti} - m_{dti}} \times 3 + 1$$

3. An individual's score for each theme is the mean of all normalised indicators within that theme,

$$S_{dt} = \text{mean}(z_{dti})$$

4. An individual's score for each dimension is the mean of all theme scores within that dimension,

$$S_d = \text{mean}(S_{dt})$$

Table 1.1 An overview of all dimensions of the IDM, Solomon Islands and the themes, indicators and survey questions that form them

Dimension	Theme	Indicator	Variables
01 Food	Food Insecurity	Food insecurity	Worried (was worried about not having enough food to eat) Healthy (was unable to eat healthy and nutritious food) Few foods (ate only a few kinds of foods) Skipped (had to skip a meal) Ate less (ate less than thought) Ran out (ran out of food) Hungry (was hungry but did not eat) Whole day (went without eating for a whole day)
02 Water	Drinking water	Drinking water source, reliability and treatment	Drinking water source Drinking water sufficiency Drinking water treatment Treatment method
	Domestic water	Domestic water source and reliability	Domestic water source Domestic water sufficiency
	Water collection threats	Water collection threats	Water collection responsibility Water collection threats
03 Shelter	Habitability	Flooring material	Flooring material
		Roofing material	Roofing material
		Exterior wall material	Exterior wall material
		Housing condition	Overall housing condition
		Crowdedness	Home too crowded for comfort
	Ownership of essential household items	Ownership of essential household items	Ownership of cooking utensils Ownership of tableware Ownership of bedding Ownership of water storage container(s)
	Security of tenure	Eviction concern	Worry about eviction
		Recognition of ownership	Government or customary ownership recognition
		Mortgage/rent stress	Pay rent or mortgage Timeliness of repayments
04 Health	Health status	Physical health status	Recent condition Long term condition Health problems from exposure to fuel smoke
		Psycho-social health status	Felt worried, nervous or anxious Felt depressed
	Health care access and quality	General health care access and quality	Accessed health care facility Reasons for not accessing health care Number of problems in the facility visited
		Pre-natal health care access and quality	Prenatal care (past birth) Prenatal care (current pregnancy)
	05 Education	Education level	Educational completion
		Functional literacy	Reading competency

Dimension	Theme	Indicator	Variables
	Functional literacy and numeracy		Writing competency
		Functional numeracy	Addition/subtraction competency Multiplication/division competency
06 Energy	Cooking energy	Cooking energy source and reliability	Cooking energy source Cooking energy reliability
	Lighting energy	Lighting energy source and reliability	Lighting energy source Lighting energy reliability
	Heating energy	Heating energy source and reliability	Heating energy source Heating energy reliability
	Energy collection threats	Energy collection threats	Energy collection responsibility Energy collection threats
07 Sanitation	Toilet facilities	Toilet type	Toilet type Sufficient water to flush
		Toilet ownership	Shared toilet Public toilet
	Washing facilities	Handwashing facilities	Handwashing place Handwashing water Soap/soap substitutes use
		Access to toiletries	Toiletries
	Private changing place (during menstruation)	Private changing place (during menstruation)	Recent menstruation Private place to change during menstruation
08 Relationships	Dependence and support	Dependence and support	Depend on others because can't provide for self Availability of support Ability to reciprocate
	Participation in community events	Community event participation	Community event attendance Reasons for not attending Whether contributed to community events Reasons for not contributing
		Participation during menstruation	Whether missed activities because of not having sanitary products Whether missed events because of stigma
09 Clothing	Basic clothing and footwear	Basic clothing and footwear ownership	Two sets of clothing Two pairs of footwear
		Basic acceptability and protection	Basic clothing is appropriate for needs Everyday clothing and footwear protection
	Other clothing and footwear	School or work clothing	School/work clothes sufficiency School/work clothing and footwear acceptability School/work clothing and footwear protection
		Formal clothing	Formal clothing and footwear sufficiency Formal clothing and footwear acceptability
	Sanitary product use	Sanitary product use	Recent menstruation Sanitary products/materials used

Dimension	Theme	Indicator	Variables
10. Violence ⁵	<i>Not enumerated</i>		
11 Family planning	Unmet need for contraception	Unmet need for co10ntraception	Personally used contraception Partner used contraception Used modern method Used traditional method Reasons for not using contraception
12 Environment	Exposure to environmental problems	Exposure to environmental problems	Rubbish/waste disposal site Agricultural/industrial chemicals Open drains with sewage Air pollution Water pollution Places where disease-carrying insects breed Noise pollution Other significant environmental hazards
	Natural resource utilisation	Wild resource utilisation	Utilisation of natural resources Resource availability
		Biomass fuel utilisation	Biomass fuel collection responsibility Biomass fuel availability
	Safe environment	Safe environment	Safety at home alone Safety while walking alone in the neighbourhood
	Voice in the public domain	Voting	Voted in the most recent election Free to choose for whom to vote Reason for not voting/too young to vote
		Participation in local decision making	Local decision making participation Influence on decision making Reason for not participating
Perception of raising concerns		Perceived difficulty of raising concerns Perception of whether concerns taken seriously	
13 Voice	Personal control over decision making	Personal control over decision making	Prevented/stopped from seeing friends or birth family members Prevented from going to a local event Prevented from seeking healthcare Prevented from seeking and/or attending education or training Prevented from working/finding work outside the home to earn income Permission required to spend money on household expenditure
		Decision making within the household	Who makes the decision about household finances Who makes the decision about making large purchases Who makes the decision about making everyday purchases Who makes the decision about the duration of your work

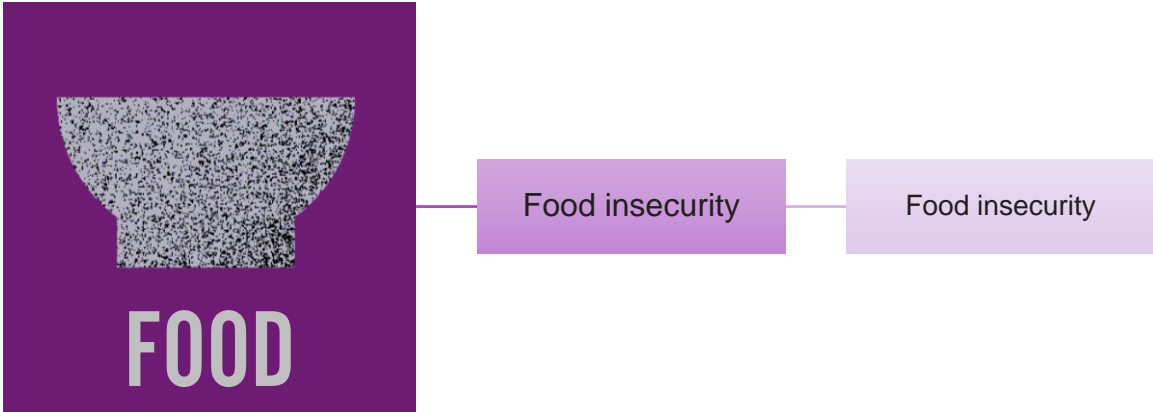
⁵ The Violence dimension was not enumerated in the Solomon Islands. A Learning Note documents the rationale for and challenges of measuring violence as part of a multidimensional measure of poverty. The Equality Insights team has developed an alternative Safety module as part of the shorter *Insights* variant and will use this module going forward.

Dimension	Theme	Indicator	Variables
			<p>Who makes the decision about the duration of your study</p> <p>Who makes the decision about your social commitments</p> <p>Who makes the decision about upbringing of children</p> <p>Who makes the decision about children's education</p>
14 Time use	Time burden	Time burden and on-call time	<p>Spent time on office job, business or on a farm as a labourer</p> <p>Collected or grew produce</p> <p>Spent time on unpaid domestic work</p> <p>Spent time on house maintenance or repair</p> <p>Spent time on voluntary work</p> <p>Spent time on caring</p> <p>Spent time on social, cultural or religious activities</p> <p>Spent time on education</p> <p>Spent time on fuel collection</p> <p>Spent time on water collection</p> <p>Spent time where a child under the age of 13 was under care</p> <p>Spent time where someone else was under care</p>
15 Work	Work for pay, profit and production	Employment status	<p>Worked in past seven days</p> <p>Worked in past 30 days</p> <p>Reason for not working</p>
		Job security	<p>Employment change</p> <p>Number of jobs held</p> <p>Social security or other (formal-sector) benefit contributions</p>
		Hazards in work for pay, profit and production	<p>Working in a confined space</p> <p>Exposure to dangerous materials at work</p> <p>Working with dangerous machinery</p>
	Unpaid domestic and care work	Autonomy and harassment in work for pay, profit and production	<p>Sexual harassment at work</p> <p>Physical abuse at work</p> <p>Work is humiliating</p> <p>Breaks allowed to eat, drink or go to the toilet (at work)</p>
		Hazards in unpaid domestic and care work	<p>Unpaid domestic work-related injury</p> <p>Impact on unpaid domestic and care work</p> <p>Temporary or permanent effect</p>
		Respect in unpaid domestic and care work	<p>Free from humiliating treatment</p> <p>Unpaid domestic and care work is valued</p>
Double labour burden	Double labour burden	<p>Average weekly hours of work for pay, profit and production</p> <p>Average weekly hours of unpaid domestic and care work</p>	



— 01.
Food

Measuring and scoring deprivation in food



Theme 1.1: Food insecurity

Indicator 1.1.1: Food insecurity

The single indicator for this theme is constructed from eight variables. These are measured using the well-validated Food Insecurity Experience Scale Survey Module (FIES-SM) which consists of eight yes/no questions that relate to various levels of food insecurity experienced by respondents. The sequence of variables follows an increasing level of food insecurity, reflecting severity of insecurity, also known as item severity. In scoring this dimension, we depart from the standard Food Insecurity Experience Scale methodology for assessing population-level food insecurity as this creates a relative measure of food insecurity. Our methodology follow the principles of increasing severity of food insecurity, as described in Ballard et al. (2014) to create an absolute measure that is stable over time and context (Table 1.1).

Table 1.1 Scoring scheme for food insecurity indicator within the food insecurity theme

Variable	Level of food insecurity	Score
No questions answered affirmatively	No food insecurity	4
Was worried about not having enough food to eat	Mild food insecurity	3
Was unable to eat healthy and nutritious food	Mild food insecurity	3
Ate only a few kinds of foods	Mild food insecurity	3

Had to skip a meal	Moderate food insecurity	2
Ate less than they thought they should	Moderate food insecurity	2
Ran out of food	Moderate food insecurity	2
Was hungry but did not eat	Severe food insecurity	1
Went without eating for a whole day	Severe food insecurity	1
Refused to answer		Treat as No/0

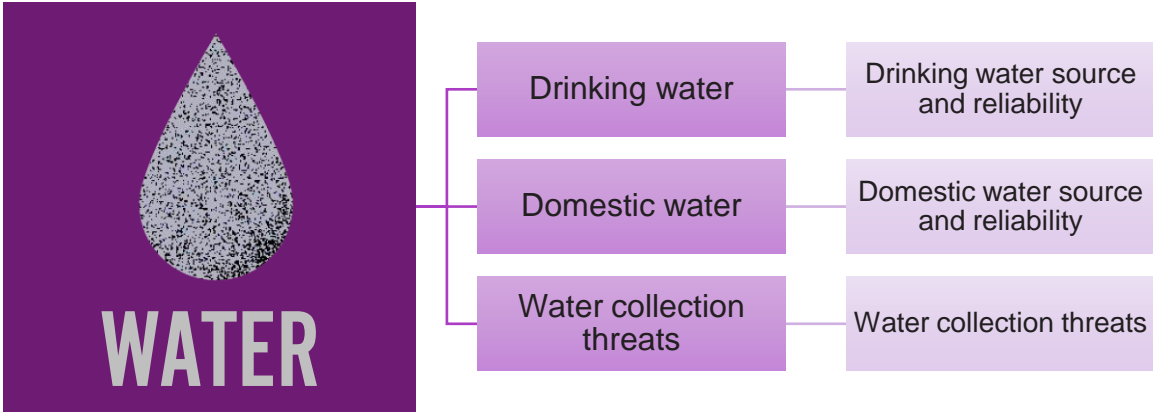
As the questions are asked in 'scale order', it is typical for those who answer in the affirmative to more severe levels of food insecurity to also answer in the affirmative for less severe levels of food insecurity. An individual will be given an indicator score according to the most severe level of food insecurity they face, even if they have not answered affirmatively to less severe levels of food insecurity. That is, if an individual responds affirmatively to having skipped a meal (variable 4), but not to the first three variables (indicating mild food insecurity), that individual will be given the indicator score reflecting moderate food insecurity.

The dimension and theme score is the indicator score, as there is only a single indicator and theme in this dimension.



— 02.
Water

Measuring and scoring deprivation in water



Theme 2.1: Drinking water

Indicator 2.1.1: Drinking water source, reliability and treatment

The first variable determines the main source of drinking water for a household, and is scored in alignment with the WHO/UNICEF categorisation of sources as improved or unimproved (see Table 2.1) (WHO and UNICEF 2010). Improved sources are those potentially capable of delivering safe water by nature of their design of construction or by using treatment, while unimproved sources do not have this capability. The score for this indicator is adjusted upward if the source is piped into the dwelling and if the drinking water is treated at the source. The drinking water source variable is then combined with a measure of reliability; how often the respondent has enough drinking water to meet their needs (Table 2.2).

Table 2.1 Drinking water source categorisation

Main source of drinking water	WHO/UNICEF category	Score
Treated water piped to dwelling	Improved	5
Treated piped yard/neighbour, or public tap	Improved	4
Untreated water piped to dwelling	Improved	3
Untreated piped yard/neighbour/ public tap	Improved	2
Borehole/Tube well	Improved	2

Dug well (protected)	Improved	2
Spring (protected)	Improved	2
Rainwater	Improved	2
Bottled water	Improved	2
Tanker/truck	Improved	2
Water kiosk	Unimproved	1
Cart with small water tank	Unimproved	1
Dug well (unprotected)	Unimproved	1
Spring (unprotected)	Unimproved	1
Surface water	Unimproved	1

Table 2. 2 Drinking water source and reliability

Drinking water source	Reliability	Aggregation	Combined score
Treated water piped to dwelling	Always	5+4	9
Treated water piped to dwelling	Most of the time	5+3	8
Treated piped yard/neighbour, or public tap	Always	4+4	8
Treated water piped to dwelling	Some of the time	5+2	7
Treated piped yard/neighbour, or public tap	Most of the time	4+3	7
Untreated water piped to dwelling	Always	3+4	7
Treated water piped to dwelling	Never	5+1	6
Treated piped yard/neighbour, or public tap	Some of the time	4+2	6
Untreated water piped to dwelling	Most of the time	3+3	6
Untreated improved source	Always	2+4	6
Treated piped yard/neighbour, or public tap	Never	4+1	5
Untreated water piped to dwelling	Some of the time	3+2	5
Untreated improved source	Most of the time	2+3	5
Unimproved source	Always	1+4	5
Untreated water piped to dwelling	Never	3+1	4
Untreated improved source	Some of the time	2+2	4
Unimproved source	Most of the time	1+3	4
Untreated improved source	Never	2+1	3
Unimproved source	Some of the time	1+2	3
Unimproved source	Never	1+1	2

While we intended to incorporate water treatment into this indicator (adequate treatment adding 2, inadequate treatment adding 1 as per the South Africa scoring guide), the data on water treatment from the Solomon Islands was inaccurate. Given this absence of data we chose to add the midpoint of the treatment score, namely 1.5 to all scores. For this indicator, the score was the (normalised) aggregation of the scores of these two sets of combined variables (Table 2.3). The first part of the sum indicated in the 'aggregation' column shows the drinking water source and reliability (from Table 2.2) and the second part shows the score received for water treatment used in the house.

As the theme is composed of a single indicator, the theme score is the indicator score.

Table 2.3 Scoring for drinking water theme (grouped by source type)

Drinking water source	Reliability	Treatment	Aggregation	Score
Treated water piped to dwelling	Always	Data not available	9 + 1.5	10.5
Treated water piped to dwelling	Most of the time		8 + 1.5	9.5
Treated piped yard/neighbour, or public tap	Always		8 + 1.5	9.5
Treated water piped to dwelling	Some of the time		7 + 1.5	8.5
Treated piped yard/neighbour, or public tap	Most of the time		7 + 1.5	8.5
Untreated water piped to dwelling	Always		7 + 1.5	8.5
Treated water piped to dwelling	Never		6 + 1.5	7.5
Treated piped yard/neighbour, or public tap	Some of the time		6 + 1.5	7.5
Untreated water piped to dwelling	Most of the time		6 + 1.5	7.5
Untreated improved source	Always		6 + 1.5	7.5
Treated piped yard/neighbour, or public tap	Never		5 + 1.5	6.5
Untreated water piped to dwelling	Some of the time		5 + 1.5	6.5
Untreated improved source	Most of the time		5 + 1.5	6.5
Unimproved source	Always		5 + 1.5	6.5
Untreated water piped to dwelling	Never		4 + 1.5	5.5
Untreated improved source	Some of the time		4 + 1.5	5.5
Unimproved source	Most of the time		4 + 1.5	5.5
Untreated improved source	Never		3 + 1.5	4.5
Unimproved source	Some of the time		3 + 1.5	4.5
Unimproved source	Never		2 + 1.5	3.5
Refused to answer				3
	Refused to answer			2.5
				1.5

Theme 2.2: Domestic water source

Indicator 2.2.1: Domestic water source and reliability

This indicator is based on two variables – the main source of domestic water and the reliability of the source. Domestic water sources follow the same categorisation as those for drinking water (Table 2.1), and reliability is also scored in the same way as for drinking water (Table 2.2). The scoring for the domestic water source and reliability indicator is described in Table 2.4.

The raw score is normalised to create the indicator score, which is also the theme score.

Table 2.4 Scoring for domestic water source and reliability

Domestic water source	Reliability	Aggregation	Score
Treated water piped to dwelling	Always	5+4	9
	Most of the time	5+3	8
	some of the time	5+2	7
	Never	5+1	6
Treated piped yard/neighbour, or public tap	Always	4+4	8
	Most of the time	4+3	7
	Some of the time	4+2	6
	Never	4+1	5
Untreated water piped to dwelling	Always	3+4	7
	Most of the time	3+3	6
	Some of the time	3+2	5
	Never	3+1	4
Untreated improved source	Always	2+4	6
	Most of the time	2+3	5
	Some of the time	2+2	4
	Never	2+1	3
Unimproved source	Always	1+4	5
	Most of the time	1+3	4
	Some of the time	1+2	3
	Never	1+1	2
Refused to answer			3
	Refused to answer		2.5

Theme 2.3: Water collection threats

Indicator 2.3.1: Water collection threats

This indicator combines two variables – the first assessing whether the respondent is responsible for collecting water from outside the household and if they are, whether they experience any threats or hazards while collecting water. The scoring for this indicator is described in Table 2.5.

The raw score is normalised to create the indicator score, which is also the theme score.

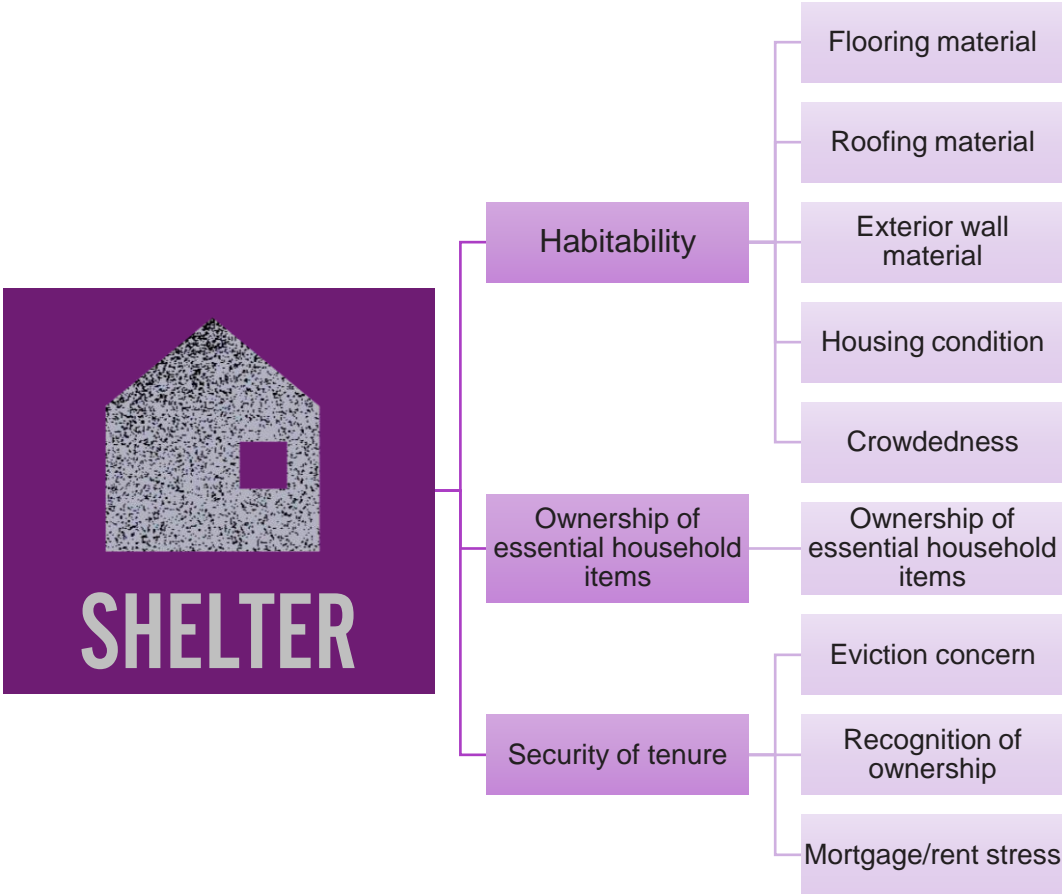
Table 2.5 Scoring for water collection hazards/threats

Responsible for collection	Experienced hazards/threats	Score
No	-	3
Yes	No	2
	Yes	1
Refused to answer		2



— 03.
Shelter

Measuring and scoring deprivation in shelter



Theme 3.1: Habitability

For the first three indicators of the habitability theme, the measure uses the groupings of construction materials for housing as natural, rudimentary and finished, as defined in the Demographic and Health (DHS) household survey (The DHS Program 2019).

Indicator 3.1.1: Flooring material

The scoring for the flooring material is described in Table 3.1, with materials scored according to the DHS categorisation. The score is then normalised to create the indicator score.

Table 3.1 Scoring for flooring material

Material	Category	Score
Earth/sand	Natural	1
Dung		
Wood planks	Rudimentary	2
Palm/bamboo		
Asbestos		
Parquet or polished wood	Finished	3
Vinyl or asphalt strips		
Ceramic tiles		
Cement		
Carpet		
Paving bricks		

Indicator 3.1.2: Roofing material

Where respondents live in a dwelling with no roof, this category is separated out from the DHS categorisations, and receives a lower score than for all other roofing materials in order to create more granularity at the most deprived level (Table 3.2).

Table 3.2 Scoring of roofing material

Material	Category	Score
No roof	No roof	1
Thatch/palm leaf	Natural	2
Sod		
Rustic mat	Rudimentary	3
Palm/bamboo		
Wood plants		
Cardboard		
Asbestos		
Metal/zinc	Finished	4
Calamine/cement fibre		
Ceramic tiles		
Cement		
Roofing shingles		
Rhino board		

Indicator 3.1.3: Exterior wall material

Where respondents report having no walls, this has been separated out from the standard DHS categorisation, and receives a lower score than other wall materials in order to create more granularity at the most deprived level (Table 3.3).

Table 3.3 Scoring scheme for the exterior wall indicator

Material	Category	Score
No walls	No wall	1
Cane/palm/trunks	Natural	2
Dirt		
Bamboo with mud	Rudimentary	3
Stone with mud		
Uncovered adobe		
Plywood		
Cardboard		
Reused wood		
Tarpaulin/plastic		
Cement		
Stone with lime/cement		
Bricks		
Cement blocks		
Covered adobe		
Wood planks/shingles		
Asbestos		
Zinc sheet		
Tiles		

Indicator 3.1.4: Housing condition

Scoring for the overall condition of the dwelling is based on the existence of problems in the roof, wall or housing structure (Table 3.4). The variable score is then normalised to create the indicator score.

Table 3.4 Scoring scheme for overall dwelling condition indicator

Category	Score
No problems	7
One relatively minor problem (leaky roof OR holes in wall OR other)	6
Two relatively minor problems (leaky roof, holes in wall, other)	5
Three relatively minor problems (leaky roof, holes in wall, other)	4
Major problem only (unsafe housing structure)	4
Unsafe housing structure AND one relatively minor problem (leaky roof OR holes in wall OR other)	3
Unsafe housing structure AND two relatively minor problems (leaky roof, holes in wall, other)	2
All listed problems (unsafe housing structure AND leaky roof AND holes in wall AND other)	1

Indicator 3.1.5: Crowdedness

Scoring on crowdedness is based on the perception of respondents regarding whether their home is too crowded to live in comfortably (Table 3.5). The variable score is then normalised to create the indicator score. The indicator scores are aggregated and normalised to create the theme score.

Table 3.5 Scoring scheme for crowdedness indicator

Too crowded to live comfortably	Score
Yes	1
No	2
Refused to answer	Midpoint (1.5)

Theme 3.2: Ownership of essential household items

Indicator 3.2.1: Ownership of essential household items

This indicator is constructed from four variables assessing ownership of different types of household items – cooking utensils (e.g. pots, pans and knives to use for the preparation of a meal with more than one component or dish), tableware (e.g. plates, bowls, dishes and cups), water storage and/or carrying vessels (to store enough water for one day) and bedding (blankets, mats and/or mattresses to sleep comfortably). The scoring for the indicator is described in Table 3.6. The indicator score is the normalised raw variable score, which is also the theme score.

Table 3.6 Scoring scheme for ownership of essential household items

Ownership	Score
Ownership of all four household item categories	4
Ownership of any three household item categories	3
Ownership of any two household item categories	2
Ownership of any single household item category	1
Ownership of none of the household item categories	0
Refused to answer (by variable)	(0.5)

Theme 3.3: Security of tenure

The theme is constructed from three indicators; eviction concern, recognition of ownership of tenancy and ability to pay rent/mortgage.

Indicator 3.3.1: Eviction concern

The first indicator is based on a single variable measuring whether the respondent was worried about being evicted from, or forced to leave, their home (Table 3.7). The variable score is normalised to create the indicator score.

Table 3.7 Scoring scheme for eviction concern

Worried about eviction	Score
Yes	1
No	2
Refused to answer	Midpoint (1.5)

Indicator 3.3.2: Recognition of ownership

The second indicator is scored according to whether the ownership of the respondent's dwelling is recognised by the government or under customary land tenure, regardless of who owns the dwelling (Table 3.8). The variable score is then normalised to create the indicator score.

Table 3.8 Scoring scheme for recognition of ownership

Dwelling ownership	Government or customary ownership recognition	Score
No		2
Yes	Yes	2
	No	1
	I do not know	1
Refused to answer		Midpoint (1.5)

Indicator 3.3.3: Mortgage/rent stress

The mortgage/rent stress indicator is constructed from two variables – the first determining whether the respondent’s household is required to pay rent or a mortgage for the dwelling, and if so, how frequently they have been able to make their payments on time over the previous 12 months. The indicator is created by ordering all possible combinations of these two variables (Table 3.9). The variable score is then normalised to create the indicator score.

The three indicator scores are aggregated and normalised to create the theme score. The dimension score is constructed by aggregating the three theme scores and normalising.

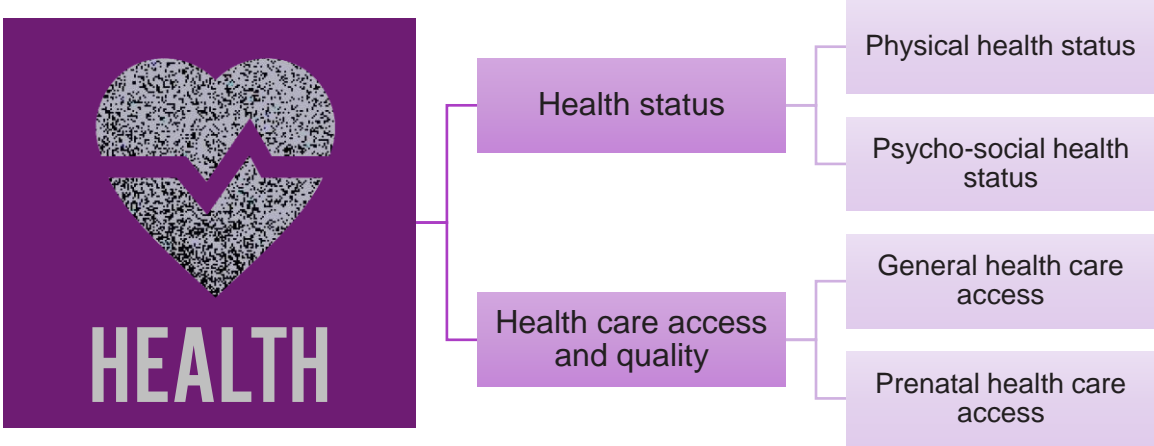
Table 3.9 Scoring scheme for mortgage/rent stress.

Pay rent/mortgage	Ability to pay rent/mortgage	Score
No	-	4
Do not know	-	4
Yes	All of the time	4
	Most of the time	3
	Some of the time	2
	Not at all	1
Refused to answer		2.5



— 04.
Health

Measuring and scoring deprivation in health



Theme 4.1: Health status

Indicator 4.1.1: Physical health status

Scoring for this indicator considers all of the respondent’s answers about all three variables – recent conditions, long-term conditions, and smoke-related health problems – covering all possible combinations of responses (Table 4.1). The indicator score is the normalised value of the raw score.

Table 4.1 Scoring scheme for physical health status

Long-term condition	Smoke-related health problem	Recent condition	Score
No	No	No	5
		Yes	4
	Yes	No	3
		Yes	2
Yes	No	No	3
		Yes	2
	Yes	No	1
		Yes	0
Refused to answer			1
	Refused to answer		1
		Refused to answer	0.5

Indicator 4.1.2: Psycho-social health status

The indicator is scored based on how frequently the respondents felt worried, nervous or anxious and how frequently they felt depressed (Table 4.2 and Table 4.3). The raw scores of the two variables are aggregated and then normalised to create the indicator score.

The theme score is calculated by aggregating the two indicator scores.

Table 4.2 Scoring scheme for worry, anxiety and nervousness

Frequency of feeling	Score
Daily	1
Weekly	2
Monthly	3
A few times a year	4
Never	5
Refused to answer	Midpoint (3)

Table 4.3 Scoring scheme for depression

Frequency of feeling	Score
Daily	1
Weekly	2
Monthly	3
A few times a year	4
Never	5
Refused to answer	Midpoint (3)

Theme 4.2: Health care access and quality

Indicator 4.2.1: General health care access and quality

The general health care access and quality indicator is constructed from nine variables – whether they accessed health care, and if they did, variables assessing how many of seven pre-defined problems they faced (if any). Respondents who did not access health care are allocated a score based on their reasons for not doing so. Respondents who gave a reason related to personal factors or health-care-facility factors received the lowest score, while those who said they did not access health care because they did not need it were scored highest. The scoring scheme based on these variables is presented in Table 4.4. The raw score is normalised to achieve the indicator score.

Table 4.4 Scoring scheme for general health care access and quality

Access health care facilities	Reason for not accessing health care	No. of problems	Score
No	Personal factors and health care facility factors	-	1
	Did not need/want it	-	9
	Refused to answer	-	5
Refused to answer	-	-	5
Yes	-	0	9
	-	1	8
	-	2	7
	-	3	6
	-	4	5
	-	5	4
	-	6	3
	-	7	2
	-	Refused to answer (each problem)	0.5

Indicator 4.2.2: Prenatal health care access

Scores for the prenatal health care access indicator were assigned for both women who were pregnant at the time of the survey and those who had a child in the 12 months prior to the survey. The scoring pattern mirrors that for non-pregnancy related health care utilisation (Table 4.4). Where a woman reports both being currently pregnant and having had a child in the prior 12 months, the most current pregnancy experience is used to score prenatal care access.

The score for the second indicator is the score received for current pregnancy OR previous pregnancy, whichever is the most recent. The relevant raw score is normalised to create the indicator score. The theme score is calculated by aggregating the two indicator scores. The dimension score is constructed by aggregating and normalising the two theme scores. The scoring scheme for women who gave birth in the 12 months prior to the survey are outlined in Table 4.5 and for those women who are currently pregnant, scores received are described in Table 4.6.

Table 4.5 Scoring scheme for prenatal health care access and quality for a previous pregnancy

Access prenatal care	Reason for not accessing prenatal care	No. of problems	Score
No (male/non-pregnant women)	-	-	9
No	Personal factors and health care facility factors	-	1
	Refused to answer	-	5
Refused to answer	-	-	5
Yes	-	0	9
	-	1	8
	-	2	7
	-	3	6
	-	4	5
	-	5	4
	-	6	3
	-	7	2
	-	Refused to answer (each)	0.5

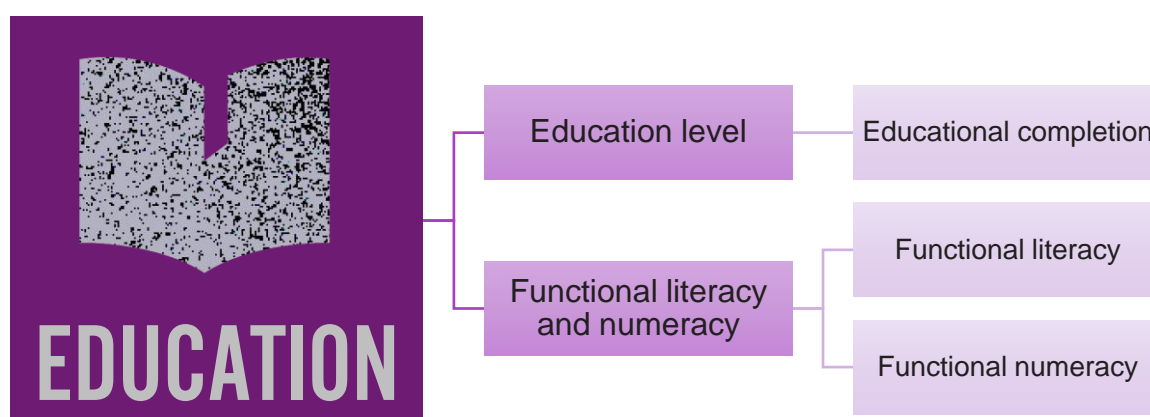
Table 4.6 Scoring scheme for prenatal health care access and quality (current pregnancy)

Access prenatal care	Reason for not accessing prenatal care	No. of problems	Score
No (male/ non-pregnant women)	-	-	9
Don't know if pregnant	-	-	9
Too early to need	-	-	9
No	Personal factors and health care facility factors	-	1
	Refused to answer	-	5
Refused to answer	-	-	5
Yes	-	0	9
	-	1	8
	-	2	7
	-	3	6
	-	4	5
	-	5	4
	-	6	3
	-	7	2
	-	Refused to answer (each)	0.5



— 05.
Education

Measuring and scoring deprivation in education



Theme 5.1: Education level

Indicator 5.1.1: Educational completion

This one indicator theme is based on one variable which asks about the highest level of education the respondent completed at the time of interview, as shown in Table 5.1. The indicator is the normalised raw score. This is also the theme score.

Table 5.1 Scoring scheme for educational completion

Highest level of education completed	Score
Tertiary (vocational/technical or university)	6
Some tertiary	6
Secondary/high school (matriculation)	5
Some secondary	4
Primary	3
Some primary	2
No schooling	1
Refused to answer	Midpoint (3.5)

Theme 5.2: Functional literacy and numeracy

The survey collects information regarding respondents' competency in reading, writing and arithmetic. From these four variables two indicators are constructed – functional literacy (reading and writing) and functional numeracy (addition/subtraction and multiplication/division).

Indicator 5.2.1: Functional literacy

The functional literacy indicator is constructed from two variables assessing reading and writing competencies. The scores for reading competency are described in Table 5.2. Based on the accounts of enumerators, we decided most people refusing to answer were likely refusing out of shame around their inability to read. Because of this, we scored those who refused to answer (N = 40; 2%) as if they were unable to read.

Table 5.2 Scoring scheme for reading competency

Reading competency	Score
Able to read the whole sentence	3
Able to partially read the sentence	2
Cannot read (including due to vision impairment)	1
Refused to answer	1

The scores allocated for different aspects of writing competency are based on achievements in:

- writing – whether the writing was legible or only partly legible;
- spelling – whether correct or incorrect spelling was used;
- grammar – whether correct or incorrect grammar was used;
- use of complete sentence – whether the respondent used full sentences as requested in the question;
- meaning – whether the text written made sense or not;
- answered the question – whether the response answered the question posed.

Each of these achievements is given different weights as shown in Table 5.3, in order to construct a total score ranging from 0 – 1.

Table 5.3 Marking writing competency

Writing competency	Marking
Cannot write (including due to physical or other impairment)	0
Writing	0.1
Spelling	0.1
Grammar	0.1
Complete sentences	0.2
Meaning	0.25
Answered question (i.e. comprehension)	0.25

These scores are then categorised as shown in Table 5.4. There were some technical / enumerator errors that resulted in photos of responses that were irrelevant or illegible. In these cases (N = 395; 21%) we imputed the midpoint response.

As with the reading component, we scored those who refused to answer (N = 84; 5%) as if they were unable to write.

The raw scores for the two variables are aggregated and normalised to create the indicator score.

Table 5.4 Scoring writing competency

Reading competency	Total mark	Score
Able to write adequately	0.71-1	3
Able to write poorly	0.26-0.7	2
Cannot write (including due to physical impairment)	0-0.25	1
Refused to answer		1
Irrelevant photo / too blurry to read		Midpoint (2)

Indicator 5.2: Functional numeracy

The functional numeracy indicator comprises two variables, which ask a respondent to complete an addition/subtraction problem, and a multiplication/division problem. Each variable is scored on the basis of whether the respondent arrives at the correct answer for each question. The scoring scheme for the addition/subtraction question and the multiplication/ division question are presented in Table 5.5. The raw scores for the two variables are aggregated and normalised to create the indicator score for functional numeracy.

Table 5.5 Scoring scheme for addition/subtraction competency and multiplication/division competency

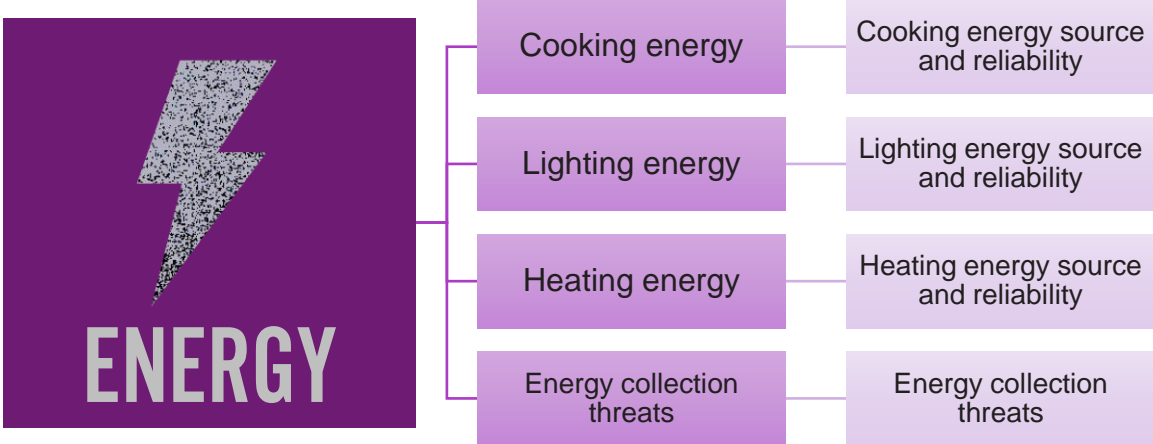
Answered problem correctly	Score
Yes	2
No	1
Refused to answer	Midpoint (1.5)

The two indicator scores are then aggregated and normalised to create the theme score for functional literacy and numeracy. The two theme scores are aggregated and normalised to create the dimension score.



— 06.
Energy

Measuring and scoring deprivation in energy



There are three scoring principles that are common to the first three themes in the energy dimension. First, energy sources for cooking, lighting and heating are categorised as ‘clean’ or ‘unclean’ following the categorisations of the World Health Organisation (WHO 2016). Reliability refers to how often individuals have enough energy/fuel to meet their needs for cooking, lighting or heating.

Second, to ensure that clean energy is consistently scored as better than unclean energy sources (once the variables are aggregated, holding reliability constant), clean energy is given a score of 3, while unclean energy is scored at 1.

Third, those respondents who do not have fuel even if they need it (for cooking, lighting or heating) are considered most deprived and receive the lowest possible score. This group does not receive a score for reliability of that energy source, so their score for this first variable is their total score for that indicator.

Theme 6.1: Cooking energy

Indicator 6.1.1: Cooking energy source and reliability

The cooking energy source and reliability indicator is an aggregation of two variables, the source of cooking energy, and its reliability, the scoring of which is described in Table 6.1. For those who do not cook food in their own household, there is an assumption that these respondents are sourcing food from outside the household and should therefore receive the highest score for the indicator (they do not receive a score for the reliability variable).

Table 6.1 Scoring scheme for cooking energy source and reliability

Cooking energy source	Category	Score
Electricity	Clean	4
Natural gas/LPG	Clean	4
Biogas	Clean	4
Diesel/gasoline	Unclean	1
Alcohol/ethanol	Unclean	1
Kerosene/paraffin	Unclean	1
Coal/lignite	Unclean	1
Processed biomass (pellets) or woodchips	Unclean	1
Charcoal	Unclean	1
Wood	Unclean	1
Straw/shrubs/grass/crop residue	Unclean	1
Animal dung	Unclean	1
Garbage/plastic	Unclean	1
Sawdust	Unclean	1
None	-	1

The second variable assesses the reliability of cooking energy supplies, determining how much of the time there is enough to meet needs (Table 6.2). Those who are not responsible for cooking in their household and therefore do not know are given the highest score because energy reliability does not directly affect them. The two variables are then summed (Table 6.3) to create the indicator score, which is then normalised. The theme score is the normalised indicator score, as there is only one indicator in the theme.

Table 6.2 Scoring scheme for cooking energy reliability

Cooking energy reliability	Score
I am not responsible for cooking, so I do not know	4
Enough to meet needs all of the time	4
Enough to meet needs most of the time	3
Enough to meet needs some of the time	2
Never enough to meet needs	1

Table 6.3 Scoring scheme for cooking energy source and reliability indicator

Source	Reliability of supply	Aggregation	Score
We do not cook our own food here	-		8
Clean energy	Not responsible for cooking	4+4	8
	Always	4+4	8
	Most of the time	4+3	7
	Some of the time	4+2	6
	Never	4+1	5
Unclean energy	Not responsible for cooking	1+4	5
	Always	1+4	5
	Most of the time	1+3	4
	Some of the time	1+2	3
	Never	1+1	2
No energy source (even if needed)	-	1	1
Refused to answer			2.5
	Refused to answer		2.5

Theme 6.2: Lighting energy

Indicator 6.2.1: Lighting energy source and reliability

The lighting energy theme has one indicator, constructed from two variables – lighting energy source and the reliability of that source. The source is scored as demonstrated in Table 6.4 and the reliability of energy and is scored as shown in Table 6.5. The same scoring and aggregation approach is taken for this lighting energy source and reliability as for cooking energy source and reliability indicator (Table 6.6).

The raw score is normalised to achieve the indicator score. As there is only one indicator, the indicator score is also the theme score.

Table 6.4 Scoring scheme for lighting energy source

Lighting energy source	Category	Score
Electricity	Clean	4
Natural gas/LPG	Clean	4
Biogas	Clean	4
Solar	Clean	4
Diesel/gasoline	Unclean	1

Alcohol/ethanol	Unclean	1
Kerosene/paraffin	Unclean	1
Candles	Unclean	1
Torches	Unclean	1
Wood	Unclean	1
None	-	1

Table 6.5 Scoring scheme for lighting energy reliability

Cooking energy reliability	Score
Enough to meet needs all of the time	4
Enough to meet needs most of the time	3
Enough to meet needs some of the time	2
Never enough to meet needs	1

Table 6.6 Scoring scheme for lighting energy source and reliability indicator

Source	Reliability of supply	Aggregation	Score
Clean energy	Always	4+4	8
	Most of the time	4+3	7
	Some of the time	4+2	6
	Never	4+1	5
Unclean energy	Always	1+4	5
	Most of the time	1+3	4
	Some of the time	1+2	3
	Never	1+1	2
No energy source (even if needed)	-	1	1
Refused to answer			2.5
	Refused to answer		2.5

Theme 6.3: Heating energy

Indicator 6.3.1: Heating energy source and reliability

The theme of heating energy is made up of one indicator, which is an aggregation of two variables – the main source of heating energy and the energy supply reliability. The first variable is scored as described in Table 8.7 and the second variable determines heating energy reliability and is scored as shown in Table 8.8. The scores for the two variables are then aggregated as shown in Table 6.9.

The raw score is normalised to create the indicator score. As there is only one indicator, this is also the theme score.

Table 6.7 Scoring scheme for heating energy source

Heating energy source	Category	Score
Electricity	Clean	4
Natural gas/LPG	Clean	4
Biogas	Clean	4
Diesel/gasoline	Unclean	1
Alcohol/ethanol	Unclean	1
Kerosene/paraffin	Unclean	1
Coal/lignite	Unclean	1
Processed biomass (pellets) or woodchips	Unclean	1
Charcoal	Unclean	1
Wood	Unclean	1
Straw/shrubs/grass/crop residue	Unclean	1
Animal dung	Unclean	1
Garbage/plastic	Unclean	1
Sawdust	Unclean	1
None	-	1

Table 6.8 Scoring scheme for heating energy reliability

Heating energy reliability	Score
Enough to meet needs all of the time	4
Enough to meet needs most of the time	3
Enough to meet needs some of the time	2
Never enough to meet needs	1

Table 6.9 Scoring for heating energy source and reliability

Source	Reliability of supply	Aggregation	Score
We do not need heating here	-		8
Clean energy	Always	4+4	8
	Most of the time	4+3	7
	Some of the time	4+2	6
	Never	4+1	5
Unclean energy	Always	1+4	5
	Most of the time	1+3	4
	Some of the time	1+2	3
	Never	1+1	2
No energy source (even if needed)	-	1	1
Refused to answer			2.5
	Refused to answer		2.5

Theme 6.4: Energy collection threats

Indicator 6.4.1: Energy collection threats

This indicator combines two variables – the first assessing whether the respondent is responsible for collecting energy/fuel supplies from outside the household and if they are, whether they experience any threats or hazards while doing so. The scoring for this indicator is described in Table 6.10.

Table 6.10 Scoring scheme for energy collection threats indicator

Responsible for collection	Experienced hazards/threats	Score
No	-	3
Yes	No	2
	Yes	1
Refused to answer		Midpoint (2)

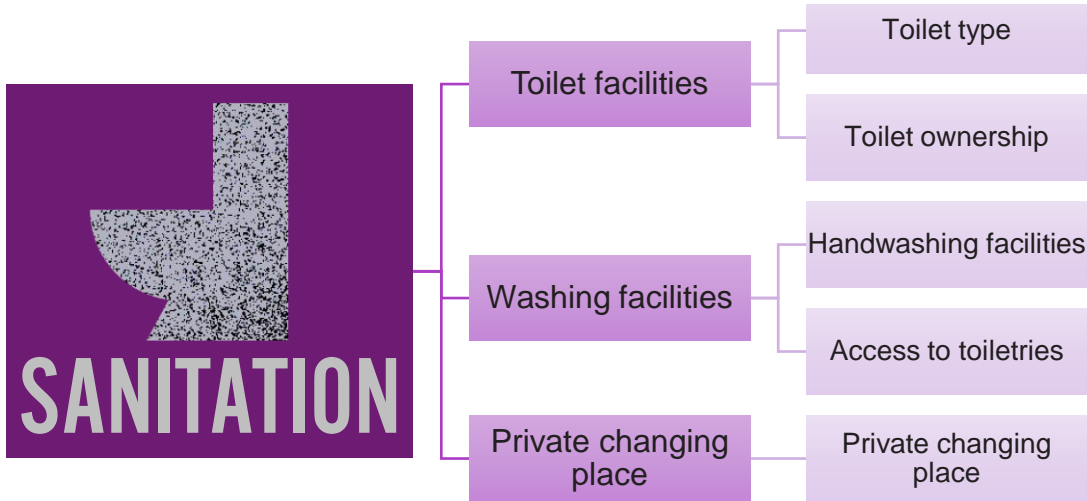
The raw score is normalised to create the indicator score. As there is only one indicator, this is also the theme score.

The dimension score is constructed by aggregating the four theme scores and normalising.



— 07.
Sanitation

Measuring and scoring deprivation in sanitation



Theme 7.1: Type and ownership of toilet facilities

Indicator 7.1.1: Type of toilet facility

Toilet facilities are categorised as either improved or unimproved. Improved facilities are those for which excreta is safely disposed of. Other toilet facilities for which excreta is not disposed of in a safe way are categorised as ‘unimproved’, as described in WHO and UNICEF (2010). Using this categorisation as the base, no unimproved facility receives a higher score than any improved facility, as demonstrated in Table 7.1. The raw score is normalised to create the indicator score.

Table 7.1 Scoring scheme for toilet facility

Facility	WHO/UNICEF category	Enough water for flushing	Score
Flush/pour flush to piped sewer system	Improved	Yes	5
Flush/pour flush to septic tank	Improved	Yes	5
Flush/pour flush to pit latrine	Improved	Yes	5
Flush/pour flush to piped sewer system	Improved	No	4
Flush/pour flush to septic tank	Improved	No	4
Flush/pour flush to pit latrine	Improved	No	4
Ventilated improved pit latrine	Improved		4

Pit latrine with a slab	Improved		4
Composting toilet	Improved		4
Flush/pour flush to open drain	Unimproved	Yes	3
Flush/pour flush to unknown place	Unimproved	Yes	3
Flush/pour flush to open drain	Unimproved	No	2
Flush/pour flush to unknown place	Unimproved	No	2
Pit latrine without a slab/open pit	Unimproved		2
Bucket toilet	Unimproved		2
Hanging toilet/latrine	Unimproved		2
No facility/use of bush or field			1
Refused to answer			Midpoint (3)
		Refused to answer	0.5

Indicator 7.2: Toilet ownership

This indicator is scored using two variables that determine whether a toilet facility is private, shared or public, as demonstrated in Table 7.2. The raw score is normalised to create the indicator score.

The type and ownership of toilet facilities theme score is calculated by aggregating the two indicator scores.

Table 7.2 Scoring scheme for toilet ownership

Have a toilet	Sharing status	Permission	Score
No			1
Yes	No (private)		4
	Yes	Yes (shared)	3
		No (public)	2

Theme 7.2: Washing facilities

Indicator 7.2.1: Handwashing facilities

This indicator is based on three variables related to having a handwashing facility, whether respondents have sufficient water to wash hands and the use of soap or soap substitutes. The scoring is based on the WHO/UNICEF handwashing ladder (2010), which identifies the presence of a handwashing facility with soap and water on premises as a priority indicator for global monitoring of hygiene (which is also measured in SDG indicator 6.2.1).

The scores are determined by ordering all combinations of the three variables into one indicator. Households that have a handwashing facility with soap and water available on premises meet the criteria for a 'basic' hygiene facility. Households that have a place to wash their hands, but lack water or soap will be classified as having a 'limited' facility. The use of ash, sand or other materials as handwashing agents are considered to be less effective than soap and are

therefore counted as limited handwashing facilities. These households are further distinguished from those that have no facility at all (Table 7.3). The raw score is normalised to create the indicator score.

Table 7.3 Scoring scheme for handwashing facilities

Handwashing facility	Sufficient water	Soap/ soap substitutes	WHO/UNICEF categories	Score
No	---	---	No facility	1
Yes	No / sometimes	-	Limited	2
Yes	Yes	Water only	Limited	3
Yes	Yes	Soap substitutes	Limited	3
Yes	Yes	Soap	Basic	4
Refused to answer	-	-	-	Midpoint (2.5)
	Refused to answer	-	-	2.5
		Refused to answer	-	3.5

Indicator 2: Sufficient toiletries

The second indicator assesses how often individuals have sufficient toiletries such as toothpaste, shampoo and soap to wash themselves (Table 9.4). The raw score is normalised to create the indicator score.

The two indicator scores are aggregated to create the washing facilities theme score, which is then normalised.

Table 7.4 Scoring scheme for sufficient toiletries

Sufficient toiletries	Score
Always	4
Most of the time	3
Some of the time	2
Never	1
Refused to answer	Midpoint (2.5)

Theme 7.3: Private changing place (during menstruation)

Indicator 7.3.1: Private changing place (during menstruation)

The third theme is measured using one indicator created from two variables, and scored as demonstrated in Table 9.5. Men and non-menstruating women are scored as least deprived in this theme.

Table 7.5 Scoring scheme for place to change in privacy during menstruation

Menstruated in last six months	Have a private place to wash and change	Score
No (women) and n/a (men)		2
Yes	Yes	2
	No	1
Refused to answer		Midpoint (2)

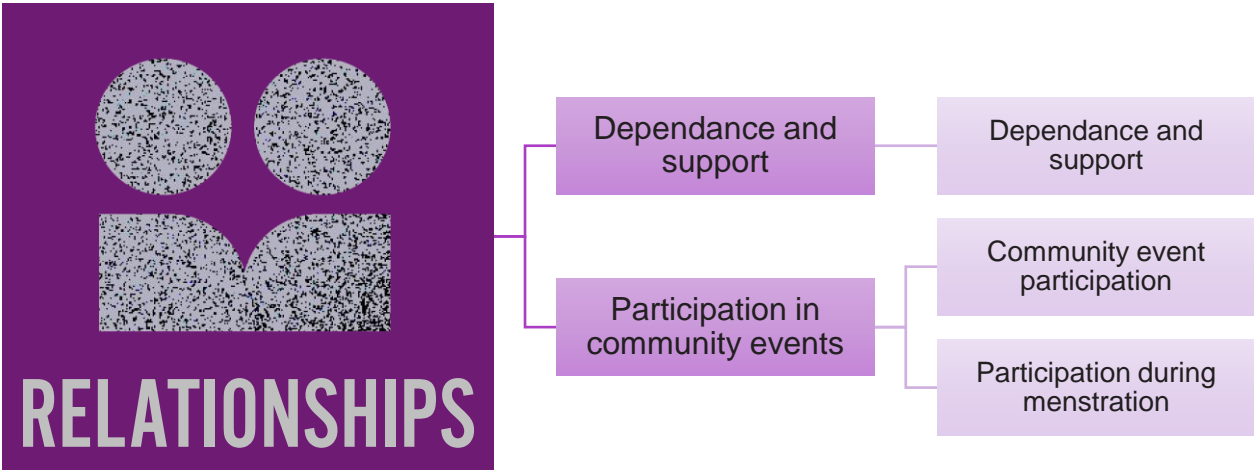
The raw score is normalised to create the indicator score, which is the same as the theme score.

The sanitation dimension score is constructed by aggregating the three theme scores and normalising.



— 08.
Relationships

Measuring and scoring deprivation in relationships



Theme 8.1: Dependence and support

Indicator 8.1.1: Dependence and support

This indicator is constructed by combining and ordering the four variables comprising the indicator, as described in Table 8.1. The raw score is normalised to create the indicator score, which is also the theme score.

Table 8.1 Scoring scheme for dependence and support

Depend on others	Cannot provide for self	Support sufficiency	Reciprocation	Score
No	-	-	Always	20
	-	-	Most of the time	19
	-	-	Some of the time	18
	-	-	Never	17
Yes	Yes	Always	Always	16
			Most of the time	15
			Some of the time	14
			Never	13
	Yes	Yes	Most of the time	Always

Yes	Yes		Most of the time	11
Yes	Yes		Some of the time	10
Yes	Yes		Never	9
Yes	Yes	Some of the time	Always	8
Yes	Yes		Most of the time	7
Yes	Yes		Some of the time	6
Yes	Yes		Never	5
Yes	Yes	Never	Always	4
Yes	Yes		Most of the time	3
Yes	Yes		Some of the time	2
Yes	Yes		Never	1
Refused to answer	Refused to answer	Refused to answer	Refused to answer	Midpoint (10.5)

Theme 8.2: Participation in community events

Indicator 8.2.1: Community event participation

This indicator is created from four variables, as described in Table 8.2. Those who did not want to attend any events received the highest score. Reasons for not attending were classified as being either external or personal. External factors range from being too busy, social stigma or having attendance prevented by family members, while personal factors refer to issues such as affordability and poor health. Non-attendance due to structural external factors is viewed as a higher level of deprivation, and as such those who did not attend due to external factors are scored lowest.

Those who have no community event to participate in are scored at the midpoint – from the information available it is not known whether they would be more deprived by not having an event to participate or potentially less deprived by avoiding obligations and/or contributions that may make the individual materially or temporally more deprived. The indicator score is created by normalising the raw score.

Table 8.2 Scoring scheme for community event participation

Attendance of community events	Contribution made	Reason for non-attendance	Reason for no contribution	Score
Always	Yes			8
	No		None needed/Didn't want	8
	No		Other factors	7
Sometimes	Yes			6

	No		None needed/Didn't want	6
	No		Other factors	5
Rarely	Yes			4
	No		None needed/Didn't want	4
	No		Other factors	3
Never			Personal factors	2
			External factors	1
Did not want to attend	-	-	-	8
No event to attend				Midpoint (4.5)
Refused to answer	Refused to answer	Refused to answer	Refused to answer	Midpoint (4.5)

Indicator 8.2.2: Participation during menstruation

This theme assesses whether respondents missed any social activities, school or work because they did not have adequate access to sanitary products, or because of shame or stigma associated with menstruation (Table 8.3). It is of most relevance for menstruating women, and men and non-menstruating women are allocated the highest possible score in this theme, as are women who always have enough sanitary products. The raw score is normalised to create the indicator score.

Table 8.3 Scoring scheme for participation during menstruation

Sufficient sanitary products	Missing social activities, school or work	Missing activities because of stigma	Score
Not applicable (men and non-menstruating women)			6
Always sufficient	-	Never	6
	-	At least some of the time**	5
Insufficient*	Never	Never	4
		At least some of the time**	3
	At least some of the time**	Never	2
		At least some of the time**	1
Refused to answer	Refused to answer	Refused to answer	5.5

* Insufficient indicates that the respondent reported having enough sanitary products most of the time, some of the time, or never.

** Reported missing activities some of the time or more often i.e. most of the time or always.

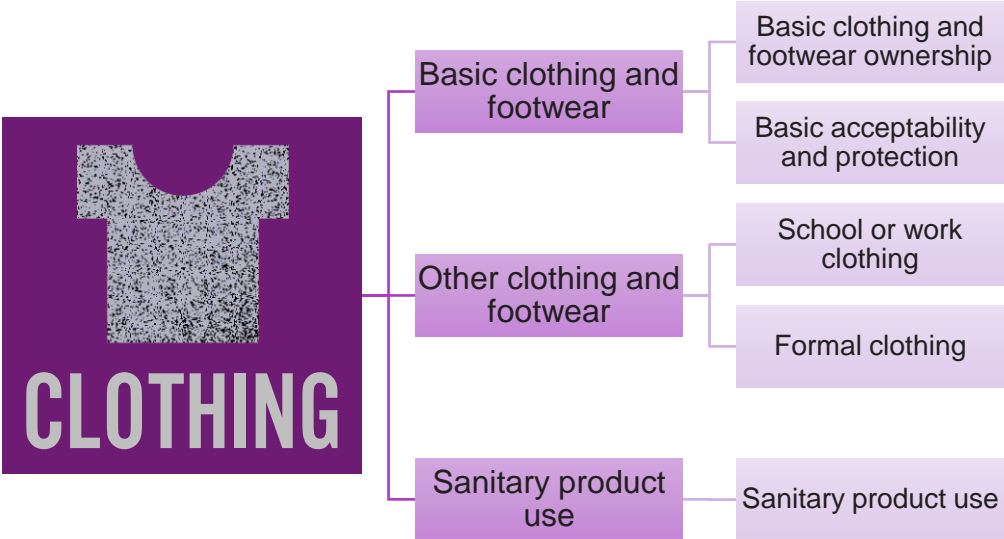
The participation in community events theme score is created by aggregating the two indicator scores and normalising.

The relationships dimension score is created by aggregating the two theme scores, and it is then normalised.



— 09.
Clothing

Measuring and scoring deprivation in clothing



Theme 9.1: Basic clothing and footwear

Indicator 9.1.1: Basic clothing and footwear ownership

The first indicator is constructed from two variables, assessing ownership of at least two sets of clothing and two pairs of footwear. Ownership of at least two sets of clothing is critical to ensuring individuals have at least one set of clothing to wear while the other is being washed, thus an individual who does not own two sets of clothing receives a lower score than those who do not possess two sets of footwear (Table 9.1). The raw score is normalised to create the indicator score.

Table 9.1 Scoring scheme for basic clothing and footwear

Two sets of clothing	Two pairs of footwear	Score
Yes	Yes	4
	No	3
No	Yes	2
	No	1
Refused to answer		Midpoint (2.5)
	Refused to answer	Midpoint (1)

Indicator 9.1.2: Basic acceptability and protection

The second indicator combines variables determining whether this basic clothing was acceptable or appropriate, and the degree of protection it provides with respect to weather in all seasons and hazards. The scoring for this indicator is described in Table 9.2. The indicator score is the normalised raw score.

The two indicator scores are aggregated and normalised to create the basic clothing and footwear theme score.

Table 9.2 Scoring scheme for basic acceptability and protection of clothing and footwear

Clothing and footwear acceptability	Clothing and footwear protection	Score
Always or most of the time	Good or excellent protection	4
	No or poor protection	3
Some of the time or never	Good or excellent protection	2
	No or poor protection	1
	Refused to answer	Midpoint (2.5)

Theme 9.2: Other clothing and footwear

Indicator 9.2.1: School or work clothing

This indicator is created from three variables – school or work clothing sufficiency (whether the respondent has enough of the right types of clothing to wear to school or work each week), whether these clothes are socially acceptable and how well they protect them from the weather and environmental hazards. The scoring for these variables is demonstrated in Table 9.3. The indicator is constructed by normalising the raw score.

Table 9.3 Scoring scheme for school or work clothing

Enough of appropriate school or work clothing	Frequency of school or work clothing acceptability	School or work clothing protection	Score
No need	-	-	6
Yes	Always and most of the time	Good or excellent protection	6
		No or poor protection	5
	Some of the time or never	Good or excellent protection	5
		No or poor protection	4
No	Always and most of the time	Good or excellent protection	3
		None or poor protection	2
	Some of the time or never	Good or excellent protection	2
		None or poor protection	1
Refused to answer	Refused to answer	Refused to answer	Midpoint (3.5)

Indicator 9.2.2: Formal clothing

The second indicator is constructed from two variables, as described in Table 9.4. The raw score is normalised to create the indicator score.

The two indicator scores are aggregated and normalised to achieve the other clothing and footwear theme score.

Table 9.4 Scoring scheme for formal clothing indicator

Enough of appropriate formal clothing and footwear	Frequency of formal clothing acceptability	Score
Yes	Always	7
	Most of the time	6
	Some of the time	5
	Never	4
No	Always	4
	Most of the time	3
	Some of the time	2
	Never	1
Refused to answer		1.5
	Refused to answer	2.5

Theme 9.3: Sanitary product use

Indicator 9.3.1: Sanitary product use

This theme consists of one indicator created from two variables – whether the respondent had a menstrual period in the six months prior to the survey and if so, how often they had access to sufficient sanitary products/material such as sanitary pads, tampons or cloth during their last menstrual period (Table 9.5). Men and non-menstruating women receive the highest score, because an individual is only deprived if they need sanitary products but do not have them.

The indicator score is the normalised value of the raw score, which is also the theme score, as there is only one indicator in the theme. The dimension score is constructed by aggregating the three theme scores and normalising.

Table 9.5 Scoring scheme for sanitary product use

Recent menstruation	Sanitary products/materials use	Score
No (women) and n/a (men)		4
Yes	Always	4
	Most of the time	3
	Some of the time	2
	Never	1
Refused to answer		2.5
	Refused to answer	2.5



— 010.
Safety

From *Freedom from Violence* to *Safety*

While there are many reasons for including violence as a form of deprivation within a measure of multidimensional poverty, doing so is not at all straightforward, for conceptual and ethical/safety reasons. The IDM was the first effort to do so. The combination of assessing gendered violence for both women and men, in the context of a sampling approach that interviews multiple adults in a household, in order to reveal within household differences where they exist, created specific and significant challenges.⁶

Given known limitations of the IDM Freedom from Violence module, which had become progressively evident through iterative processes of review and use, it was decided not to enumerate this dimension, using the module used in Indonesia and South Africa, in the final study of the IDM program in the Solomon Islands. There were three key reasons for this decision:

- (1) The loss of key information about location and perpetrator in order to reduce risks associated with interviewing both women and men and multiple household members reduced the accuracy and policy relevance of the data generated.
- (2) The survey asks the same questions of women and men when the nature and location of the violence they experience is often different, raising issues of meaning and gender-sensitivity.
- (3) The limitations above on the information sought through the survey did not eliminate the risk or challenges in administering the survey or communicating the resulting data. Although the follow up studies in Indonesia and South Africa provided assurance that administration of the survey in itself had not led to experiences of violence or other unintended consequences, the potential residual risk was not worth the benefit obtained, given points 1 and 2.

By design, the IDM Violence module risked conflating experiences of violence that are quantitatively and qualitatively different but may appear similar by way of measurement. Publishing analysis of data that does not account for these important differences may be misleading and could undermine other sources of information surrounding interpersonal violence, jeopardising the momentum of work to measure and end gender-based violence. Our goal in assessing violence was to understand the different experiences that men and women have while not exacerbating existing risks. We could not achieve this outcome without substantial changes to the module.⁷

Going forward, *Equality Insights* is replacing the Freedom from Violence dimension with a new Safety dimension. This was developed as part of broader work to develop a shorter survey variant, informed by a review of performance across use cases to date. Documentation of the shorter variant including method and rationale will be published in the first half of 2021. The *Equality Insights* team is exploring avenues for field testing.

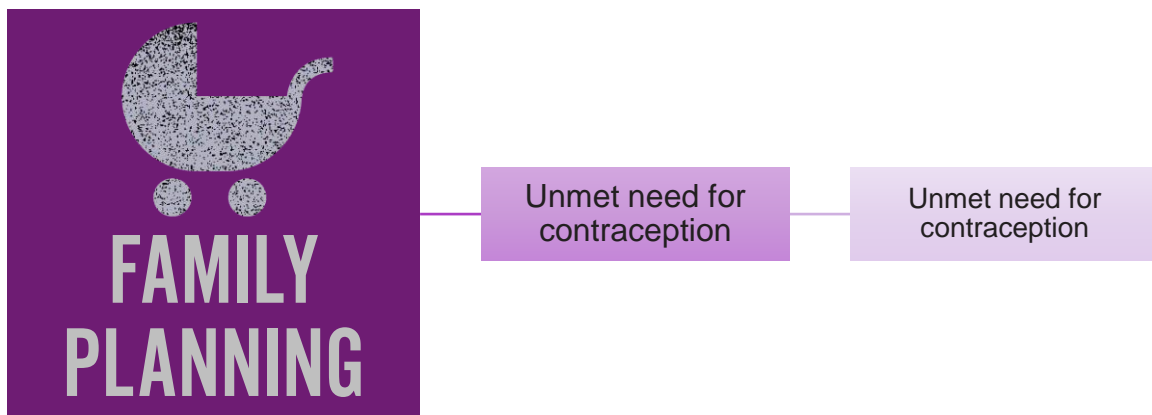
⁶ For further information, see the Learning Note *Including freedom from violence in a measure of multidimensional poverty* (forthcoming, 2021), which will be available here <https://equalityinsights.org/resources/>

⁷ This summary draws on text developed with the Australian National University.



— 11.
Family Planning

Measuring and scoring deprivation in family planning



Theme 11.1: Unmet need for contraception

Indicator 11.1.1: Unmet need for contraception

The scoring combines and orders the responses of five variables, measuring whether an individual or their partner is using any methods of contraception, and whether the main method they use is categorised as traditional or modern, following the categorisation used in the Demographic and Health Surveys (Croft et al. 2018). Modern contraception is scored more highly than traditional methods to reflect its higher efficacy when used correctly.

The scoring approach (Table 12.1) reflects whether the respondents used a method themselves, or relied on their partner to be responsible for using it, in order to reflect the lower level of control over potential direct impacts (of pregnancy) if they rely wholly on their partner to reliably and correctly use a contraceptive method. Furthermore, if the respondent was female and relies on her partner to use a contraceptive method, a further downward calibration of scoring was assigned to recognise that contraceptive failure has greater personal consequences for a woman.

In the cases where neither the respondent nor their partner used any method, the reasons for not using contraception were categorised – where reasons indicate no unmet contraception need the highest score is assigned, while the lowest score is assigned where reasons reveal an unmet contraception need.

Two groups are scored as not having any need for family planning, as at the time of survey they did not need to use contraception – pregnant women and individuals with no partner.

The raw score is normalised to create the indicator score, which is also the theme score. As there is only one theme in this dimension, the theme score is normalised to create the dimension score.

Table 11.1 Scoring scheme for unmet need for contraception

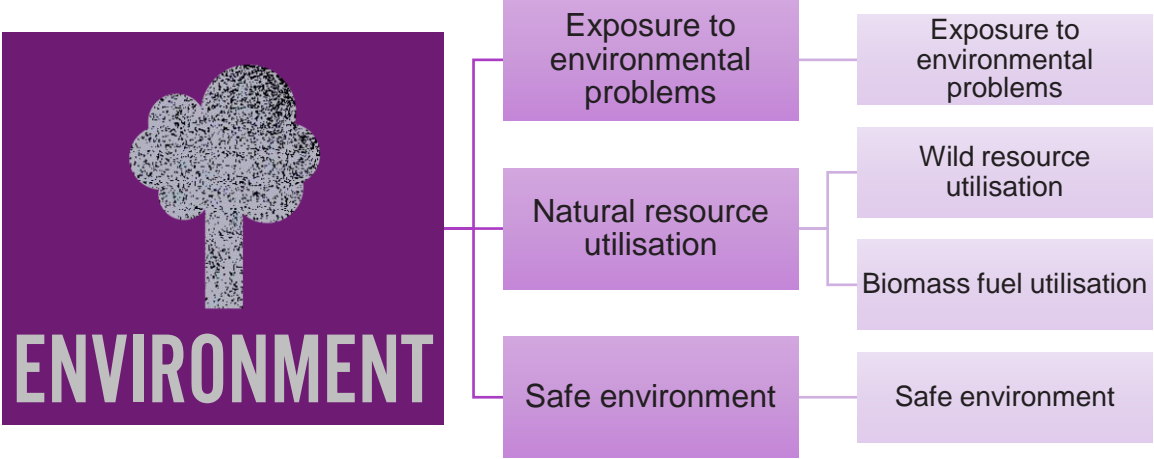
Personally use	Partner use	Method	Sex of primary respondent	Reason not using	Score	
No or female partner is pregnant	-	-	-	-	7	
Yes		Modern			7	
		Traditional			4	
No	Do not know				1	
	Do not have a partner				7	
	Yes		Modern	Male		6
			Traditional	Male		3
			Modern	Female		5
			Traditional	Female		2
	No				Want to be pregnant or have a child	7
					Can't get pregnant	7
					Menopausal	7
					Hysterectomy	7
					Partner/spouse away	7
					Just gave birth	7
					Vasectomy	7
					Female sterilisation/ tubal ligation	7
Do not mind having a child					7	
Do not want to use					7	
No				Other ('wife is pregnant', or 'too young')	7	
				Partner disapproves/refuses	1	
				Family/others disapproves/opposes	1	
				Religion	1	
				Preferred method not available	1	

				Too far to clinic or provider	1
				Costs too much	1
				Side effects or health concerns	1
				Inconvenient to use	1
				Not aware/familiar with contraceptive preference	1
Refused to answer	Refused to answer	-	-		Midpoint (4)
		Refused to answer	-	-	Equivalent to traditional method use



— 12.
Environment

Measuring and scoring deprivation in environment



Theme 12.1: Exposure to environmental problems

Indicator 12.1.1: Exposure to environmental problems

The score for this theme and indicator is based on the total number of environmental problems existing around the home of the respondent. Those with the largest number of problems are allocated the lowest score (Table 12.1). The raw score is normalised to create the indicator score, which is also the theme score.

Table 12.1 Scoring scheme for exposure to environmental problems

Number of problems	Score
None	8
One	7
Any two	6
Any three	5
Any four	4
Any five	3
Any six	2

Any seven	1
All eight	0
Refused to answer (each problem individually)	Midpoint (0.5)

Theme 12.2: Natural resource utilisation

The second theme assesses two types of natural resource utilisation in two indicators: natural resource utilisation, referring to non-cultivated resources; and biomass fuel utilisation.

Indicator 12.2.1: Wild resource utilisation

The first indicator is developed from two variables determining the collection of non-cultivated resources, and whether these resources are enough to meet needs, which is scored as shown in Table 12.2. Those who do not collect non-cultivated resources receive the highest score. The raw score is normalised to create the indicator score.

Table 12.2 Scoring scheme for wild resource utilisation

Non-cultivated resource collection	Sufficiency	Score
No		3
Yes	Yes	2
	No	1
Refused to answer	Refused to answer	Midpoint (2)

Indicator 12.2.2: Biomass fuel utilisation

Biomass fuel sources are processed biomass, charcoal wood, grass/straw or shrubs or sawdust used for cooking, and/or heating. Dung is typically considered as a biomass source, but is excluded from the scoring, as this theme and dimension refer more directly to environmental conditions. Those respondents who are not responsible for collecting biomass fuel for the household (for cooking and/or heating) receive the highest score (Table 12.3).

Table 12.3 Scoring scheme for biomass fuel utilisation

Biomass fuel collection	Sufficiency	Score
No		3
Yes	Yes	2
	No	1
Refused to answer	Refused to answer	Midpoint (2)

Theme 12.3: Safe environment

Indicator 12.3.1: Safe environment

The indicator is constructed from two variables asking about how safe respondents feel while at home alone and while walking alone in the neighbourhood, and each is scored as shown in Table 12.4. The scores are aggregated across the two variables, giving a range for the indicator scores of between 2 and 8.

Table 12.4 Scoring scheme for feeling of safety when at home alone and when walking alone

Response category	Score
Very safe	4
Safe	3
Unsafe	2
Very unsafe	1
Refused to answer	Midpoint (2.5)

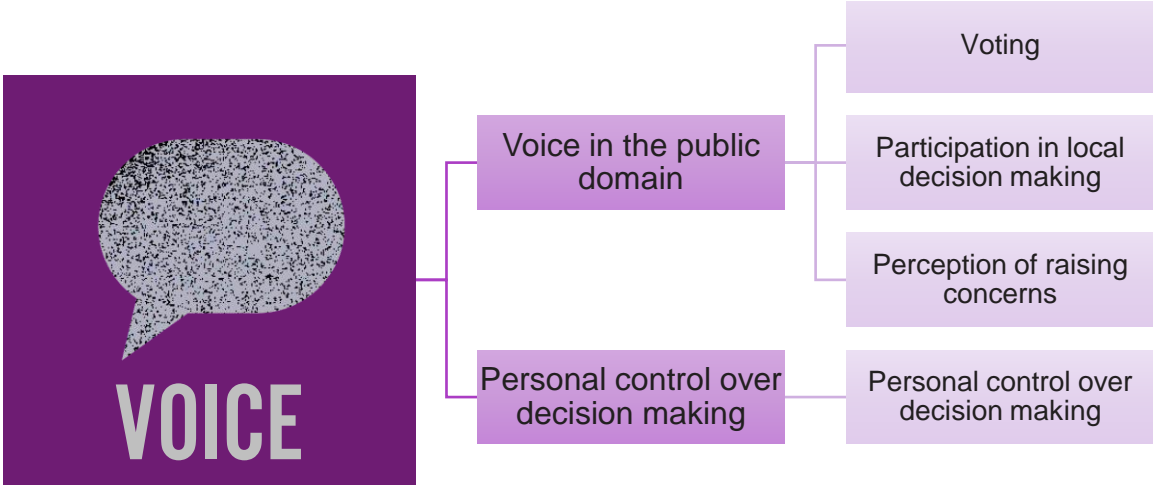
The indicator score is created by aggregating the scores for the two variables and then normalising. As there is only one indicator, this is also the theme score.

The three theme scores are aggregated to create the dimension score, which is then normalised.



— 13.
Voice

Measuring and scoring deprivation in voice



Theme 13.1: Voice in the public domain

Indicator 13.1.1: Voting

This indicator is constructed from three variables. Those who did not vote because of an age constraint (i.e. they were not old enough to be eligible to vote) received a midpoint score to reflect the structural constraint – the law which defines the voting age – that prevents them from exercising their voice and excludes them from decisions that will affect them, despite 16 and 17 year olds not being very different cognitively from 18 year olds.

Those who didn't vote for reasons other than age constraints (i.e. they could vote but did not vote, or did not know whether they had voted) received the lowest score, as presented in Table 14.1. It could be argued that an individual may choose to not vote as a reaction against political parties or the quality of candidates, implying that not voting would be a form of exercising agency and voice (and should therefore receive a higher score). However, it is argued here that if individuals feel their only choice is to react by not voting, they are being deprived of an opportunity to express their voice in public, and are therefore given the lowest score. The raw score is normalised to create the indicator score.

Table 13.1 Scoring scheme for voting indicator

Did vote	Free to choose for whom to vote	Score
Yes	Yes	3
Yes	No	1
Not old enough to vote	-	2
No/don't know	-	1
Refused to answer		Midpoint (2)

Indicator 13.1.2: Participation in local decision making

This indicator is scored using information from three variables related to whether or not the respondent participated in any local decision making. If they did participate, they are asked how influential they felt they had been in that process. If they had not participated, they were asked for the main reason why not. Those for whom there was no process to participate were allocated the second lowest score, in contrast to those who did not participate for any other reason who were allocated the lowest score (Table 13.2). The raw score is normalised to create the indicator score.

Table 13.2 Scoring scheme for participation in local decision-making

Participated in local decision making	Level of influence	Reason for not participating	Score
Yes	A lot		4
	Somewhere in between		3
	A little		2
No		No decision making process to participate in	2
		I was not invited	1
		I was too busy	
		I was not interested	
		I was afraid/uncomfortable	
		I don't trust the leaders	
	It's not appropriate for me to participate		
Refused to answer			Midpoint (2.5)
	Refused to answer		3
		Refused to answer	1.5

Indicator 13.1.3: Perception of concern raising

This indicator is constructed from two variables assessing perceptions of how difficult it is to raise concerns with local leaders, organisations or influential people, and if those concerns are raised, how seriously they are taken. Scoring for the indicator is described in Table 13.3. The raw score is normalised to create the indicator score.

The three indicators are then aggregated and normalised to create the voice in the public domain theme score.

Table 13.3 Scoring scheme for perception of concern raising

Difficulty in raising concerns	Concern taken seriously	Score
Very easy	A lot	7
	In between/don't know	6
	A little	5
Easy	A lot	6
	In between/don't know	5
	A little	4
Difficult	A lot	5
	In between/don't know	4
	A little	3
Very difficult	A lot	4
	In between/don't know	3
	A little	2
Refused to answer		Midpoint (2.5)
	Refused to answer	2

Theme 13.2: Personal control over decision making

Indicator 13.2.1: Personal control over decision making

This indicator is constructed from eight variables. Six of the variables address different aspects of control over personal decision making. The six questions were preceded by a secondary informed consent; respondents who declined to provide this secondary consent are allocated the indicator midpoint score. Residents of single person households were not asked any of these questions and receive the highest score (Table 13.4). The relatively sensitive nature of these questions meant that, if the interview was interrupted, the following questions were skipped, and questions skipped for this reason are allocated a variable midpoint score (thus, they receive the same treatment as respondents who refused to answer any individual question). The raw score is normalised to create the indicator score.

Table 13.4 Scoring scheme for personal control over decision making

Secondary consent	Number of variables the individual is lacking voice	Score
No	Single person households	6
Yes	0	6
	1	5
	2	4
	3	3
	4	2
	5	1
	6	0
Refused to answer		Midpoint (3)
	Refused to answer (each variable)	0.5

Indicator 13.2.2: Decision making within the household

The survey questions used to calculate this indicator score are:

- Who makes the decision about household finances?
- Who makes the decision about making large purchases?
- Who makes the decision about making everyday purchases?
- Who makes the decision about the duration of your work?
- Who makes the decision about the duration of your study?
- Who makes the decision about your social commitments?
- Who makes the decision about upbringing of children?
- Who makes the decision about children's education?

In order to calculate the indicator score we total scores for the responses to these questions based on the values outlined in Table 13.5. This raw score is normalised to create an indicator score.

The two indicators are then aggregated and normalised to create the theme score. The two theme scores are aggregated and normalised to create the voice dimension score.

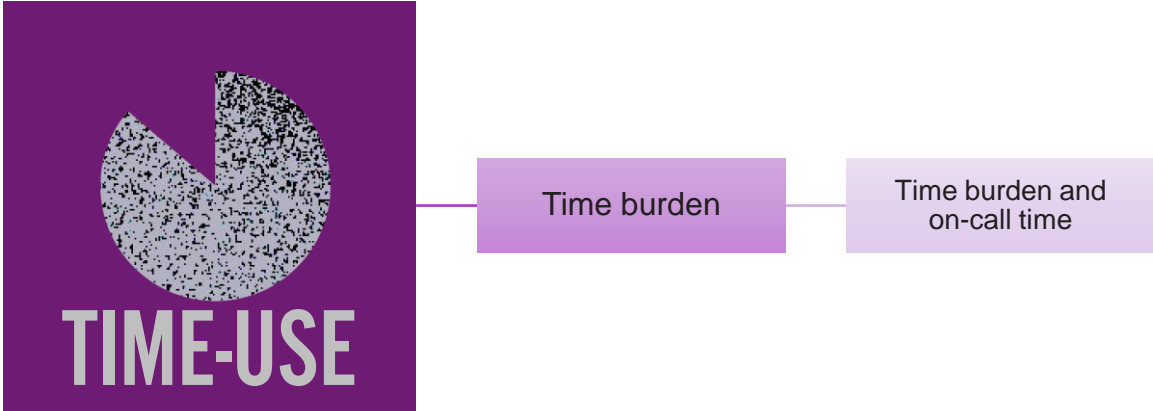
Table 13.5 Scoring scheme for responses to all survey questions used to score the decision making within the household indicator

Own decision	5
Most commonly own decision	4
Coordinated decision	3
Most commonly partner's decision	2
Partner's decision	1
Other household member's decision	1
Don't know	3
Refused to answer	3



— 14.
Time-use

Measuring and scoring deprivation in time use



Theme 14.1: Time burden and on-call time

Indicator 14.1.1: Time burden and on-call time

Time burden includes time spent on work for pay, profit and production, unpaid domestic and care activities, and also for other obligatory time commitments. Obligatory time commitments include time spent on helping other households for free or voluntary work, on cultural, religious or community activities or on educational activities. Time spent on leisure and social activities, rest and sleep and personal care is excluded from this analysis of time burden.

The International Classification of Time Use Statistics (UNSD 2017) was followed in the classification of these activities, and the approach to scoring uses the quartile cut-offs from the survey data to set thresholds for determining four categories of time burden described in Table 14.1. In determining the quartile cut-offs, individuals who refused to answer the amount of time spent on an activity were considered to have a zero minute allocation to that activity.

Table 14.1 Quartile time-burden cut-offs from Solomon Islands data, 2020

Quartile	Time burden (T)
Q1	$T < 7$ hours
Q2	$7 \leq T < 10$ hours
Q3	$10 \leq T < 13$ hours
Q4	13 hours or more

On-call time is defined as time spent undertaking any of the activities described as being part of the time burden calculation above, whilst simultaneously being responsible for the care of a child under the age of 13 or for the care of someone who was sick, elderly or disabled.

Four categories of on-call time are defined; none at all, up to one-third, between one-third and two-thirds and in excess of two-thirds of time spent on-call. Individuals who refused to answer the questions regarding on-call time spent whilst simultaneously undertaking their primary activity are considered to have a zero minute allocation of on-call time for that primary activity. The scoring for time burden and on-call time is described in Table 14.2.

The raw score is normalised to create the indicator score, which is also the theme score. The time-use dimension score is also the theme score, as there is only one theme in this dimension.

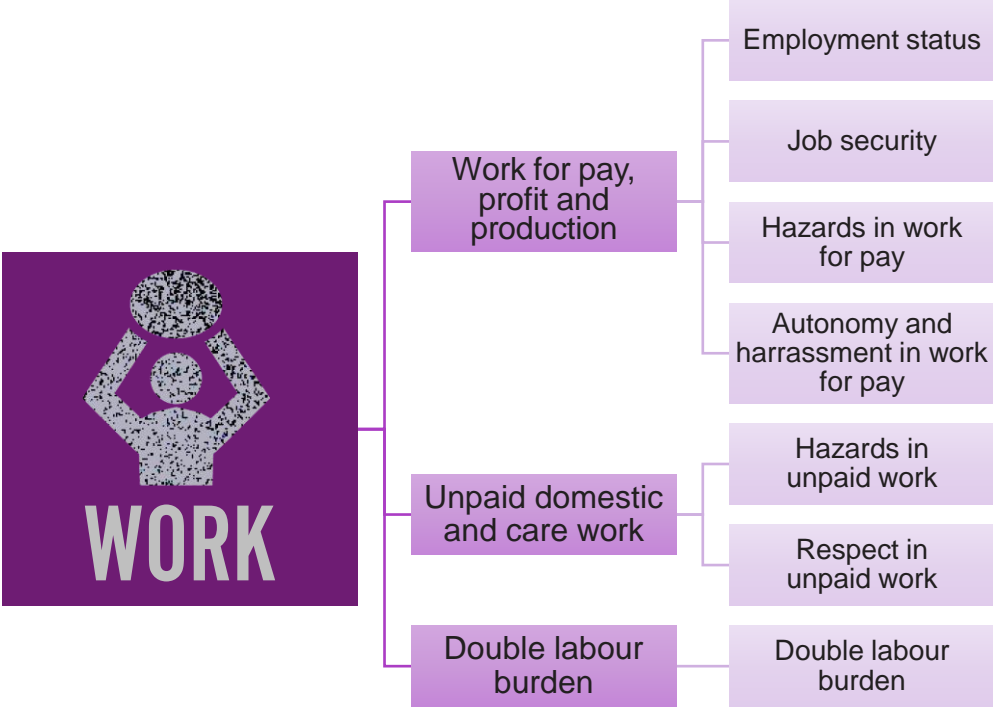
Table 14.2 Scoring scheme for time burden and on-call time

Time burden (T)	On-call time	Score
T < 7 hours	0	13
	1 - 33%	12
	34 - 66%	11
	67 - 100%	10
7 ≤ T < 10 hours	0	10
	1 - 33%	9
	34 - 66%	8
	67 - 100%	7
10 ≤ T < 13 hours	0	7
	1 - 33%	6
	34 - 66%	5
	67 - 100%	4
13 hours or more	0	4
	1 - 33%	3
	34 - 66%	2
	67 - 100%	1



— 15.
Work

Measuring and scoring deprivation in work



Theme 15.1: Work for pay, profit and (own) production

Indicator 15.1.1: Employment status

Employment status determines whether a respondent is classified as employed, unemployed or not in the labour force. This is determined from four variables – whether the respondent has worked in the seven days prior to the survey, in the 30 days prior to the survey, and if not, the reason for not having worked. The scoring for this employment status is presented in Table 15.1. The indicator score is the normalised raw score indicated in the table.

Table 15.1 Scoring scheme for employment status

Working last 7 days	Working last 30 days	Reason for not working	Categorisation of employment status	Score
Yes	-	-	Employed	4
No	Yes	-	Unemployed	3
	No	Temporarily away	Employed	4
		Retired/too old	Not in the labour force	4
		Waiting to start new job	Unemployed	3
		Looking for work	Unemployed	2
		Not season	Unemployed	2
		Gave up looking for work	Not in the labour force	2
		Too busy with domestic/ caring duties	Not in the labour force	2
		Do not need to work	Not in the labour force	4
		Do not want to work	Not in the labour force	2
		Full time education/training	Not in the labour force	3
		Unable to work (all reasons)	Not in the labour force	1
		Refused to answer	Refused to answer	Refused to answer

Indicator 15.1.2: Job security

The job security indicator is comprised of three variables – the number of jobs held, and the number of employers (including self-employment) over the prior 6 months, whether the respondent had to change employment because of an employer’s decision, and a proxy for formal employment. The scoring for the first variable, the number of different jobs held over the last six months, is presented in Table 16.2.

Table 15.2 Scoring scheme for number of jobs held

Number of jobs	Score
One (including self-employment)	3
Two jobs	3
Three or four jobs	2
Five and more	1
Refused to answer	Midpoint (1.5)

The second variable determines how often the respondent has had to change employment because of an employer's decision in the six months prior to the survey. The scoring for this variable (Table 16.3) assumes that the more frequently this happens, the more insecure the employment of the respondent is.

The third variable deals with job-related contributions to social security, or the receipt of benefits from paid annual or sick leave, which are assumed to be a proxy for employment in the formal sector (Table 16.4).

Each of the three normalised variable scores is aggregated to create the indicator score, which is then normalised.

Table 15.3 Scoring scheme for employment change

Frequency of changing employment because of employer's decision	Score
Never	4
Not often	3
Often	2
Very often	1
Refused to answer	Midpoint (2.5)

Table 15.4 Scoring scheme for formality of work

Social security/benefit	Score
Yes	2
No	1
Refused to answer	Midpoint (1.5)

Indicator 15.1.3: Hazardous work for pay, profit and production

The indicator is constructed from three variables assessing whether the workplace of the respondent is hazardous. The three questions ask whether the respondent's workplace is underground, underwater, in a confined space or at a dangerous height; whether the respondent is exposed to dangerous chemicals, dust, pests or diseases, and/or dangerous levels of noise, temperature or vibrations and/or whether they handle or carry heavy loads, or work with dangerous machinery or tools. The scoring for this indicator is shown in Table 15.5. This raw score is then normalised to create the indicator score.

Table 15.5 Scoring scheme for workplace hazards

Variable combinations	Score
None of the three	3
Any one	2
Any two	1
All three	0
Refused to answer	Midpoint (1.5)

Indicator 15.1.4: Respect and autonomy at work for pay, profit and production

This indicator is constructed from four variables, sexual harassment, physical abuse and humiliating work, and whether the respondent is allowed breaks for eating, drinking and going to the toilet, with each being scored equivalently (Table 15.6). The raw score is normalised to create the indicator score.

The theme score for work for pay, profit and production is constructed according to work status classifications. For those classified as employed or unemployed, the four normalised indicator scores are aggregated and normalised to create the theme score. For those classified as not in the labour force, the normalised score for indicator 1 (employment status) only is used as the theme score.

Table 15.6 Scoring scheme for respect and autonomy at work

Variable combinations	Score
No harassment AND no abuse AND not humiliating AND breaks allowed	4
Any one	3
Any two	2
Any three	1
Harassment AND abuse AND humiliating AND no breaks	0
Refused to answer (each variable individually)	Midpoint (0.5)

Theme 15.2: Unpaid and domestic care work

Those respondents who reported not doing any unpaid domestic and care work are given the highest possible score for this theme. For those respondents who reported doing any amount of unpaid domestic and care work, the indicator and theme scores are described below.

Indicator 15.2.1: Hazards in unpaid domestic and care work

The hazards in unpaid work indicator is constructed using three variables – incidents of injury or illness (caused by the unpaid domestic and care work), the impact on their unpaid domestic and care activities and whether the effect has been permanent or temporary, which are scored as a hierarchy (Table 15.7). The indicator score is created by normalising the raw score.

Table 15.7 Scoring scheme for unpaid work hazards

Injury	Time off	Effect	Score
No			3
Yes	No		3
	Yes	No permanent effect	2
		Permanent effect	1
		Refused to answer	Midpoint (1.5)
Refused to answer	Refused to answer		Midpoint (2)

Indicator 15.2.2: Respect in unpaid domestic and care work

The indicator is constructed from two variables, and scoring is based on the number of types of disrespect the respondent faced as shown in Table 15.8. The raw score is then normalised to create the indicator score.

Table 15.8 Scoring scheme for respect in unpaid work

Combinations	Existing score
No humiliating treatment AND is valued	2
Humiliating treatment OR not valued	1
Humiliating treatment AND not valued	0
Refused to answer (variable)	Midpoint (0.5)

The theme score is calculated for those respondents who undertook unpaid domestic and care work by aggregating the normalised indicator scores. Respondents who did not do any unpaid and domestic care work receive the highest possible score for this theme.

Theme 3: Double labour burden

Indicator 1: Double labour burden

This theme measures the double burden of work for pay, profit and production and unpaid domestic and care work. The indicator is created from the combination of four variables, the average hours per day and days per week doing work for pay, profit and production, and the same for unpaid domestic and care work.

For work for pay, profit and production, the average number of hours spent per week is split in to three categories – all of which are determined using hours-based measures. The three categories combine the average number of hours worked in a week for both paid and unpaid activities. The theme is based on conceptualisations of underemployment (Bell and Blanchflower 2013), decent work and over employment. The categorisation is hours- based, and does not relate to skills utilisation or income for either paid or unpaid activities.

The cut off between being least deprived, and the next category – having a ‘decent’ labour burden – has been set at 35 hours per week. The second cut off has been guided by the International Labour Organisation standards on working time (ILO 1930, ILO 1935, Lee et al. 2007), and a (relatively arbitrary) determination of an acceptable unpaid domestic and care work burden of an average of less than three hours per day, or 21 hours per week. The scoring for the combination of hours spent by respondents is shown in Table 15.9.

Table 15.9 Scoring scheme for double burden of work (all hours considered in combination)

Total hours (combination)	Score
0-35	3
36-55	2
56+	1
NA (for cases where at least one of the constituent variables had missing data)	2

People who answered they had had no job in the past six months were assumed to be doing 0 hours per week of paid work. People who answered they did not do unpaid work were assumed to be doing 0 hours a week of unpaid work. The raw score is then normalised to create the indicator score, which is also the theme score.

The three theme scores are aggregated to create the work dimension score, which is then normalised.

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