

HOUSEHOLD LEVEL MEASUREMENT MASKS GENDER INEQUALITY ACROSS THREE DIMENSIONS OF POVERTY

CHERYL LYNN RUSSELL, CAROL MCINERNEY & DR KYLIE FISK
INTERNATIONAL WOMEN'S DEVELOPMENT AGENCY

2019 UNECE Expert Meeting on Measuring Poverty and Inequality: SDGs 1 and 10
GENEVA, SWITZERLAND
5 DEC, 2019

INTRODUCTION

- Current understanding of poverty and inequality largely derived from household measurement, but used to make inferences about individuals.
- Policy and programming targeted toward poor households may not be reaching the poorest people.
- Individualising poverty measurement from household aggregates risk conflating household characteristics with individual characteristics.
 - *E.g. finding that more children live in poor households does not necessarily mean children are poorer than adults*



INTRODUCTION – LOOKING INSIDE THE HOUSEHOLD

Where individual level data are available, additional insights are clear.



INTRODUCTION – LOOKING INSIDE THE HOUSEHOLD

World Bank Poverty and Shared Prosperity Report 2018:

- Gender differences in nutrition and education indicators are amplified

De Vreyer & Lambert (2018):

- Household consumption is underestimated by 15 – 20% when using household-level consumption surveys (Senegal)
- Inequality estimates (using the Gini index) are also lower
- > 9% of non-poor households contain at least one poor cell

Global Multidimensional Poverty Index 2019:

- Stark intrahousehold disparities in deprivation in nutrition among children in South Asia

METHODS – DATA COLLECTION

- Targeted World Bank-identified poverty **hotspots** and used a stratified, multi-stage, cluster sampling design
- Not nationally representative
- Individual Deprivation Measure (IDM)
 - Individual survey answered by all adults (18+) in household
 - Household survey answered by one primary respondent
- Implemented in partnership with the Fiji Bureau of Statistics
- 2966 (50% male, 50% female) respondents from 1125 households

METHODS – A COMPARISON OF MEASURES

Deprivation of all respondents of IDM Fiji study described using 3 methods:

- Household level binary measure
- Household level scalar measure
- Individual scalar measure

METHODS – A COMPARISON OF MEASURES

Household level binary measure of poverty

Dimension	Indicator	Deprived if...	Weight
Health	Nutrition	Any adult in the household reported that, in the four weeks preceding the survey, there was no food for them to eat because of a lack of resources to get food or they went to sleep at night hungry because there was not enough food.	1/6
	Child mortality	Any child member of the household who was alive at birth died before his/her fifth birthday.	1/6
Education	Years of schooling	No adult household member has completed six years of schooling.	1/3
Standard of living	Electricity	The household has no electricity.	1/18
	Sanitation	The household does not have access to improved sanitation (according to Sustainable Development Goal guidelines), or it is improved but shared with other households.	1/18
	Drinking water	The household does not have access to an improved source of drinking water (according to Sustainable Development Goal guidelines), or safe drinking water is at least a 30-minute walk from home, roundtrip.	1/18
	Housing	At least one of the household's three dwelling elements—floor, walls or roof—is made of inadequate materials—that is, the floor is made of natural materials and/or the walls and/or the roof are made of natural or rudimentary materials.	1/18
	Cooking fuel	The household cooks with dung, wood, charcoal or crop residue.	1/18
	Assets	The household does not own a car or truck and does not own more than one of the following assets: radio, television, telephone, computer, tractor, bicycle, motorbike or refrigerator	1/18

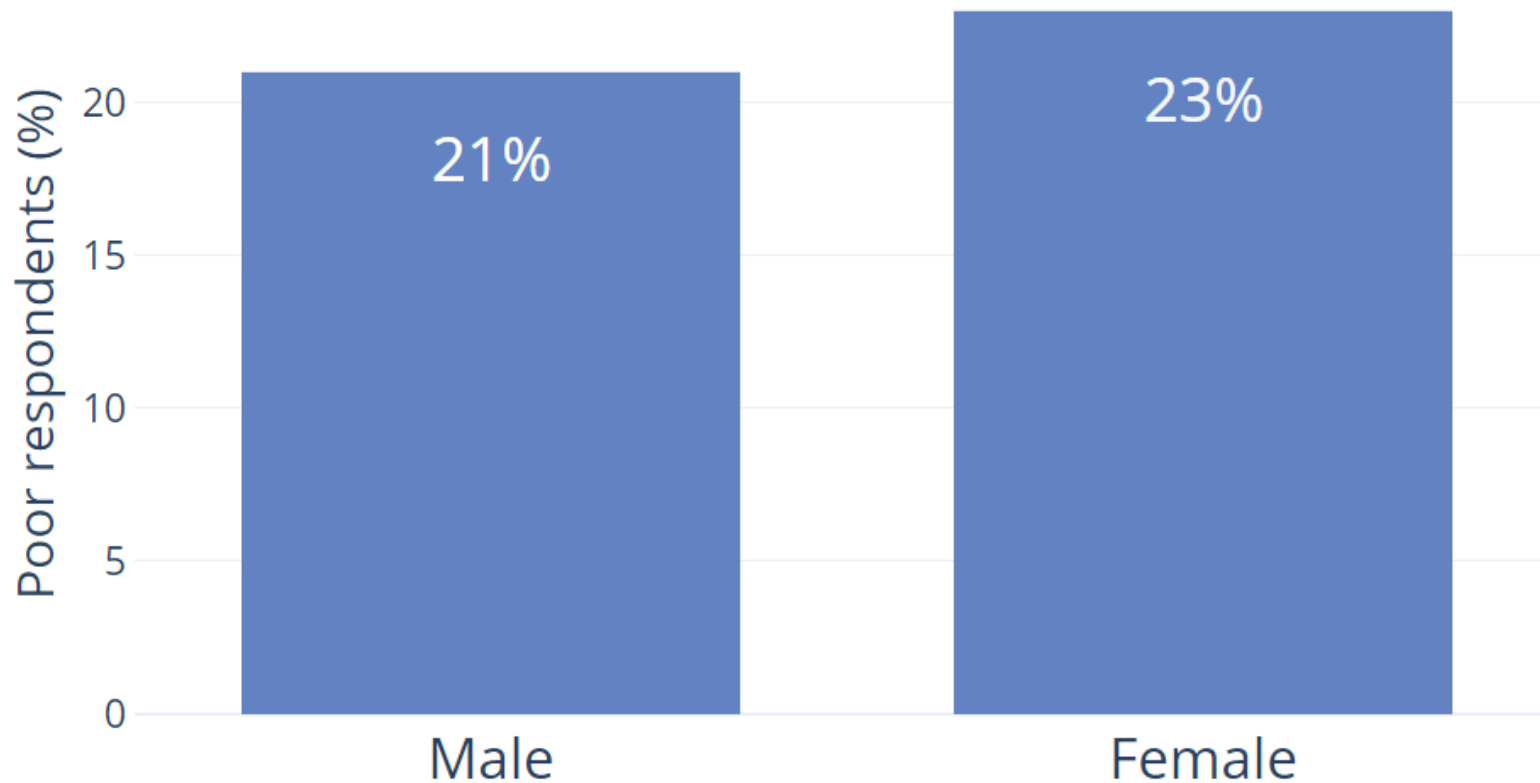
Everyone in household

NOT POOR
sum < 1/3

POOR
sum ≥ 1/3

METHODS – A COMPARISON OF MEASURES

Household level binary measure of poverty



No significant difference between the proportion of poor men and women ($p = 0.33$).

METHODS – BEYOND BINARY

Household level scalar measure of poverty

Dimension	Indicator	Deprived if...	Weight
Health	Nutrition	Any adult in the household reported that, in the four weeks preceding the survey, there was no food for them to eat because of a lack of resources to get food or they went to sleep at night hungry because there was not enough food.	1/6
	Child mortality	Any child member of the household who was alive at birth died before his/her fifth birthday.	1/6
Education	Years of schooling	No adult household member has completed six years of schooling.	1/3
Standard of living	Electricity	The household has access to electricity.	1/18
	Sanitation	The household does not have access to improved sanitation (according to Sustainable Development Goal guidelines), or it is improved but shared with other households.	1/18
	Drinking water	The household does not have access to an improved source of drinking water (according to Sustainable Development Goal guidelines), or safe drinking water is at least a 30-minute walk from home, roundtrip.	1/18
	Housing	At least one of the household's three dwelling elements—floor, walls or roof—is made of inadequate materials—that is, the floor is made of natural materials and/or the walls and/or the roof are made of natural or rudimentary materials.	1/18
	Cooking fuel	The household cooks with dung, wood, charcoal or crop residue.	1/18
Assets			
		The household does not own a car or truck and does not own more than one of the following assets: radio, television, telephone, computer, tractor, bicycle, motorbike or refrigerator	1/18

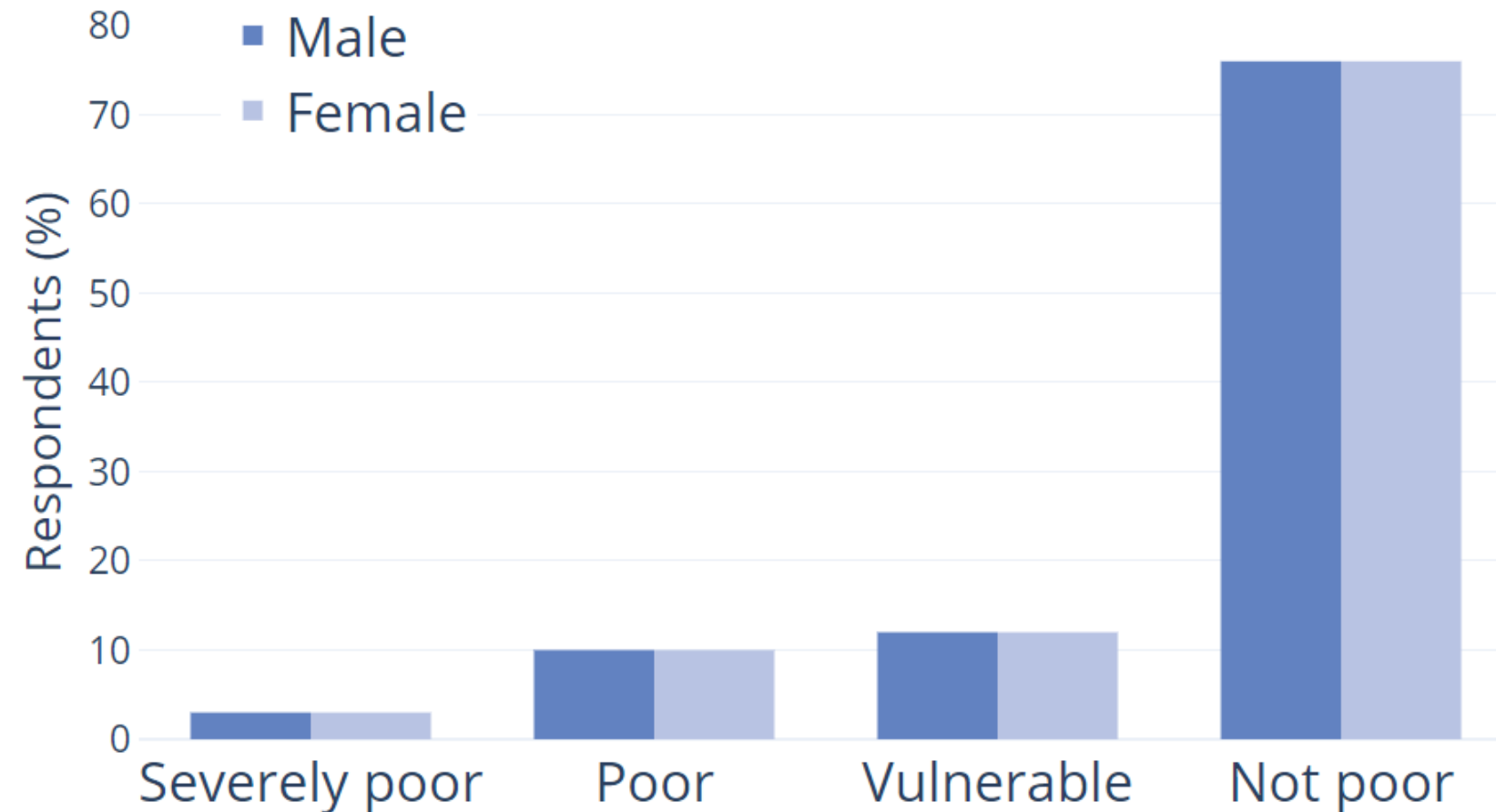
Same indicators,
more thresholds

Everyone in household

NOT POOR sum < 1/5
VULNERABLE 1/5 ≤ sum < 1/3
POOR 1/3 ≤ sum < 1/2
SEVERELY POOR sum ≥ 1/2

RESULTS – BEYOND BINARY

Household level scalar measure of poverty



- No significant difference between the proportions of poor men and women ($p = 0.44$).
- Increasing sensitivity by describing poverty on a scale does not reveal gender differences.

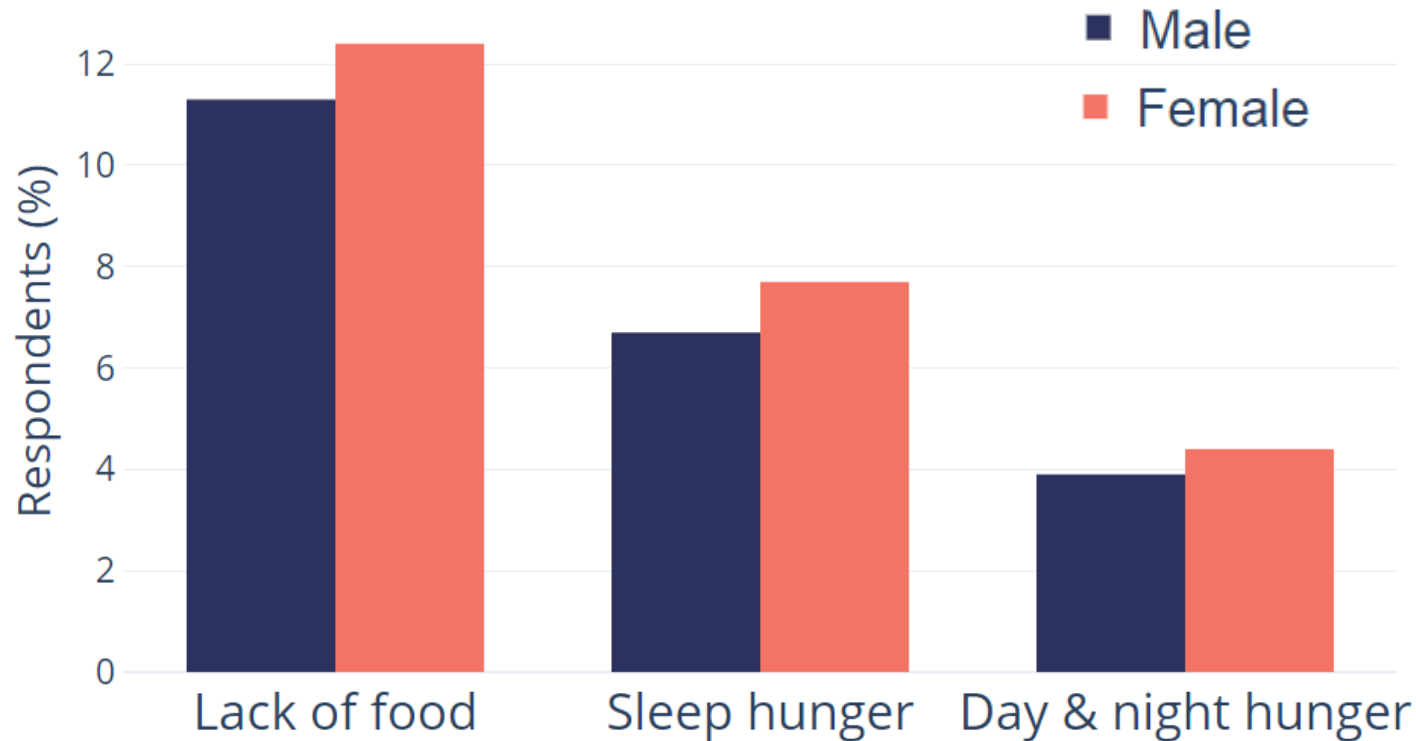
METHODS – INDIVIDUAL DEPRIVATION

Indicators of deprivation for individual level measurement

Dimension	Indicator	Deprived if...	Weight
Health	Nutrition	Any adult in the household reported that, in the four weeks preceding the survey, there was no food for them to eat because of a lack of resources to get food or they went to sleep at night hungry because there was not enough food.	1/6
	Child mortality	Any child member of the household who was alive at birth died before his/her fifth birthday.	1/6
Education	Years of schooling	No adult household member has completed six years of schooling.	1/3
Standard of living	Electricity	The household has no electricity.	1/18
	Sanitation	The household does not have access to improved sanitation (according to Sustainable Development Goal guidelines), or it is improved but shared with other households.	1/18
	Drinking water	The household does not have access to an improved source of drinking water (according to Sustainable Development Goal guidelines), or safe drinking water is at least a 30-minute walk from home, roundtrip.	1/18
	Housing	At least one of the household's three dwelling elements—floor, walls or roof—is made of inadequate materials—that is, the floor is made of natural materials and/or the walls and/or the roof are made of natural or rudimentary materials.	1/18
	Cooking fuel	The household cooks with dung, wood, charcoal or crop residue.	1/18
	Assets	The household does not own a car or truck and does not own more than one of the following assets: radio, television, telephone, computer, tractor, bicycle, motorbike or refrigerator	1/18

RESULTS – INDIVIDUAL DEPRIVATION

Nutrition indicator measured at individual level



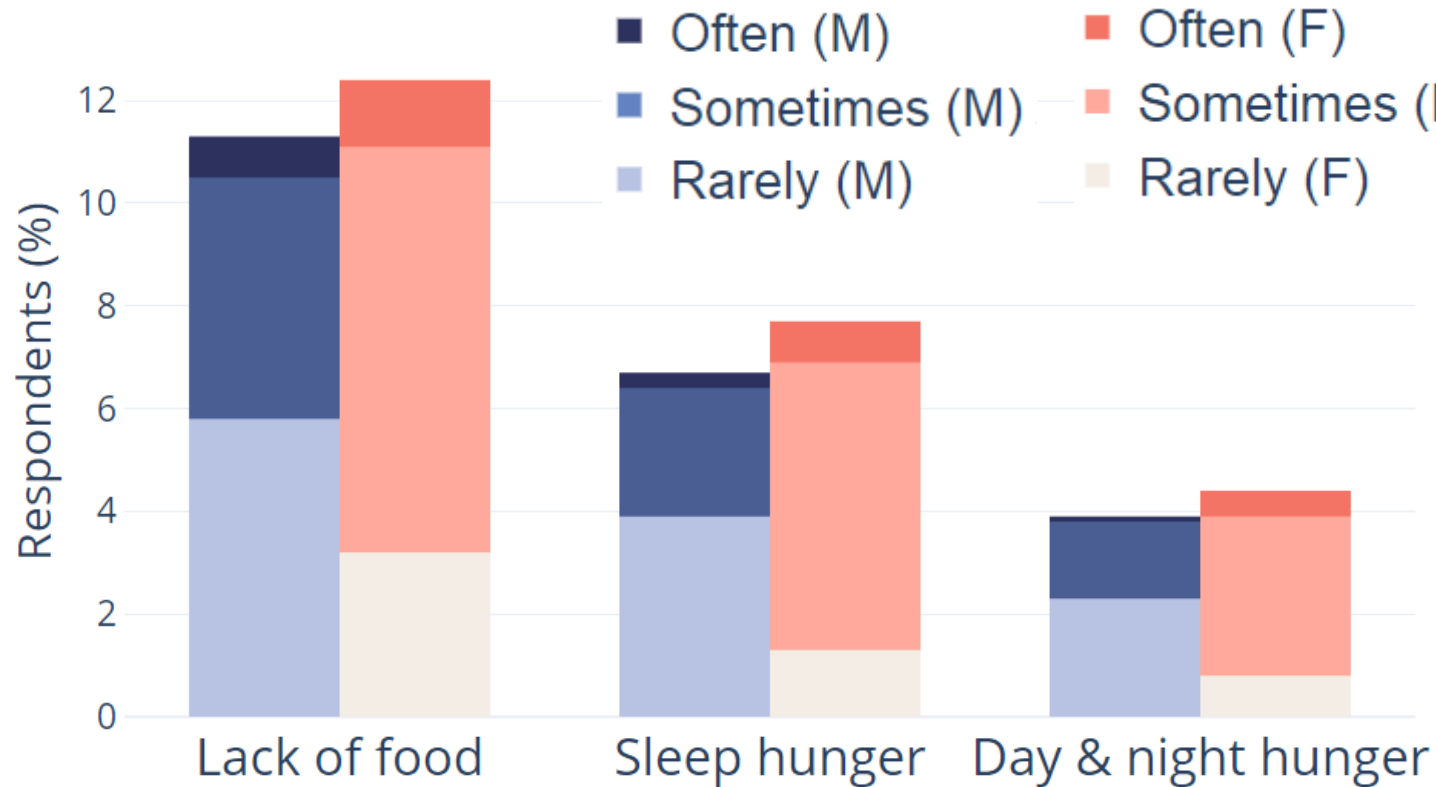
- Slightly more female respondents experienced hunger due to a lack of resources than male.
- 12% men and 13% of women were deprived in the nutrition indicator.
- There is no evidence to suggest a significant difference in nutritional deprivation between men and women ($p = 0.36$)

METHODS – INDIVIDUAL DEPRIVATION MEASURE

Dimension	Theme	Indicator	Scenario		Score	Weight
Food	Food security	Any hunger	In the past four weeks, the individual experienced having no food to eat because of a lack of resources. This happened...	Frequently	0	1/3
				Sometimes	1	
				Rarely	2	
				Never	3	
		Sleep hunger	In the past four weeks, the individual went to sleep hungry because there was not enough food. This happened...	Frequently	0	1/3
				Sometimes	1	
				Rarely	2	
				Never	3	
		Full day hunger	In the past four weeks, the individual went a whole day and night without eating because there was not enough food. This happened...			1/3
				Frequently	0	
				Sometimes	1	
				Rarely	2	
				Never	3	

RESULTS – INDIVIDUAL DEPRIVATION

IDM Food dimension indicators



Similar proportions of male and female respondents experienced hunger *but* women experienced this more frequently than men.

Individual scalar measure of deprivation

Measure		Men N = 1481	Women N = 1485	X ² test p value	OR (95% CI)
Nutrition indicator (household level)	Deprived	339 (22.9)	347 (23.4)	0.79	
Nutrition indicator (individual level)	Deprived	177 (12.0)	195 (13.1)	0.36	
IDM food dimension	Most deprived	3 (0.2)	12 (0.8)	<0.01	0.56 (0.37, 0.84)
	Deprived	22 (1.5)	45 (3.0)		
	Somewhat deprived	50 (3.4)	45 (3.0)		
	Least deprived	1406 (94.9)	1383 (93.1)		

To detect existing gender inequality we need to collect data differently – within the household and using indicators appropriate to individual level data

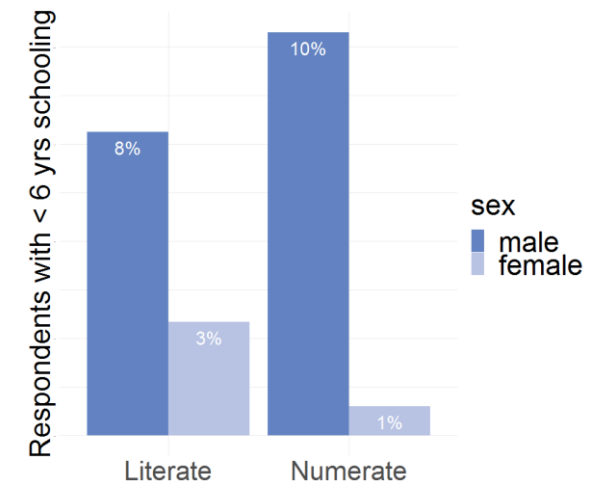
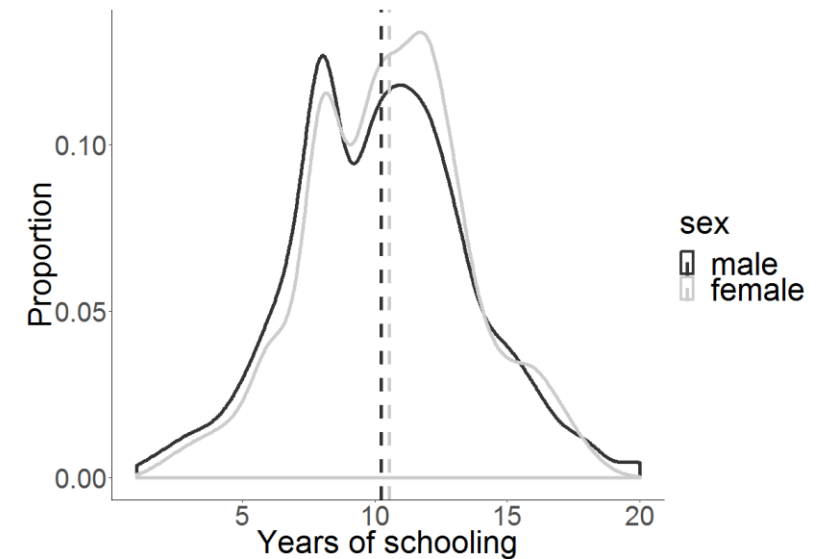
- When using individual data *and* a scalar measure we find that women are significantly more deprived than men in the food dimension.
- This inequality was not detected when using household level or individual level binary data

RESULTS – EDUCATION

Individual scalar measure of deprivation

Measure	Men N = 1481	Women N = 1485	p value (X ²)	OR (95% CI)
Schooling indicator (household level) Deprived	185 (13.5)	194 (14.2)	0.65	
Schooling indicator (individual level) Deprived	101 (7.0)	69 (4.9)	0.02	
IDM education dimension				
Most deprived	90 (6.1)	114 (7.7)	0.01	1.27 (1.10, 1.46)
Deprived	42 (2.8)	22 (1.5)		
Somewhat deprived	9 (0.6)	4 (0.3)		
Least deprived	1406 (94.9)	1383 (93.1)		

- When using individual data we find men are significantly more deprived in education than women ($p = 0.02$)
- When using the IDM scalar measure that considers years of schooling and literacy and numeracy together we still find overall men are more deprived than women however, women are more likely than men to be most deprived.

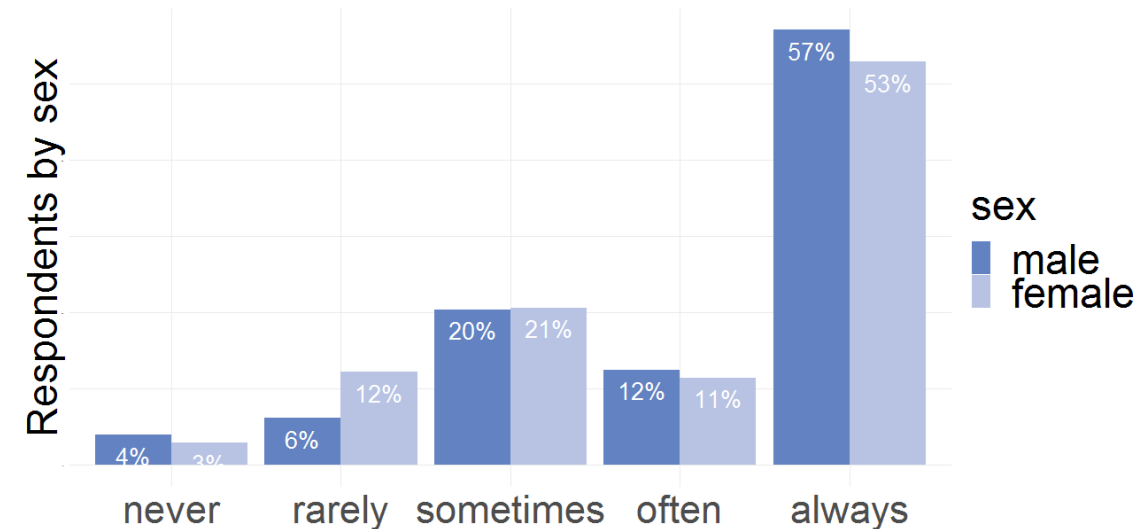


RESULTS – WATER

Individual scalar measure of deprivation

Measure		Men N = 1481	Women N = 1485	p value (X ²)	OR (95% CI)
Water indicator (household level)	Deprived	116 (7.8)	110 (7.4)	0.71	
	Not deprived	1365 (92.2)	1375 (92.6)		
IDM water dimension	Most deprived	31 (2.1)	28 (1.9)	<0.01	0.72 (0.59, 0.88)
	Deprived	121 (8.2)	109 (7.3)		
	Somewhat deprived	372 (25.1)	463 (31.2)		
	Least deprived	957 (64.6)	885 (59.6)		

When using the IDM scalar measure we find women are significantly more deprived than men in water. This scalar measure considers quality (like the household-level water indicator) *and* individual sufficiency together.

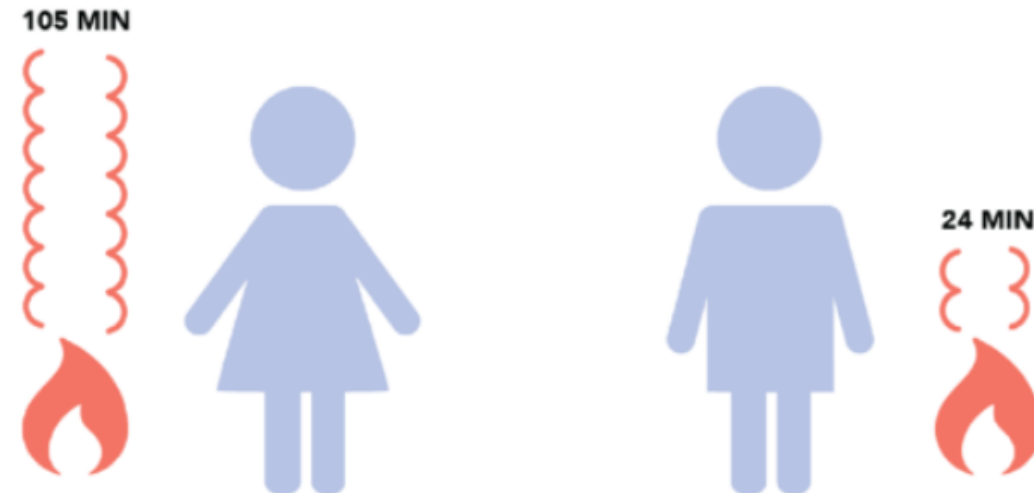


RESULTS – COOKING FUEL

Individual scalar measure of deprivation

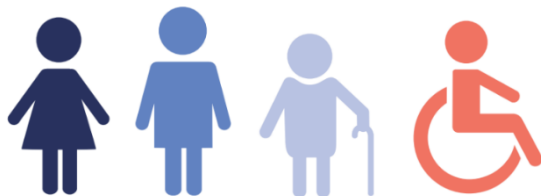
Measure	Men N = 1481	Women N = 1485	p value (X ²)	OR (95% CI)
Cooking fuel indicator (household level)				
Deprived	1010 (68.2)	1006 (67.7)	0.82	
IDM exposure to fumes indicator				
Most deprived	23 (1.6)	132 (8.9)	<0.01	0.26 (0.21, 0.32)
Deprived	89 (6.0)	240 (16.2)		
Somewhat deprived	155 (10.5)	182 (12.3)		
Least deprived	1214 (82.0)	931 (62.7)		

When using the IDM scalar measure we find women are significantly more deprived than men in cooking fuel. This scalar measure considers quality (like the household level cooking fuel indicator) *and* exposure time.



DISCUSSION

- We used individual, multidimensional data to ‘build’ both household-level binary and scalar measures, and ‘unpack’ again into individual binary and scalar measures
- Individual scalar measurement allows detection of inequalities that exist between subpopulations
- Therefore, we provide a simple example to illustrate the risk of incorrect inferences when investigating inequality between subpopulations (such as gender) when estimates are based on aggregated (household level) rather than individual (person) level data.



TO UNDERSTAND GENDERED POVERTY AND INEQUALITY AND LEAVE NO ONE BEHIND WE NEED TO KNOW THE SITUATION OF INDIVIDUALS



ACKNOWLEDGEMENTS

The 2016-2020 IDM Program is a partnership between the Australian National University (ANU), the International Women's Development Agency (IWDA) and the Australian Government through the Department of Foreign Affairs and Trade.

The original research that developed the IDM 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 (LP 0989385).

Subsequent IDM research undertaken in Fiji was led by IWDA in partnership with the Fiji Bureau of Statistics with contributions from the State, Society and Governance in Melanesia Program at the ANU. It was funded by the Australian Government's Pacific Women Shaping Pacific Development program.

REFERENCES

- Klasen, Stephan and Rahul Lahoti (2016). *How Serious is the Neglect of Intra-Household Inequality in Multidimensional Poverty Indices?* CRC-PEG Discussion Papers No. 200
- de Vreyer, Philippe and Lambert, Sylvie (2018). *By ignoring intra household inequality, do we underestimate the extent of poverty?*
- World Bank (2018) *Poverty and Shared Prosperity 2018: Piecing Together the Poverty Puzzle*
- United Nations Development Programme and Oxford Poverty and Human Development Initiative (2019) *Global Multidimensional Poverty Index 2019: Illuminating Inequalities*

THANK YOU



ABOUT IWDA

VISION

Gender equality for all

OUR PURPOSE

To advance and protect the rights of diverse women and girls

OUR VALUES

Feminist

Accountable

Collaborative

Transformative

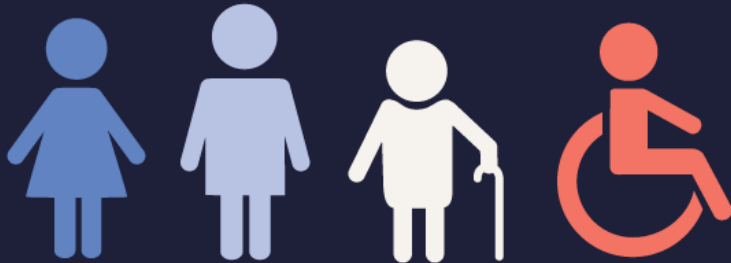
ESTABLISHED 1985



Q: Is poverty feminising?

A: We don't know

POVERTY DATA IS INCOMPLETE



The world currently measures the poverty of households. This hides the circumstances of individuals within households.

Poverty measurement also focuses mainly on money, or on a few key areas of life, when people experiencing poverty say there are many other factors that are keeping them poor.

IMPLICATIONS OF GENDER-BLIND POVERTY MEASUREMENT



Goal: To end poverty in **all its forms everywhere**

- 'While 'women's socio-economic disadvantage is reflected in pervasive gender inequalities across many dimensions of poverty, **the absence of sex disaggregated data makes it difficult to establish if women are, across the board, more likely to live in poverty than men.**'
UN Women, *Progress of Women 2015-16*
- Achieving SDG 1 requires us to move beyond income-based, household-level measurement

FROM CRITIQUE TO CHANGE

A NEW MEASURE, GROUNDED IN PARTICIPATION AND FEMINISM

6 COUNTRIES, 3 SITES IN EACH, 3 AGE COHORTS

Pacific	Fiji
South East Asia	Indonesia, Philippines
Southern Africa	Angola, Malawi, Mozambique
Urban	Young women and men
Rural	Middle age women and men
Highly marginalised	Older women and men

PHASE 1: QUALITATIVE (~ 1,115 people)

Participatory research, to gain insight & understanding

PHASE 2: PARTICIPATORY RANKING (~ 1,800 people)

Dimension preference, to gauge priorities & gaps

PHASE 3: DEVELOPING & TRIALLING THE IDM (~ 1,800 people)

Nationally representative survey in the Philippines



THE RESULT? THE INDIVIDUAL DEPRIVATION MEASURE



WHAT MAKES THE IDM DIFFERENT?



Individual-level



Scalar



Gender-Sensitive



Multidimensional



Grounded in Participation



Intersectional

Within-household

**Individual
Deprivation
Measure**



Data for Action