

Workshop on the UN Methodological Guidelines on the
Production of Statistics on Asset Ownership from a
Gender Perspective

EDGE Pilot Surveys in Asia and the Pacific

R-CDTA 8243: Statistical Capacity Development for Social Inclusion and Gender Equality

Field Operations, Interview Protocol & Survey Weighting

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Outline of Presentation

- ▶ Overview
- ▶ Field Operations and Interview Protocol
- ▶ Data Validation
- ▶ Calculation of Survey Weights
- ▶ Post-stratification Weight Adjustment



Overview

Objectives of EDGE Project in ADB pilot countries

- ▶ Contribute to the development of methods under global **EDGE initiative** for data collection on asset ownership and entrepreneurship from a gender perspective
- ▶ Assist countries in adapting the standard methodology for conducting pilot surveys in National Statistics Offices (NSOs) of Georgia, Mongolia, and, the Philippines.
- ▶ Conduct methodological research and documentation of pilot surveys experience and results to inform EDGE guidelines



Overview (cont'd)

MEXA survey conducted by Uganda Bureau of Statistics and World Bank LSMS Team in 2014

- ▶ 140 Enumeration Areas (EAs) selected with probability proportional to size across the country
 - ▶ actual EAs interviewed is 137
- ▶ Rural/Urban EA Split: 60/40 percent
- ▶ In each EA, 20 HHs selected from fresh HH listings through systematic sampling with random start
- ▶ 4 HHs randomly allocated to each of the 5 treatment arms (TA) in each EA
- ▶ Initial allocation of households per TA: 544
- ▶ Total HHs interviewed: 2,720



Overview (cont'd)

MEXA survey conducted by Uganda Bureau of Statistics and World Bank LSMS Team in 2014

Arm	Who were interviewed?	How were they interviewed?	What were asked?
1	Most knowledgeable Household (HH) member	Alone	Assets owned exclusively/ jointly by HH members
2	Randomly selected member of principal couple	Alone	Assets owned exclusively/ jointly by HH members
3	Principal couple	Together	Assets owned exclusively/ jointly by HH members
4	Adult (18+) HH members	Alone, Simultaneous	Assets owned exclusively/ jointly by HH members
5	Adult (18+) HH members	Alone, Simultaneous	Assets owned exclusively/ jointly by Respondent



Overview (cont'd)

Data collection procedures in other EDGE pilot countries

Country	Data Collection Strategy	Asset Coverage	Sample Size	HH members interviewed
Maldives (May 2016)	appended to HIES ¹	all core assets + financial assets and liabilities ³	HIES subsample of 285 households on 3 islands	1 randomly selected adult household member; self-reported data collection
Mexico (June-October 2016)	appended to ENH ²	all core assets + financial assets and liabilities ³	ENH subsample of 8,204 households	Principal couple; self-reported and proxy data collection. In households without couples, the household member most knowledgeable about the assets belonging to the household and a household member of the opposite sex were interviewed.
South Africa (August-September 2016)	stand alone Survey	all assets (except valuables) + household decision making module	1,946 households in Kwazulu-Natal province	In half the sample, 1 randomly selected adult household member plus all additional household members identified as entrepreneurs in the household questionnaire; self-reported data collection.
Uganda (June-August 2014)	stand alone Survey	all assets	2,720 households (<i>nationally representative</i>)	5 interview settings were tested (see slide 4)

Field Operations and Interview Protocol

Data collection procedures in ADB pilot countries

- ▶ Employs treatment arm 4: adult (18+) interviewed alone and simultaneously asked on assets owned exclusively or jointly by any HH member (and treatment arm 5)
 - ▶ Target respondents are the principal couple and additional adult household members
- ▶ Stand-alone survey of randomly selected households
 - ▶ Georgia and Mongolia surveys are nationally representative while the Philippines survey is representative for the province of Cavite only.
- ▶ A two-stage stratified sampling design was adopted for Georgia and Cavite, Philippines while three stage selection process for Mongolia.
- ▶ Households stratify into two:
 - ▶ 3 adult members (with principal couple and without)
 - ▶ Less than 3 members



▶ Questionnaires

- ▶ *Household module*: household roster and selection of individual adults
- ▶ *Individual module*: collects data on assets owned and entrepreneurship

Field Operations and Interview Protocol

Number of Households interviewed, by Country and Strata

Country and Strata	Number of sample HH interviewed	HH with at least 1 eligible adult member interviewed (%)	HH in which all eligible adult members were interviewed (%)	HH in which all eligible adult members were interviewed simultaneously (%)
Georgia				
HH with 3 or more adults	1399	100.0	75.3	56.5
HH with 2 or fewer adults	1384	100.0	89.5	47.8
Mongolia				
HH with 3 or more adults	1341	99.8	39.0	26.5
HH with 2 or fewer adults	1621	99.8	79.0	33.6
Philippines				
HH with 3 or more adults	790	99.9	76.2	31.8
HH with 2 or fewer adults	746	100.0	91.2	47.9

- Majority of the households interviewed have at least 1 eligible adult member
- Out of every 10 sample households interviewed, about 5 to 6 with all eligible adult members were interviewed simultaneously in Georgia as compared to only 3 in Mongolia.



Field Operations and Interview Protocol

Distribution of Sample Households with Principal Couple, by Country and Strata

Country and Strata	Number of sample HH interviewed	HH with principal couple (%)	Households interviewed		
			Both members of principal couple (%)	One member of principal couple (%)	Neither member of principal couple (%)
Georgia					
HH with 3 or more adults	1399	76.6	82.8	17.2	0.0
HH with 2 or fewer adults	1384	45.2	86.1	13.9	0.0
Mongolia					
HH with 3 or more adults	1341	80.0	78.3	21.2	0.6
HH with 2 or fewer adults	1621	64.1	76.8	23.0	0.2
Philippines					
HH with 3 or more adults	790	77.5	84.3	14.5	1.1
HH with 2 or fewer adults	746	70.0	89.3	10.7	0.0

- Majority of the principal respondents of the pilot survey were either head of household or their spouse in the three countries. Out of every 10 principal respondents, about 8 to 9 were the head or spouse of head of household in Georgia and Mongolia, and almost all in the Philippines.



Field Operations and Interview Protocol

Respondent-Enumerators Gender Match

Sex of Enumerator	Georgia		Mongolia		Philippines	
	Men	Women	Men	Women	Men	Women
Overall						
Men	17.9	9.3	39.8	26.4	9.2	6.8
Women	82.1	90.7	60.2	73.6	90.8	93.2
Households with 3 or More Adult Members						
Men	17.2	9.7	39.6	25.0	9.4	6.6
Women	82.8	90.3	60.4	75.0	90.6	93.4
Households with 2 or Fewer Adults						
Men	19.1	8.7	40.0	24.7	8.9	7.2
Women	80.9	91.3	60.0	63.2	91.1	92.8

- Gender match during interview was highly successful for women vs women as against a weak success for men vs men.
- The overall success rate for women vs women was 93% in the Philippines, 91% in Georgia and 74% in Mongolia compared to only 9%, 18%, and 40%, respectively for men vs men matching.



Field Operations and Interview Protocol

Comparison of Reported and Documented Ownership Estimates (%), by type of approach and sex: Georgia, Mongolia, and the Philippines

Ownership Assigned by Any Respondent

Country	Asset	Reported		Documented	
		Men	Women	Men	Women
Georgia	Dwelling unit	84.7	82.6	52.3	40.6
	Agricultural land	51.0	40.5	32.2	16.5
	Other real estate	17.2	12.8	10.4	6.8
Mongolia	Dwelling unit	54.9	34.0	48.1	28.6
	Agricultural land	8.4	2.4	7.3	1.5
	Other real estate	18.0	10.8	15.3	9.5
Philippines	Dwelling unit	35.6	35.9	24.5	21.7
	Agricultural land	4.6	3.7	3.9	3.3
	Other real estate	6.3	6.1	4.9	4.1

Self-assigned Ownership

Country	Asset	Reported		Documented	
		Men	Women	Men	Women
Georgia	Dwelling unit	80.4	75.9	46.3	33.4
	Agricultural land	47.7	34.1	30.6	12.6
	Other real estate	15.7	10.1	10.6	5.9
Mongolia	Dwelling unit	59.6	32.8	50.7	26.9
	Agricultural land	8.0	2.0	6.3	1.4
	Other real estate	16.3	10.4	13.8	8.5
Philippines	Dwelling unit	34.4	34.2	22.7	19.2
	Agricultural land	4.8	3.2	4.1	2.6
	Other real estate	5.7	5.4	4.4	3.3

- In general, incidence of reported and documented ownership are generally higher using the OAR approach.
- Georgia shows the largest difference for reported and documented ownership, where the self-assigned approach gives lower estimates.



Field Operations and Interview Protocol

Number of Households interviewed, by Country and Strata

Country and Strata	Number of sample HH interviewed	Number of households with at least 1 eligible adult member interviewed	Number of households in which all eligible adult members were interviewed	Number households in which all eligible adult members were interviewed simultaneously
Georgia				
SSS1: HH with 3 or more adults	1,399	1,399	1,054	791
SSS2: HH with 2 or fewer adults	1,384	1,384	1,238	662
Mongolia				
SSS1: HH with 3 or more adults	1,341	1,338	523	356
SSS2: HH with 2 or fewer adults	1,621	1,617	1,281	545
Philippines				
SSS1: HH with 3 or more adults	790	789	602	251
SSS2: HH with 2 or fewer adults	746	746	680	357



Post-Survey Phase: Data Validation

Range Check

ensures that every variable in the survey is within a limited domain of valid values

verifies whether the skip patterns and codes have been followed appropriately

Skip Check

Consistency Check

verifies the values from one question are consistent with values from another question

entails transposition of figures mistakenly encoded

Typographic Check

- Conducted Country Workshop on Data Validation
Discussion of issues encountered in data cleaning and validation
- Consultative meetings via skype and other virtual means



Calculation of Survey Weights

Measurement Approaches

Ownership Assigned by Any Respondent

- combination of self-reported and proxy information provided by the respondents constitute a household-level information

Self-Assigned Ownership

- Only the individual level data was considered
- Additional weights were assigned to each individual and multiplied by the usual household weights to obtain individual level weights.



Calculation of Survey Weights (cont'd)

Ownership Assigned by Any Respondent

- Calculating survey weights for this approach is similar to the weights derived for estimation of parameters in usual household surveys by combining the weights at each stage of selection.

Georgia: Two-Stage PPS Design

$$\frac{Z_i}{n_i} \times \frac{1}{z_{ij}} \times \frac{H_{ijk}}{h_{ijk}}$$

Mongolia: Three-Stage PPS Design

$$\frac{P_l}{d_l} \times \frac{1}{p_{lm}} \times \frac{Z_{lmi}}{n_{lmi}} \times \frac{1}{z_{lmij}} \times \frac{H_{lmijk}}{h_{lmijk}}$$

Cavite, Philippines: CSS Design

$$\frac{N_i}{n_i} \times \frac{H_{ijk}}{h_{ijk}}$$

Where:

- l stands for the region
- m stands for the mth province
- i stands for the stratum
- j stands for the jth PSU
- k Stands for the second stage stratum (SSS) of household
- z_{ij} total number of households in the jth PSU of the ith (available in census database)
- H_{ijk} total number of households in the kth second stage (SSS) of the jth PSU of ith stratum
- h_{ijk} number of households actually surveyed in the kth SSS of the jth PSU of ith stratum

- n_i number of PSUs selected from ith stratum
- Z_i = $\sum_j z_{ij}$ total number of households in the ith stratum (available in Census database)
- N_i total number of PSUs in the ith stratum (available in Census database)
- d_l number of aimags selected in the lth region
- P_l total population in the lth region
- p_{lm} population of mth province in the lth region



Calculation of Survey Weights (cont'd)

Self-Assigned Ownership

- For households with 3 or less adults, all adults were selected for interview (i.e., with probability one) and therefore the survey weight assigned was 1 for each adult.
- For households with 4 or more adults, a maximum of three adults were interviewed. The following explains the procedure of assigning weights at the individual level in different situations

Survey Weights for Households with Principal Couple

Interviewed			Selection Probability			Weight		
Principal Couple		Third Respondent	Principal Couple		Third Respondent	Principal Couple		Third Respondent
Primary Respondent	Spouse		Primary Respondent	Spouse		Primary Respondent	Spouse	
Yes	Yes	Yes	1	1	$1/(M-2)$	1	1	$(M-2)$
Yes	No	Yes	$1/2$	0	$1/(M-2)$	2	0	$(M-2)$
No	Yes	Yes	0	$1/2$	$1/(M-2)$	0	2	$(M-2)$
Yes	Yes	No	$2/M$	$2/M$	0	$M/2$	$M/2$	0
No	No	Yes	0	0	$1/M$	0	0	M
No	Yes	No	0	$1/M$	0	0	$M/2$	0
Yes	No	No	$1/M$	0	0	M	0	0

Survey Weights for Households without Principal Couple

Interviewed			Selection Probability			Weight		
Primary Respondent	Second Respondent	Third Respondent	Primary Respondent	Second Respondent	Third Respondent	Primary Respondent	Second Respondent	Third Respondent
Yes	Yes	Yes	1	$2/(M-1)$	$2/(M-1)$	1	$(M-1)/2$	$(M-1)/2$
Yes	Yes	No	1	$1/(M-1)$	0	1	$(M-1)$	0
No	Yes	Yes	0	$2/M$	$2/M$	0	$M/2$	$M/2$
Yes	No	Yes	1	0	$1/(M-1)$	1	0	$(M-1)$
No	No	Yes	0	0	$1/M$	0	0	M
No	Yes	No	0	$1/M$	0	0	M	0
Yes	No	No	$1/M$	0	0	M	0	0

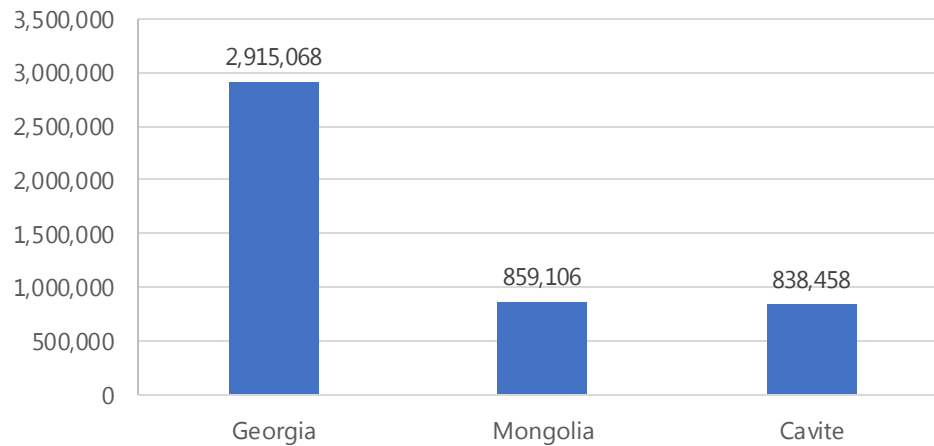
- Notes:**
1. "Yes" indicates that the selected respondent was surveyed/ interviewed.
 2. "No" indicates that the selected respondent was not surveyed/interviewed due to non-response.
 3. "M" denotes the total number of adults in the household

- The weights at the individual level were combined with the household-level weights when estimating survey parameters under the self-assigned approach.

Post Stratification Weight Adjustment (cont'd)

Household Level Weights

Total Number of Household After Post-stratification of Household Weights



Countries	EDGE survey (household weights)	Census	Adjustment Weight Factor
Georgia	2,915,068	2,877,050	n/a
Mongolia	859,106	827,734	0.96
Cavite, Philippines	849,686	838,458	0.99

Georgia: no post-stratification done at the household level.

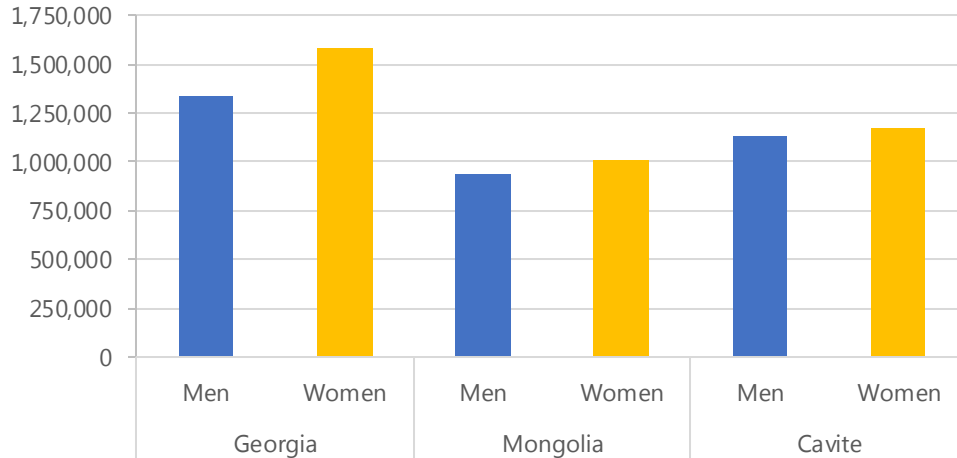
Mongolia: The adjustment weight factor considered was the ratio of the total number of households based from 2015 Census of Population to weighted number of households based from the survey by region and urban-rural residence.

Cavite, Philippines: The adjustment weight factor was the ratio of the 2015 census projected number of households to the weighted number of households based from the EDGE survey.



Post Stratification Weight Adjustment (cont'd)

Total Number of Respondents After Post-stratification of Individual Weights



Individual Level Weights

adjustment weight factor = ratio of the total number of adult men(women) based from census of population to weighted number of men(women) based from the weights after post-stratification at the household level.

Sex	Number of Adult Population			
	Census	Unadjusted individual weights	After post-stratification of household weights	After post-stratification of individual weights
Georgia				
Male	1,329,054	1,185,974	1,333,444	1,333,444
Female	1,547,996	1,729,094	1,581,624	1,581,624
Total	2,877,050	2,915,068	2,915,068	2,915,068
Mongolia				
Male	943,117	943,117	976,149	943,117
Female	1,005,511	1,005,511	1,296,564	1,005,511
Total	1,948,628	1,948,628	2,272,714	1,948,628
Cavite, Philippines				
Male	1,137,700	1,104,495	1,089,901	1,104,495
Female	1,170,659	1,310,559	1,293,241	1,310,559
Total	2,308,359	2,415,054	2,383,142	2,415,054





Thank you.

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