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The U.S. Government's Global Hunger and Food Security Initiative

# Calculating the Women's Empowerment in Agriculture Index





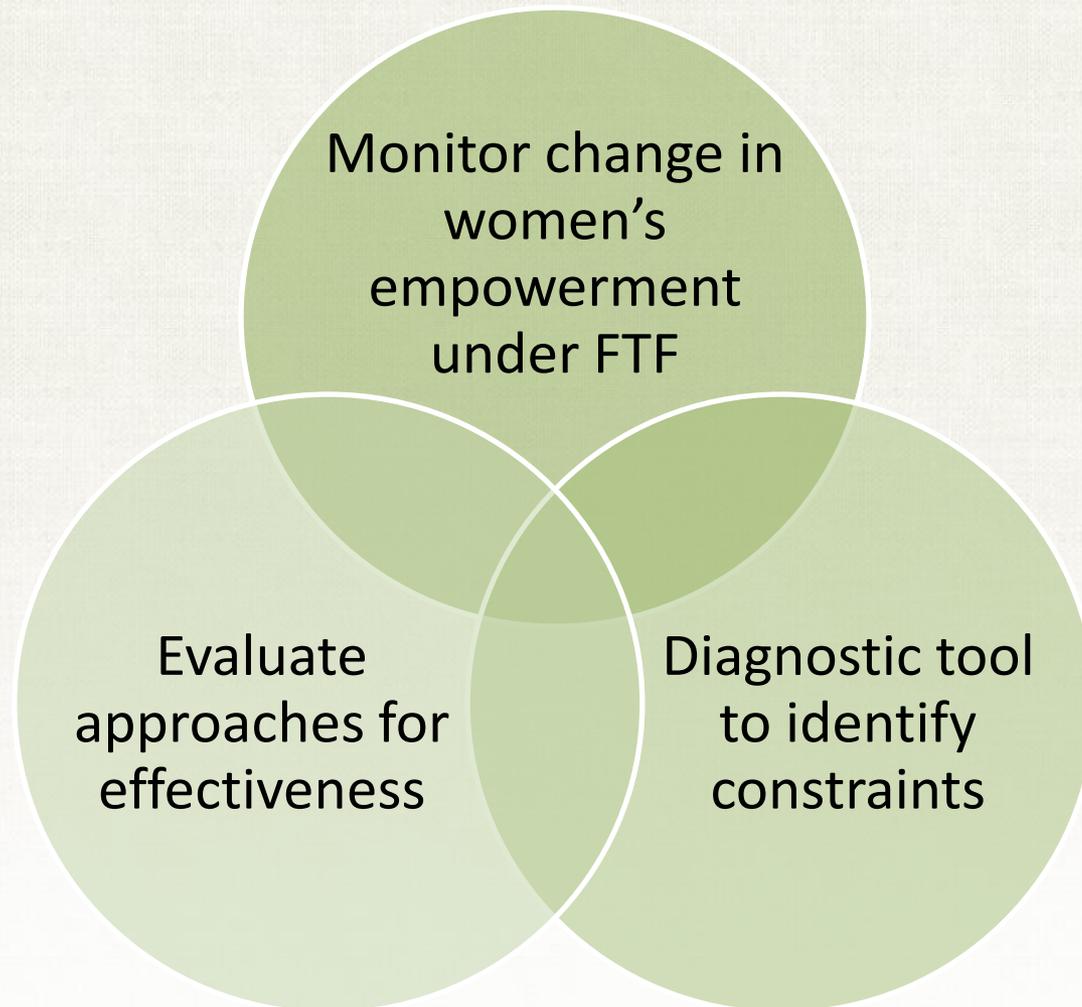
## Agenda of the Webinar

1. Purpose and use of the WEAI
2. Video providing overview
3. How the WEAI and sub-indices are calculated
4. How the Indicators are calculated
5. Tools and procedures for analyzing the data

\*\*\*Knowledge Checks throughout\*\*\*



## Purpose and Use of the WEAI





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Press Esc to exit full screen mode.

# MEASURING THE EMPOWERMENT, AGENCY AND INCLUSION OF WOMEN IN THE AGRICULTURAL SECTOR



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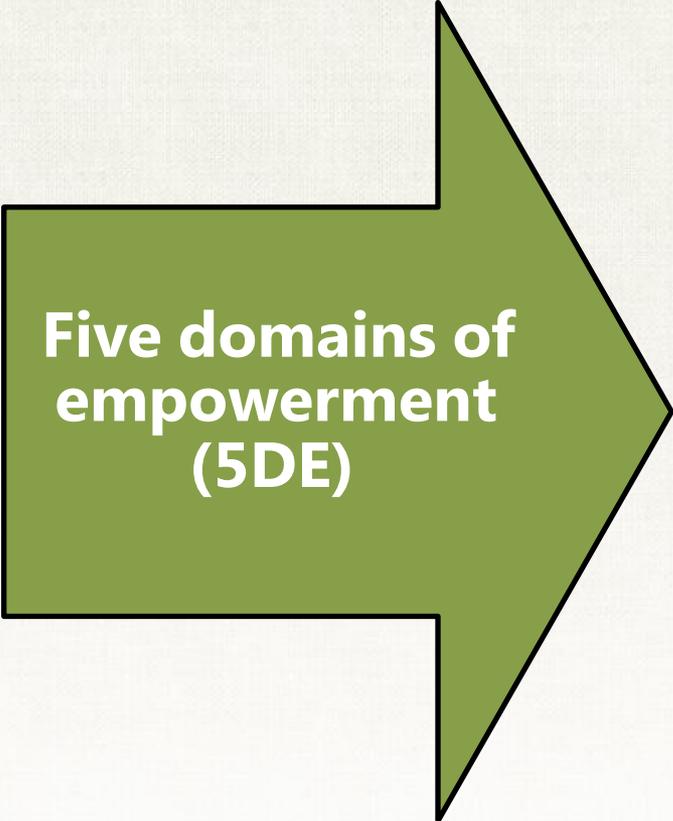
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**Questions?**



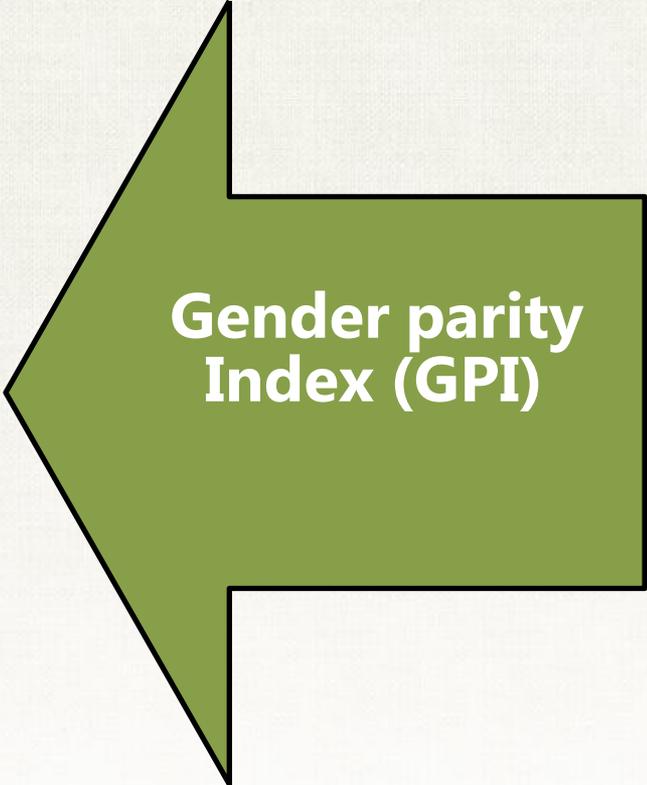
## How is the WEAI constructed?

All range from zero to one; higher values = greater empowerment



**Five domains of  
empowerment  
(5DE)**

**Women's  
Empowerment  
in Agriculture  
Index  
(WEAI)**

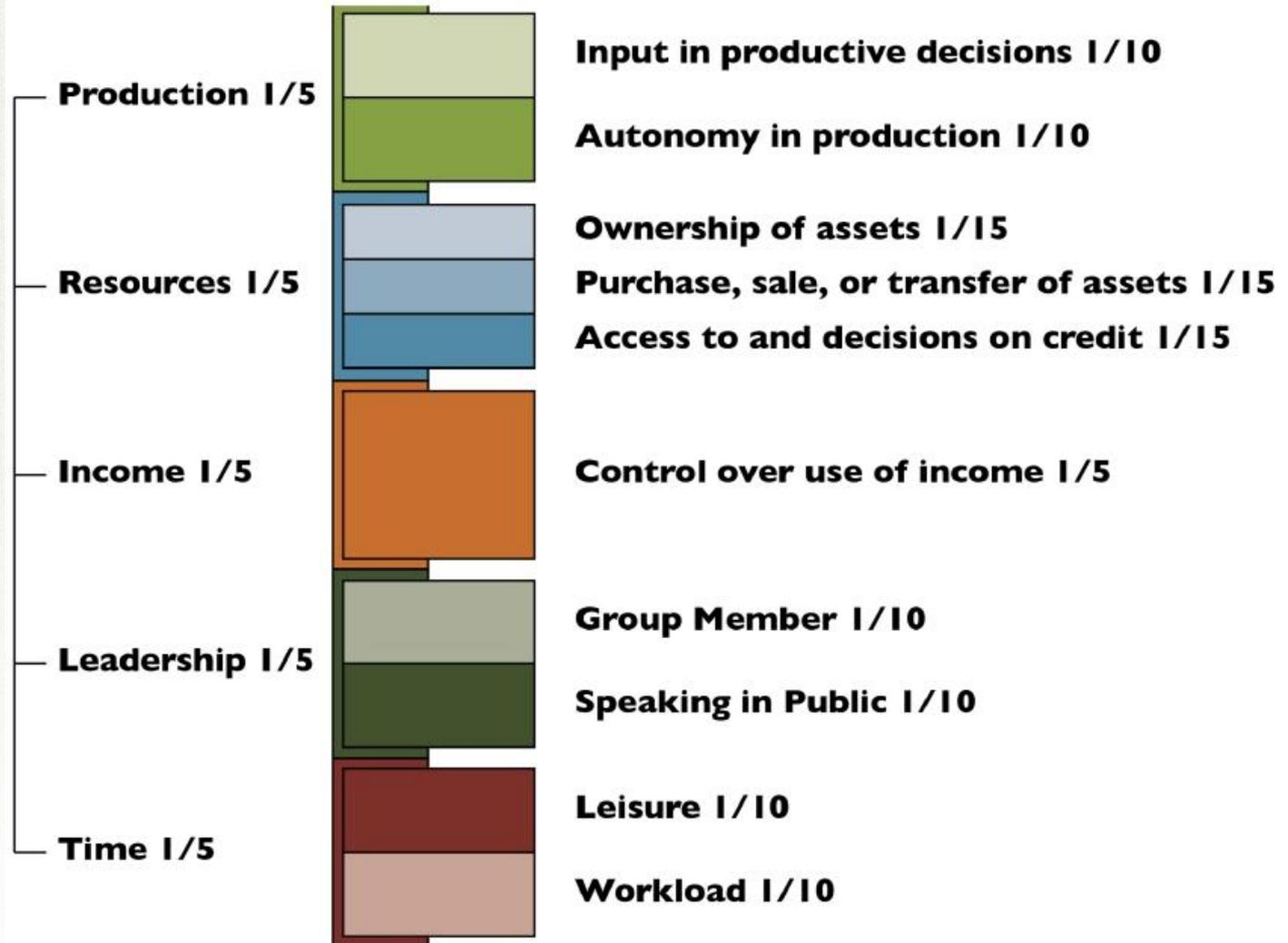


**Gender parity  
Index (GPI)**



## Indicators are used to build individual empowerment profiles

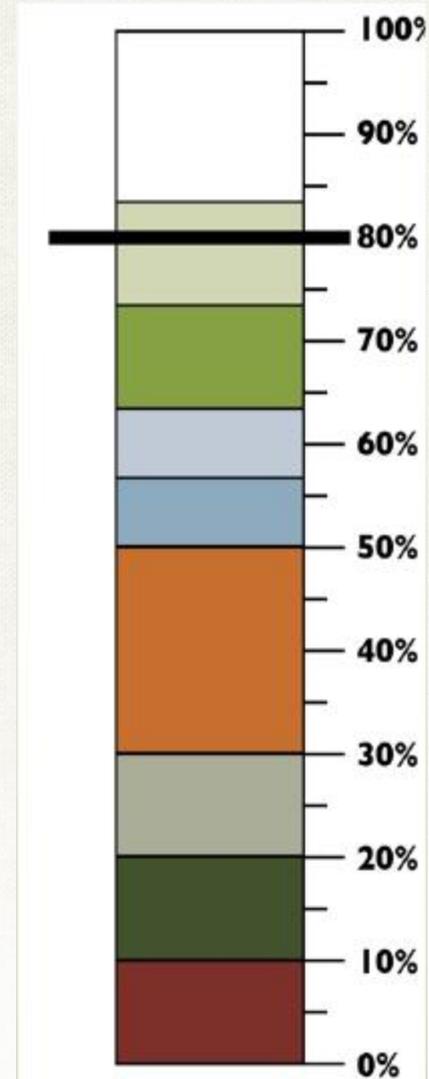
### Five domains of empowerment





## Who is empowered?

An individual who has achieved 'adequacy' in 80% or more of the weighted indicators





$$5DE = H_e + H_n (A_a)$$

$H_e$  = % of women who are empowered

$H_n$  = % of women who are *not* empowered ( $1 - H_e$ )

$A_a$  = % of dimensions in which disempowered women have adequate achievements



$$5DE = H_e + H_n (A_a)$$

$H_e$  = 31.9% of women who are empowered

$H_n$  = 68.1% of women who are *not* empowered ( $1 - H_e$ )

$A_a$  = non-empowered women still have adequate achievements in 60.7% of dimension

**What is Bangladesh's overall 5DE empowerment score?**

**0.732**



$$GPI = 1 - H_w (R_p)$$

$H_p$  = % of women with gender parity

$H_w$  = % of women *without* gender parity

$R_p$  = average empowerment gap between women compared with men in their HH



$$GPI = 1 - H_w (R_p)$$

$H_p$  = **59.8%** of women with gender parity

$H_w$  = **40.2%** of women *without* gender parity

$R_p$  = the average empowerment gap between women compared to men in their HH is **25.2%**

**What is Bangladesh's Gender Parity score?**

**0.899**



## Total WEAI Formula

$$\text{WEAI} = 0.9(5\text{DE}) + 0.1(\text{GPI})$$

or

$$\text{WEAI} = 0.9\{H_e + (H_n \times A_a)\} + 0.1\{1 - (H_w \times R_p)\}$$



## Total WEAI Formula

$$\text{WEAI} = 0.9(\text{5DE}) + 0.1(\text{GPI})$$

$$\text{WEAI} = 0.9(\mathbf{0.732}) + 0.1(\mathbf{0.899})$$

$$\mathbf{\text{WEAI Score} = 0.7487}$$



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**Questions?**



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# Calculating the **WEAI** Indicators



**MODULE #: MODULE TITLE FROM WEAI QUESTIONNAIRE -- page #**

Activity		Question 1	Question 2	Question 3
Activity Code	Activity Description	G2.01	G2.02	G2.03
A	Food crop farming			
B	Cash crop farming			
C	Livestock raising			
E	Wage and salary employment			
F	Fishing or fishpond culture			

Questions in **WHITE** are used to calculate the indicator  
 Questions in **GRAY** are NOT used for the indicator

Codes in **BLUE** demonstrate adequacy

G2.02/G2.03: Input into decision making

No input.....1

Input into very few decisions...2

Input into some decisions.....3

Input into most decisions.....4

Input into all decisions.....5

No decision made.....6



# Input in Productive Decisions (1 of 2)

## MODULE G2: ROLE IN HOUSEHOLD DECISION-MAKING AROUND PRODUCTION AND INCOME GENERATION -- page 2

Activity		Did you (singular) participate in [ACTIVITY] in the past 12 months (that is during the last [one/two] cropping seasons)? Yes 1 No 2 >> next activity	How much input did you have in making decisions about [ACTIVITY]?	How much input did you have in decisions on the use of income generated from [ACTIVITY]
Activity Code	Activity Description	G2.01	G2.02	G2.03
A	Food crop farming: crops that are grown primarily for household food consumption			
B	Cash crop farming: crops that are grown primary for sale in the market			
C	Livestock raising			
D	Non-farm economic activities: Small business, self-employment, buy-and-sell			
E	Wage and salary employment: in-kind or monetary work both agriculture and other wage work			
F	Fishing or fishpond culture			
			<b>G2.02/G2.03: Input into decision making</b> No input 1 Input into very few decisions 2 <u>Input into some decisions 3</u> <u>Input into most decisions 4</u> <u>Input into all decisions 5</u> No decision made 6	



## MODULE G5: DECISION MAKING – page 7

<p>ENUMERATOR: Ask G5.01 for all categories of activities before asking G5.02. Do <u>not</u> ask G5.02 if G5.01 response is 1 and respondent is male OR G5.01 response is 2 and respondent is female.</p> <p>If household does not engage in that particular activity, enter 98 and proceed to next activity.</p>		<p>When decisions are made regarding the following aspects of household life, who is it that normally takes the decision?</p>	<p>To what extent do you feel you can make your own personal decisions regarding these aspects of household life if you want(ed) to?</p> <p>Ask only if G5.01 is 1 and respondent is female, G5.01 is 2 and respondent is male, or G5.01 is 3-7.</p>
		G5.01	G5.02
A	Getting inputs for agricultural production		
B	The types of crops to grow for agricultural production		
C	Taking crops to the market (or not)		
D	Livestock raising		
E	Your own (singular) wage or salary employment		
F	Major household expenditures (such as a large appliance for the house like refrigerator)		
G	Minor household expenditures (such as food for daily consumption or other household needs)		
		<p>G5.01: Who makes decision</p> <p><u>Main male or husband.....1 (if MALE)</u></p> <p><u>Main female or wife.....2 (if FEMALE)</u></p> <p>Husband and wife jointly.....3</p> <p>Someone else in the household.....4</p> <p>Jointly with someone else inside the HH.....5</p> <p>Jointly with someone else outside the HH.....6</p> <p>Someone outside the HH/other.....7</p> <p>Household does not engage in activity/Decision not made.....98</p>	<p>G5.02: Extent of participation in decision making</p> <p>Not at all .....1</p> <p>Small extent.....2</p> <p><u>Medium extent.....3</u></p> <p><u>To a high extent.....4</u></p>



Inadequacy cut-off: Inadequate if 1) individual participates BUT does not have at least some input in decisions or 2) does not make the decisions nor feels s/he could to at least a medium extent

Aggregation Method: Respondent must have achievement in two (must be above the threshold for two activities)



## MODULE G5 continued: MOTIVATION FOR DECISION MAKING – page 8

<p>ENUMERATOR: This set of questions is very important. I am going to give you some reasons why you act as you do in the aspects of household life I just mentioned. You might have several reasons for doing what you do and there is no right or wrong answer. Please tell me how true it would be to say: [If household does not engage in that particular activity, enter 98 and proceed to next activity.]</p>		<p>My actions in [ASPECT] are partly because I will get in trouble with someone if I act differently.</p> <p>[READ OPTIONS: Always True, Somewhat True, Not Very True, or Never True]</p>	<p>Regarding [ASPECT] I do what I do so others don't think poorly of me.</p> <p>[READ OPTIONS: Always True, Somewhat True, Not Very True, or Never True]</p>	<p>Regarding [ASPECT] I do what I do because I personally think it is the right thing to do.</p> <p>[READ OPTIONS: Always True, Somewhat True, Not Very True, or Never True]</p>
		G5.03	G5.04	G5.05
A	Getting inputs for agricultural production			
B	The types of crops to grow for agricultural production			
C	Taking crops to the market (or not)			
D	Livestock raising			
<p><b>To calculate RAI:</b></p> <ol style="list-style-type: none"> <li>Responses are scored with Never true as lowest (=1) and Always true as highest (=4)</li> <li>For A, B, C, and D compute: <b>RAI = (- 2 x G5.03) – G5.04 + (3 x G5.05)</b></li> </ol>		<p>G5.03/G5.04/G5.05: Motivation for activity</p> <p>Never true .....1</p> <p>Not very true .....2</p> <p>Somewhat true .....3</p> <p>Always true .....4</p> <p>Household does not engage in activity/Decision not made.....98</p>		



# Example of Autonomy Scoring

<p>ENUMERATOR: This set of questions is very important. I am going to give you some reasons why you act as you do in the aspects of household life I just mentioned. You might have several reasons for doing what you do and there is no right or wrong answer. Please tell me how true it would be to say: [If household does not engage in that particular activity, enter 98 and proceed to next activity.]</p>		<p>My actions in [ASPECT] are partly because I will get in trouble with someone if I act differently.</p> <p>[READ OPTIONS: Always True, Somewhat True, Not Very True, or Never True]</p>	<p>Regarding [ASPECT] I do what I do so others don't think poorly of me.</p> <p>[READ OPTIONS: Always True, Somewhat True, Not Very True, or Never True]</p>	<p>Regarding [ASPECT] I do what I do because I personally think it is the right thing to do.</p> <p>[READ OPTIONS: Always True, Somewhat True, Not Very True, or Never True]</p>
		G5.03	G5.04	G5.05
A	Getting inputs for agricultural production	Never true = score 1	Never true = 1	Always true = 4
B	The types of crops to grow for agricultural production			
C	Taking crops to the market (or not)			
D	Livestock raising			
<p><b>To calculate RAI:</b></p> <ol style="list-style-type: none"> <li>Responses are scored with <b>Never true as lowest (=1)</b> and <b>Always true as highest (=4)</b></li> <li>For each A, B, C, and D compute: <b>RAI = (- 2 x 1) - 1 + (3 x 4) = 9</b></li> </ol>		<p>G5.03/G5.04/G5.05: Motivation for activity: <b>Score</b></p> <p>Never true .....1</p> <p>Not very true .....2</p> <p>Somewhat true .....3</p> <p>Always true .....4</p> <p>Household does not engage in activity/Decision not made.....98</p>		



## Inadequacy cut-off:

Inadequate if Relative Autonomy Indicator (RAI)  $\leq 1$

RAI is a weighted sum of G5.03-G5.05 for each activity

Aggregation Method: Respondent must have achievement  
in at least one



## MODULE G3: ACCESS TO PRODUCTIVE CAPITAL – page 3

Productive Capital	Does anyone in your household currently have any [ITEM]? Yes 1 No 2 >> next item	How many of [ITEM] does your household currently have?	Who would you say owns most of the [ITEM]?	Who would you say can decide whether to sell [ITEM] most of the time?	Who would you say can decide whether to give away [ITEM] most of the time?	Who would you say can decide to mortgage or rent out [ITEM] most of the time?	Who contributes most to decisions regarding a new purchase of [ITEM]?
	G3.01a	G3.01b	G3.02	G3.03	G3.04	G3.05	G3.06
A	Productive Capital						
	Agricultural land (pieces/plots)						
B	Large livestock (oxen, cattle)						
C	Small livestock (goats, pigs, sheep)						
D	Chickens, Ducks, Turkeys, Pigeons						
E	Fish pond or fishing equipment						
F	Farm equipment (non-mechanized)						
G	Farm equipment (mechanized)						
H	Nonfarm business equipment			<b>G3.02-G3.06: Decision-making and control over productive capital</b>  <u>Self.....1</u> Partner/Spouse .....2 <u>Self and partner/spouse jointly.....3</u> Other household member .....4 <u>Self and other household member(s).....5</u> Partner/Spouse and other household member(s).....6 Someone (or group of people) outside the household...7 <u>Self and other outside people.....8</u> Partner/Spouse and other outside people.....9 <u>Self, partner/spouse and other outside people.....10</u>			
I	House (and other structures)						
J	Large consumer durables (fridge, TV, sofa)						
K	Small consumer durables (radio, cookware)						
L	Cell phone						
M	Other land not used for agricultural purposes (pieces, residential or commercial land)						
N	Means of transportation (bicycle, motorcycle, car)						



Inadequacy cut-off: Inadequate if household owns the type of asset BUT s/he does not own it solely or jointly

Aggregation Method: Achievement if at least one asset except if only one small asset (D - Poultry, F - non-mechanized equipment, K - small consumer durable)



# Purchase, sale, or transfer of assets

## MODULE G3: ACCESS TO PRODUCTIVE CAPITAL – page 3

Productive Capital		Does anyone in your household currently have any [ITEM]? Yes 1 No 2 >> next item	How many of [ITEM] does your household currently have?	Who would you say owns most of the [ITEM]?	Who would you say can decide whether to sell [ITEM] most of the time?	Who would you say can decide whether to give away [ITEM] most of the time?	Who would you say can decide to mortgage or rent out [ITEM] most of the time?	Who contributes most to decisions regarding a new purchase of [ITEM]?
	Productive Capital	G3.01a	G3.01b	G3.02	G3.03	G3.04	G3.05	G3.06
A	Agricultural land (pieces/plots)							
B	Large livestock (oxen, cattle)							
C	Small livestock (goats, pigs, sheep)							
D	Chickens, Ducks, Turkeys, Pigeons							
E	Fish pond or fishing equipment							
F	Farm equipment (non-mechanized)							
G	Farm equipment (mechanized)							
H	Nonfarm business equipment				G3.02-G3.06: Decision-making and control over productive capital  <u>Self.....1</u> Partner/Spouse .....2 <u>Self and partner/spouse jointly.....3</u> Other household member .....4 <u>Self and other household member(s).....5</u> Partner/Spouse and other household member(s).....6 Someone (or group of people) outside the household...7 <u>Self and other outside people.....8</u> Partner/Spouse and other outside people.....9 <u>Self, partner/spouse and other outside people.....10</u>			
I	House (and other structures)							
J	Large consumer durables (fridge, TV, sofa)							
K	Small consumer durables (radio, cookware)							
L	Cell phone							
M	Other land not used for agricultural purposes (pieces, residential or commercial land)							
N	Means of transportation (bicycle, motorcycle, car)							



Inadequacy cut-off: Inadequate if 1) HH does not own any asset or 2) if HH owns the type of asset BUT s/he does not participate in ANY decisions about it

Aggregation Method: Achievement if makes at least one type of decision solely or jointly over at least one type of asset except if only one of (D) poultry or (F) non-mechanized equipment



## MODULE G3 continued: ACCESS TO CREDIT – page 4

Lending sources		Has anyone in your household taken any loans or borrowed cash/in-kind from [SOURCE] in the past 12 months?	Who made the decision to borrow from [SOURCE]?	Who makes the decision about what to do with the money/ item borrow from [SOURCE]?
Lending source names		G3.07	G3.08	G3.09
A	Non-governmental organization (NGO)			
B	Informal lender			
C	Formal lender (bank/financial institution)			
D	Friends or relatives			
E	Group based micro-finance or lending including VSLAs / SACCOs/ merry-go-rounds			
		G3.07 Taken loans Yes, cash 1 Yes, in-kind 2 Yes, cash and in-kind 3 No 4 >> G3.11A Don't know.....5 >> G3.11A	G3.08/G3.09: Decision-making and control over credit <u>Self.....1</u> Partner/Spouse.....2 <u>Self and partner/spouse jointly.....3</u> Other household member .....4 <u>Self and other household member(s).....5</u> Partner/Spouse and other household member(s).....6 Someone (or group of people) outside the household....7 <u>Self and other outside people.....8</u> Partner/Spouse and other outside people.....9 <u>Self, partner/spouse and other outside people.....10</u>	



Inadequacy cut-off: Inadequate if household 1) has no credit OR 2) used a source of credit BUT s/he did not participate in ANY decisions about it

Aggregation Method: Achievement in any



# Control over Use of Income (1 of 2)

## MODULE G2: ROLE IN HOUSEHOLD DECISION-MAKING AROUND PRODUCTION AND INCOME GENERATION – page 2

Activity		Did you (singular) participate in [ACTIVITY] in the past 12 months (that is during the last [one/two] cropping seasons)? Yes 1 No 2 >> next activity	How much input did you have in making decisions about [ACTIVITY]?	How much input did you have in decisions on the use of income generated from [ACTIVITY]
Activity Code	Activity Description	G2.01	G2.02	G2.03
A	Food crop farming: crops that are grown primarily for household food consumption			
B	Cash crop farming: crops that are grown primary for sale in the market			
C	Livestock raising			
D	Non-farm economic activities: Small business, self-employment, buy-and-sell			
E	Wage and salary employment: in-kind or monetary work both agriculture and other wage work			
F	Fishing or fishpond culture			
			<u>G2.02/G2.03: Input into decision making</u> No input.....1 Input into very few decisions .....2 <u>Input into some decisions.....3</u> <u>Input into most decisions .....4</u> <u>Input into all decisions.....5</u> No decision made.....6	



## MODULE G5: DECISION MAKING -- page 7

<p>ENUMERATOR: Ask G5.01 for all categories of activities before asking G5.02. Do <u>not</u> ask G5.02 if G5.01 response is 1 and respondent is male OR G5.01 response is 2 and respondent is female.</p> <p>If household does not engage in that particular activity, enter 98 and proceed to next activity.</p>	<p>When decisions are made regarding the following aspects of household life, who is it that normally takes the decision?</p>	<p>To what extent do you feel you can make your own personal decisions regarding these aspects of household life if you want(ed) to?</p> <p>Ask only if G5.01 is 1 and respondent is female, G5.01 is 2 and respondent is male, or G5.01 is 3-7.</p>
	G5.01	G5.02
A	Getting inputs for agricultural production	
B	The types of crops to grow for agricultural production	
C	Taking crops to the market (or not)	
D	Livestock raising	
E	Your own (singular) wage or salary employment	
F	Major household expenditures (such as a large appliance for the house like refrigerator)	
G	Minor household expenditures (such as food for daily consumption or other household needs)	
	<p>G5.01: Who makes decision</p> <p><u>Main male or husband.....1 (if MALE)</u></p> <p><u>Main female or wife .....2 (if FEMALE)</u></p> <p>Husband and wife jointly.....3</p> <p>Someone else in the household.....4</p> <p>Jointly with someone else inside the household.....5</p> <p>Jointly with someone else outside the household.....6</p> <p>Someone outside the household/other.....7</p> <p>Household does not engage in activity/Decision not made.....98</p>	<p>G5.02: Extent of participation in decision making</p> <p>Not at all .....1</p> <p>Small extent.....2</p> <p><u>Medium extent.....3</u></p> <p><u>To a high extent.....4</u></p>



Inadequacy cut-off: Inadequate if 1) individual participates BUT does not have at least some input in decisions or 2) does not make the decisions nor feels s/he could to at least a medium extent

Aggregation Method: Achievement if individual has some input in at least one activity as long as not only (G) minor household expenditures



## MODULE G4 continued: GROUP MEMBERSHIP AND INFLUENCE IN THE GROUP -- page 6

Group membership		Is there a [GROUP] in your community?  Yes 1 No 2 >> next group	Are you an active member of this [GROUP]?  Yes 1 No 2
	Group Categories	G4.04	G4.05
A	Agricultural / livestock/ fisheries producer's group (including marketing groups)		
B	Water users' group		
C	Forest users' group		
D	Credit or microfinance group (including SACCOs/merry-go-rounds/ VSLAs)		
E	Mutual help or insurance group (including burial societies)		
F	Trade and business association		
G	Civic groups (improving community) or charitable group (helping others)		
H	Local government		
I	Religious group		
J	Other women's group (only if it does not fit into one of the other categories)		
K	Other (specify)		



Inadequacy cut-off: Inadequate if not part of any group

Aggregation Method: Achievement in at least one



## MODULE G4: INDIVIDUAL LEADERSHIP AND INFLUENCE IN THE COMMUNITY

-- page 5

QNo.	Question	Response	Response codes
G4.01	Do you feel comfortable speaking up in public to help decide on infrastructure (like small wells, roads, water supplies) to be built in your community?		No, not at all comfortable ...1 <u>Yes, but with a great deal of difficulty...2</u>
G4.02	Do you feel comfortable speaking up in public to ensure proper payment of wages for public works or other similar programs?		<u>Yes, but with a little difficulty...3</u> <u>Yes, fairly comfortable...4</u>
G4.03	Do you feel comfortable speaking up in public to protest the misbehavior of authorities or elected officials?		<u>Yes, very comfortable...5</u>



Inadequacy cut-off: Inadequate if not comfortable speaking in public different contexts

Aggregation Method: Achievement in at least one



## MODULE G6: TIME ALLOCATION -- page 9 to 10

	Night		Morning		Day													
Activity	4	5	6	7	8	9	10	11	12	13	14	15						
A Sleeping and resting																		
B Eating and drinking																		
C Personal care																		
D School (also homework)																		
E Work as employed																		
F Own business work																		
G Farming/livestock/fishing																		
J Shopping/getting service (incl health services)																		
K Weaving, sewing, textile care																		
L Cooking																		
M Domestic work (incl fetching wood and water)																		
N Care for children/adults/elderly																		
P Travelling and commuting																		
Q Watching TV/listening to radio/reading																		
T Exercising																		
U Social activities and hobbies																		
W Religious activities																		
X Other, specify...																		

Categories E (Work as employed) through P (Traveling and commuting) are included in the definition of “workload”. Note that this includes non-market or unpaid work (eg, care).

The total time spent includes primary and secondary activities:

**Total workload = sum of primary + 0.5(sum of secondary)**



Inadequacy cut-off: Inadequate if worked more than 10.5 hours in the previous day

Aggregation Method: N/A



## MODULE G6 continued: TIME ALLOCATION -- page 10

QNo.	Question	Response	Response options/Instructions
G6.02	How satisfied are you with your available time for leisure activities like visiting neighbors, watching TV, listening to the radio, seeing movies or doing sports?		READ: Please give your opinion on a scale of 1 to 10.  1 means you are not satisfied and 10 means you are very satisfied. If you are neither satisfied or dissatisfied this would be in the middle or 5 on the scale.



Inadequacy cut-off: Inadequate if not satisfied (<5)

Aggregation Method: N/A



	A	B	C	D	E	F
1	Dimension	Indicator name	Survey questions	Pilot Variable(s)	FTF Variables	Aggregation method
2	<b>Production</b>	Input in productive decisions	How much input did you have in making decisions about: food crop farming, cash crop farming, livestock raising, fish culture  To what extent do you feel you can make your own personal decisions regarding these aspects of household life if you want(ed) to: agriculture production, what inputs to buy, what types of crops to grow for agricultural production, when or who would take crops to market, livestock raising	B02 1-3,6 G02 A-E	G2.02 A-C, F G5.02 A-D	Achievement in two
3		Autonomy in production	My actions in [DOMAIN] are partly because I will get in trouble with someone if I act differently. Regarding [DOMAIN] I do what I do so others don't think poorly of me.	G03-G05 A-E	G5.03-G5.05 A-D	Achievement in any
4	Regarding [DOMAIN] I do what I do because I personally think it is the right thing to do					
5	Agricultural production, inputs to buy, crops to grow, take to market, livestock					
6	<b>Resources</b>	Ownership of assets	Who would you say owns most of the [ITEM]? Agricultural land, Large livestock, Small livestock, Chicks etc; Fish pond/equip; Farm equip (non-mech); arm equip (mechanized) Nonfarm business equipment House; Large durables; Small durables; Cell phone; Non-ag land (any); Transport	C02 A-N	G3.02 A-N	Achievement in any if not only one small asset (chickens, non-mechanized equipment and no small consumer durables)



	A	B	F	G	H	I	J
	Dimension	Indicator name	Aggregation method	Deprivation cut-off	Deprivation cut-off definition [Pilot variable(s)]	Deprivation cut-off definition [FTF variable(s)]	Weight
1	<b>Production</b>	Input in productive decisions	Achievement in two	Inadequate if individual participates BUT does not has not at least some input in decisions; or she does not make the decisions nor feels she could.	$B01==1 \ \& \ B02==1, \ ((G01!=1 \ \& \ A05==1) \ \& \ (G01!=2 \ \& \ A05==2)) \ \& \ G02==1$	$G2.01==1 \ \& \ G2.02==1, \ ((G5.01!=1 \ \& \ MALE) \ \& \ (G01!=2 \ \& \ FEMALE)) \ \& \ G5.02==2$	1/10
2		Autonomy in production	Achievement in any	Inadequate if RAI below 1	$RAI = -2*(G03) - (G04) + 3*(G03) > 1$	$RAI = -2*(G5.03) - (G5.04) + 3*(G5.03) > 1$	1/10
3							
4							
5							
6	<b>Resources</b>	Ownership of assets	Achievement in any if not only one small asset (chickens, non-mechanized equipment and no small consumer durables)	Inadequate if household does not own any asset or if household owns the type of asset BUT she/he does not own most of it alone	$C01a==1 \ \& \ (C02!=1, \ 3, \ 5, \ 7, \ 9)$	$G3.01a==1 \ \& \ (G3.02!=1, \ 3, \ 5, \ 7, \ 9)$	1/15



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**Questions?**



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# Using the Stata Do Files



- Clean individual level data for all respondents
  - With all the questions on the WEAI module (excluding time use), identifiers and variables you need for merging and grouping (IDs, sex, region, etc)  
*Pilots:* `ind_hh_clean_ban_uga_gua.dta`
  - Time use data in long format, so each individual has 24 obs (activities A-X)  
*Pilots:* `ind_f1_timepov_merged.dta`
- OPHI do files
  1. dataprep: `WEAI-dataprep_FTF_q-numbers.do`
  2. calculation: `Calculating-the-WEAI.do`



- Step 0: Run the **dataprep** and **calculation** do files using the given pilot data sets
  - Check that you obtain the same WEAI values as reported for the pilots
- Step 1: Modify the **dataprep** do file to run on your data set
  - Change relevant details: change directory, file names (log and data), variable names
  - Ensure that correct variable names are picked up for each indicator



```
WEAI-dataprep_FTF_q-numbers.do  Untitled.do
1  ** DO FILE HAS BEEN PREPARED BY ANA VAZ AND SABINA ALKIRE AT WWW.OPHI.ORG.UK //
2  ** FOR THE CALCULATION OF THE WOMEN'S EMPOWERMENT IN AGRICULTURE INDEX OF USAID.
3  ** THERE ARE TWO FILES YOU NEED TO MAKE THE INDEX; THIS ONE (DATAPREP) AND WEAI.
4
5  cd "D:\Users\hmalapit\My Work\WEAI\Example" // IMPORTANT: Change directory
6  capture log close
7  clear all
8  set more off
9  log using "dataprep_dofile_nodrop.txt", text replace
10 set mem 100m
11
12 *****
13 ***  PREPARATION OF DATASET ***
14 *****
15
16 use "ind_hh_clean_ban_uga_gua.dta", clear
17
18 *****
19 *** Modules B and G *** Update: Modules G2 and G5
20 *****
21
22 qui recode b02_* b03_* (6 98=.) // code as missing: 6=decision not made, 98=missing
23 qui recode b01* (98=.) // code as missing: 98=missing
24
25 ***b01*** // g2.01
26
27 foreach x of num 1/6{
28     gen partact_`x'=(b01_`x'==1)
29     replace partact_`x'=. if b01_`x'==.
30 }
```



- **Step 2:** run `dataprep do file`
  - Compare individual's responses to the relevant inadequacy cutoffs, code as `adequate` or `inadequate`
  - Aggregate their responses, applying the relevant aggregation rule
  - Create a new variable for each indicator
    - = `1` if individual has `adequate` achievements
    - = `0` if individual has `inadequate` achievements
    - = `.` if individual's response is `NA` or `missing`
  - Save as new individual level data file:  
`all_indicators.dta`



## *Production*

feelinputdecagr  
raiprod\_any

## *Leadership*

groupmember\_any  
speakpublic\_any

## *Resources*

jown\_count  
jrightanyagr  
credjanydec\_any

## *Time*

npoor\_z105  
leisuretime

## *Income*

incdec\_count

**Do NOT rename variables  
generated in the do files!!!**

**...unless you are a Stata expert...**



- **Step 3: run calculation do file**
  - Transform indicators so **1** identifies **inadequate**
    - = **1** if an individual has **inadequate** achievements
    - = **0** if an individual has **adequate** achievements
    - = **.** if the individual's response is **missing**
  - Save as new individual level data file:  
**all\_depr\_indicators.dta**



```
Calculating-the-WEAI_HM.do  Calculating-the-WEAI.do  WEAI-dataprep_FTF_q-numbers.do  Untitled.do
1  ** DO FILE HAS BEEN PREPARED BY ANA VAZ AND SABINA ALKIRE AT WWW.OPHI.ORG.UK //
2  ** FOR THE CALCULATION OF THE WOMEN'S EMPOWERMENT IN AGRICULTURE INDEX OF USAID.
3  ** YOU NEED TWO FILES TO MAKE THE INDEX: DATAPREP AND THIS ONE (WEAI).
4
5  cd "D:\Users\hmalapit\My Work\WEAI\Example" // IMPORTANT: Change directory
6  clear all
7  set more off
8  *set maxvar 10000
9  set mem 500m
10 set more off
11 cap log close
12
13 use "all_indicators.dta", clear
14 log using WEAI_dofile nodrop.txt, text replace
15
16
17 *****
18 *****      FIVE DOMAINS EMPOWERMENT (5DE)      *****
19 *****
20
21 // So far all_indicators were defined so 1 identifies adequate. //
22 // Now we transform indicators so 1 identifies inadequate. //
23
24 foreach var in feelinputdecagr raiproduct_any jown_count jrightanyagr credjanydec_any incdec_
25     rename `var' `var'_ndep
26     gen `var'=1 if `var'_ndep==0
27     replace `var'=0 if `var'_ndep==1
28 }
29
30 *We are now starting with 0-1 variables where 1 means that the person is inadequate in that
```



- **Step 3:** run **calculation** do file
  - Using this new data file, calculate 5DE and GPI
  - For each country **c**, save a dataset with the relevant empowerment figures for each gender (row 1 males, row 2 females)  
**results\_`c'\_gender.dta**
  - The datasets include the disempowerment figures for all cutoffs between 1% and 100%



- **Step 4: Extract results to fill out basic tables**
  - When extracting the info we focus on the relevant disempowerment cutoff, 20% (1- 80%)
  - 5DE: See lines 300 – 308 in **calculation** do file

```
Calculating-the-WEAI_HM.do  Calculating-the-WEAI.do  WEAI-dataprep_FTF_q-numbers.do  Untitled.do
295  /*
296  *** EXTRACT TABLES
297
298  // HOW TO EXTRACT RELEVANT INFO. EXAMPLE FOR COUNTRY 1 WITH CUTOFF 20% //
299
300  use "H:\OPHI\WEI\Do-files\results_1_gender.dta", clear // Example for country = 1 //
301
302  browse H_20p A_20p M0_20p EA_20p if gender==2 // DISEMPOWERED HEADCOUNT (H_20p), AVERAGE IN
303  browse H_20p A_20p M0_20p EA_20p if gender==1
304
305  browse *_CH_20p if gender==2 // INDICATORS CENSORED HEADCOUNTS FOR WOMEN. //
306  browse *cont_20_DAI if gender==2 // INDICATORS CONTRIBUTION TO DISEMPOWERMENT FOR WOMEN. /
307  browse *_CH_20p if gender==1
308  browse *cont_20_DAI if gender==1
309
310  */
```



browse H\_20p A\_20p M0\_20p EA\_20p if gender==2

	H_20p	A_20p	M0_20p	EA_20p
2	.6100917	.4156642	.2535933	.7464067

– GPI: See line 470 in **calculation** do file

```
466 *****
467 *** Summarize results ***
468 *****
469
470 bys country: sum H_GPI ci_average P1 GPI
471 bys country: count if a05==2
472 bys country: tab women_n
473
```



## How to recreate Table 9.1 from the Working Paper

	A	B	C	D	E	F	G	H
2	<b>Table 9.1: Bangladesh pilot WEAI</b>							
3	<b>Indexes</b>	<b>Southwestern Bangladesh</b>						
4		<b>Women</b>	<b>Men</b>					
5	<b>Disempowered Headcount (H)</b>	<b>61.0%</b>	59.8%					
6	<b>Average Inadequacy Score (A)</b>	<b>41.6%</b>	33.7%					
7	<b>Disempowerment Index (M0)</b>	<b>0.254</b>	0.201					
8	<b>5DE Index (1-M0)</b>	<b>0.746</b>	0.799					
9	<b>No. of observations</b>	<b>436</b>	338					
10	<b>% of Data used</b>	<b>96.9%</b>	96.6%					
11	<b>% of women with no gender parity (H<sub>GPI</sub>)</b>	<b>40.2%</b>						
12	<b>Average Empowerment Gap (I<sub>GPI</sub>)</b>	<b>25.2%</b>						
13	<b>GPI</b>	<b>0.899</b>						
14	<b>No. of women in dual households</b>	<b>350</b>						
15	<b>% of Data Used</b>	<b>94.6%</b>						
16	<b>WEAI</b>	<b>0.762</b>						
17								
18								
19	<b>Table 9.2: Guatemala pilot WEAI</b>							

**Malapit, Hazel (IFPRI):**  
This column of results (H, A, M0 & EA) for cutoff k=20 is obtained using the following code:  
File: Calculating-the-WEAI.do  
For women, Line: 302  
Code: browse H\_20p A\_20p M0\_20p EA\_20p if gender==2  
For men, Line: 303  
Code: browse H\_20p A\_20p M0\_20p EA\_20p if gender==1  
NOTE: the 5DE Index (1-M0) is called EA\_20p in the do files.

**Malapit, Hazel (IFPRI):**  
This column of results (H<sub>GPI</sub>, ci\_average & GPI) is obtained (for women only) using the following code:  
File: Calculating-the-WEAI.do  
Line: 407  
Code: bys country: sum H\_GPI ci\_average P1 GPI  
NOTE: the average empowerment gap (I<sub>GPI</sub>) is called ci\_average in the do files; P1 = H<sub>GPI</sub> \* ci\_average; GPI = 1- P1



# How to recreate Table 9.4 from the Working Paper

**Table 9.4: Bangladesh 5DE Decomposed by Dimension**

Statistics	Production		Ownership of assets	Sale, or transfer of assets	Credit and decisions on credit	Control over use of income	Leadership		Workload
	Input in productive decisions	Contribution in production					Group member	Speaking in public	
<b>WOMEN</b>									
Censored headcount	0.259	0.053	0.092	0.280	0.450	0.248	0.491	0.284	0.147
% Contribution	10.2%	2.1%	2.4%	7.4%	11.8%	19.5%	19.4%	11.2%	5.8%
Contribution	0.026	0.005	0.006	0.019	0.030	0.050	0.049	0.028	0.015
% Contr. by dimension	12.3%			21.6%		19.5%	30.6%		16.1%
<b>MEN</b>									
Censored headcount	0.083	0.024	0.053	0.201	0.456	0.027	0.494	0.399	0.225
% Contribution	4.1%	1.2%	1.8%	6.7%	15.1%	2.6%	24.5%	19.8%	11.2%
Contribution	0.008	0.002	0.004	0.013	0.030	0.005	0.049	0.040	0.022
% Contr. by dimension	5.3%			23.5%		2.6%	44.3%		24.1%

**Malapit, Hazel (IFPRI):**  
This row is obtained using the following Stata code:  
File: Calculating-the-WEAI.do  
Line: 305  
Code: browse \*\_CH\_20p if gender==2

**Table 9.5: Guatemala 5DE Decomposed by Dimension**

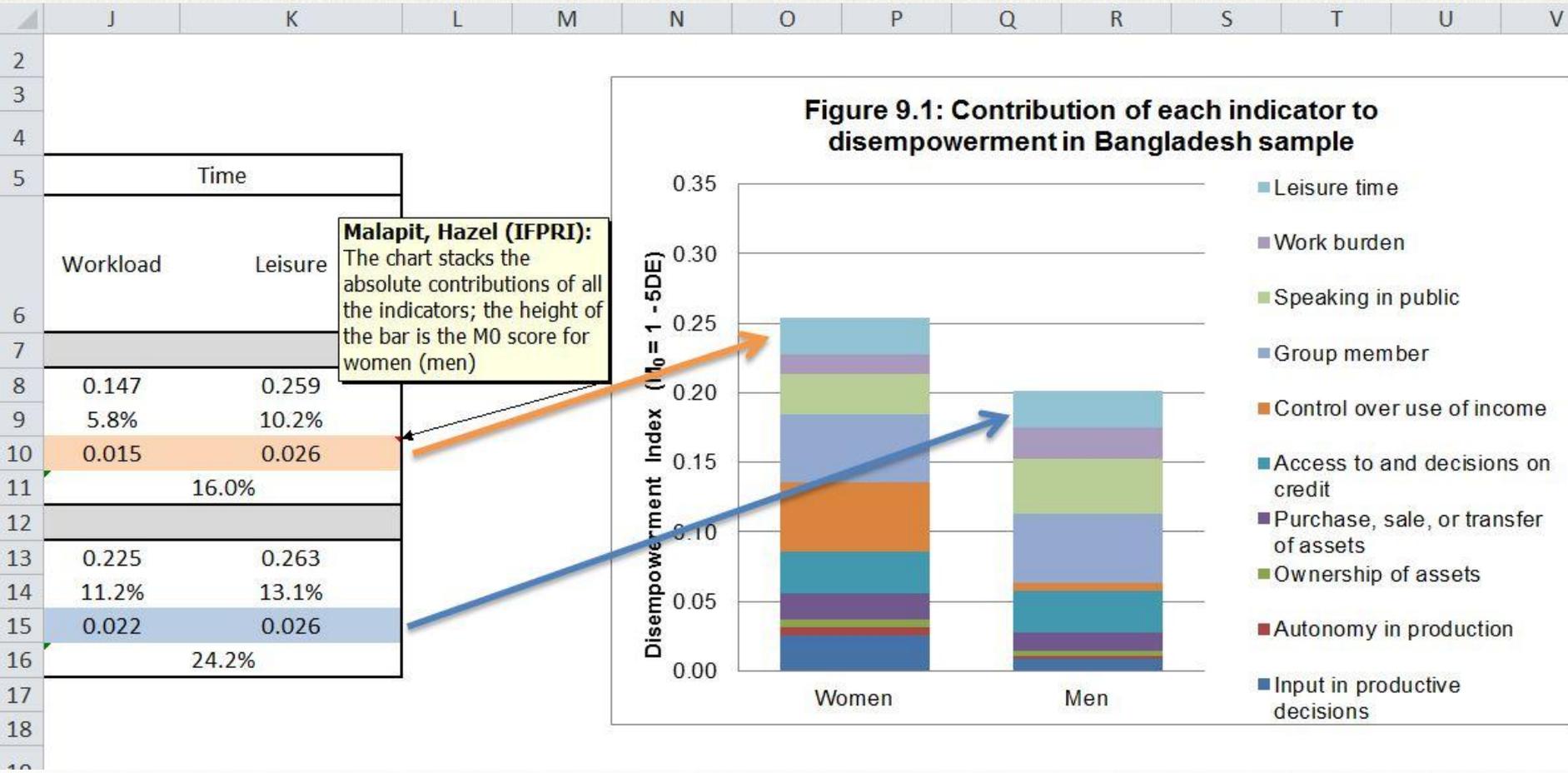
Statistics	Production		Ownership of assets	Sale, or transfer of assets	Credit and decisions on credit	Control over use of income	Leadership		Workload
	Input in productive decisions	Contribution in production					Group member	Speaking in public	
<b>WOMEN</b>									
Censored headcount	0.083	0.024	0.053	0.201	0.456	0.027	0.494	0.399	0.225
% Contribution	4.1%	1.2%	1.8%	6.7%	15.1%	2.6%	24.5%	19.8%	11.2%
Contribution	0.008	0.002	0.004	0.013	0.030	0.005	0.049	0.040	0.022
% Contr. by dimension	5.3%			23.5%		2.6%	44.3%		24.1%

**Malapit, Hazel (IFPRI):**  
This is the absolute contribution is obtained by multiplying the censored headcount with the indicator weight.  
For example:  
 $B10 = B8/B1$

**Malapit, Hazel (IFPRI):**  
This row is obtained using the following Stata code:  
File: Calculating-the-WEAI.do  
Line: 306  
Code: browse \*\_cont\_20\_DAI if gender==2



## How to recreate Figure 9.1 from the Working Paper





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# For more information

**OPHI Website:**

<http://www.ophi.org.uk/weai-right-sidebar/>

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# Final Questions?