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Role of Economic Empowerment of Women on the Economy of Bangladesh

Background & objectives

1

Background and context (1/3)

- Attainment of sustainable development goals would be impossible without improving women's socio-economic condition.
- Women, particularly those from more impoverished income strata and those with lower education or ethnic backgrounds, are subject to greater degree of vulnerability.
- In this context, investing in women's economic empowerment (WEE) can be considered as an essential strategy for Bangladesh's development.

Background and context (2/3)

- Progress made on women's economic empowerment in Bangladesh is somewhat mixed.
- In addition to the role of the Government, contribution of NGOs and development partners in women's economic empowerment could not be overstated.
- The World Vision Bangladesh (WVB), one of the largest donors and advocacy organisations working in Bangladesh, have long been emphasising on women empowerment.
- There are three major programmes of WVB which have a specific focus on women economic empowerment: **Ultra-poor Graduation Programme (UPG), Nobojatra – New Beginning, and Nutritional Sensitive Value Chains (NSVC) for Smallholder Farmers.**

Objectives and Scope of the Study (3/3)

Primary objective

To understand the overall scenario of women economic empowerment in Bangladesh based on the evaluation of the programmes of WVB and to quantify the relationship between WEE and GDP.

Specific objectives:

- Assessing the extent to which the mentioned WVB interventions (i.e. UPG, NSVC, Nobojatra) related to WEE contributed to women economic empowerment and identifying the challenges, lessons learnt, and gaps in the interventions.
- Second, identifying the relationship between WEE and economic growth or GDP based on economic models.
- Finally, based on the research findings, identifying the role of stakeholders and prioritising a set of policy recommendations for ensuring WEE.

Literature review

2

Literature Review (1/3)

- Economic empowerment is about making markets work for women (at the policy level) and empowering women to compete in markets (at the agency level) (World Bank, 2006).
- WEE can be thought as a process of transforming women's lives from a situation whereby they have limited power and access to common resources to a situation where they experience economic advancement.
- A wide array of literature established that there is a positive relationship between female participation in the labour force and economic growth.

- Klasen and Lamanna (2008), while using a 40-year-long panel dataset, found that a reduced gender gap in employment and education has a positive impact on economic growth.
- The growth-enhancing effect of export-oriented industrialisation supported by increased female labour force participation has also been highlighted by Blecker and Seguino (2002).

Literature Review (2/3)

- Bandiera & Natraj (2013) analyse the combined effect of gender gaps in labour force participation and education which is known as the effective labour on economic output per worker. They found that, on average, a 1 per cent increase in the gender gap was associated with the reduced output of about 0.30 per cent. This rate was close to 0.50 per cent for Africa.
- The gender gap in Africa leads to an estimated economic loss of US$ 255 billion. On average, between 2010 and 2014, the region lost about $95 billion annually, equivalent to about 6.0 per cent of GDP (United Nations Development Programme, 2016).
- According to the IFC estimate, there is a credit gap of $285 billion, and 70 per cent of women-owned businesses are either not served or under-served (IFC, 2011).
- Millions of jobs could be created if women could start businesses as often as men (Aidis et al., 2015).

Literature Review (3/3)

Based on the literature, the key indicators for measuring women economic empowerment can be identified as follows:

- The working status of women in the past seven days
- Whether women are earners or not
- Women's involvement in major household decision making
- Women’s control over her own earning and how to spend it
- Women’s control over overall household spending
- Women's ownership of productive assets such as land, animals, and machinery
- Women's access to information and technology

Methodology

3

Overall Methodology

- This study adopts a mixed approach combining qualitative and quantitative techniques.
- The methodology comprises three integral parts:

✓ Desk research combing scanning of the secondary literature, policy documents, as well as data sources and secondary data analysis.

✓ Collection of primary data through qualitative and quantitative approaches.

✓ Econometric models for establishing the relationships between the variables of interests based on secondary data and the survey data.

Overall Methodology (cont.)

Desk Research:

- Documents related to the projects of WVB and government policies regarding women's economic empowerment were thoroughly reviewed.
- Relevant available secondary data sources were also examined including:
  - Labour Force Survey (2017);
  - Household Income and Expenditure Survey 2016;
  - SANEM-GED Household survey, 2018;
  - Multiple Indicator Cluster Survey (MICS) (2018);
  - Penn World Table (version 10);
  - and International Labour Organization's (ILO) database - ILOSTAT.

Overall Methodology (cont.)

Primary Data collection:

- Both qualitative, as well as quantitative approaches were undertaken:
- Quantitative approach: a primary field survey conducted.
- Qualitative approach: Many social aspects remain unrepresented in quantitative data. To capture them, Focus Group Discussions (FGD) and Key Informant Interviews (KIIs) were conducted.

Overall Methodology (cont.)

Focus Group Discussion (FGD):

- For gathering information on a set of specific topics which cannot be explained statistically otherwise, FGD is a key method (Start & Hovland, 2004).
- This study conducted 2 FGDs - one in Dhaka and the other in Jamalpur with the programme beneficiaries of the World Vision Bangladesh programmes.
- For the FGDs, the study team used a semi-structured qualitative checklist.
- SANEM ensured a free flow of conversation between the researchers and the participants.

Overall Methodology (cont.)

Key Informant Interview (KII):

- ✔ 15 interviews with key informants were conducted
- ✔ The study preliminarily mapped the major stakeholders involved in Bangladesh.
- ✔ The stakeholders can be broadly categorised into four groups, namely – (i) civil society associations and foundations, (ii) donor organisations involved in the process, (iii) Government representatives, and (iv) international non-government organisations (INGOs).
- ✔ All the KIIs were conducted through a video conference call given the pandemic situation.
- ✔ In total, eight KIIs were conducted with these stakeholders. Remaining seven KIIs consist of the programme beneficiaries.

Overall Methodology (cont.)

Quantitative survey:

- ✔ While the qualitative approach provided a broader aspect, in order to understand the individual programme impacts of the World Vision Bangladesh – a thorough survey was essential.
- ✔ In this respect, the study team surveyed beneficiaries from the three selected World Vision Bangladesh programmes – NSVC, Nobojatra and UPG
- ✔ For a proper comparison, a representative number of non-beneficiaries were also surveyed.
- ✔ The main objective of the survey was to assess whether and to what extent the WVB programmes economically empowered the beneficiary women

Quantitative survey

- ✔ Given the objective of the survey, the sample size needs to be population-representative.
- ✔ Following the sampling technique suggested by Bartlett, Kotrlik and Higgins (2001), with a 5 per cent margin of error and 95 per cent confidence interval, the sample size is defined as followed:

$$ss = \frac{Z^2 * p * (1 - p)}{c^2}$$

where,

ss = Sample size

Z = Z value (1.96 for 95% confidence interval)

p = Percentage picking a choice, expressed as decimal (here, 0.5)

c = Confidence interval, expressed as decimal (0.05 = for 5 per cent margin of error)

Quantitative Survey

- ✔ Following this framework, the minimum sample size was found as 384.
- ✔ However, considering a design effect of 1.5, the sample size was estimated to be approximately 577.
- ✔ Assuming 10 per cent non-responses, the total sample size with some adjustments was selected as 650.
- ✔ These 650 households were selected from the beneficiaries of selected three WVB programs.
- ✔ However, to evaluate the impact of the interventions of WVB, a comparison group is required as a control who did not receive WVB programmes
- ✔ To construct a reasonably large comparison group for the treated population, the sample size for the non-beneficiaries was selected to be 200.
- ✔ The total sample size for the survey, including both treatment and control groups, was 850 households.

Survey Coverage

Table: Number of Households surveyed by division and program

Division	District	Beneficiary			Non-Beneficiary	Total
		UPG	NSVC	Nobojatra		
Chattogram	Bandarban	60	-	-	25	85
Dhaka	Dhaka	60	-	-	25	85
Rangpur	Dinajpur	60	-	-	25	85
Mymensingh	Jamalpur	-	130	-	15	145
	Mymensingh	30	-	-	10	40
Barishal	Pirojpur	60	-	-	25	85
Rajshahi	Rajshahi	60	-	-	25	85
Khulna	Satkhira	-	-	130	25	155
Sylhet	Sylhet	60	-	-	25	85
Total		390	130	130	200	850

State of Women Economic Empowerment in Bangladesh: Findings from secondary data analysis

4

Trends in the labour force participation and employment in Bangladesh

	1999/00	2005/06	2010	2013	2015/16	2016/17
Labour force (millions)						
Both	40.7	49.5	56.7	60.7	62.1	63.5
Male	32.2	37.3	39.5	42.5	43.1	43.5
Female	8.6	12.1	17.2	18.2	19.1	19.9
Employed population (millions)						
Both	39	47.4	54.1	58.1	59.5	60.8
Male	31.1	36.1	37.9	41.2	41.8	42.2
Female	7.9	11.3	16.2	16.8	17.8	18.6
Labour force participation rate (%)						
Both	54.9	58.5	59.3	57.1	58.5	58.2
Male	84	86.8	82.5	81.7	81.9	80.5
Female	23.9	29.2	36	33.5	35.6	36.3

Source: Labour force surveys of BBS (various years)

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Types of employment for male and female (% of total)

	2005/06		2010		2016/17	
Types	Male	Female	Male	Female	Male	Female
Wage employment	40	23.9	46.1	18.5	**42.6**	**31.2**
Self-employment	50.4	16	47.7	25.3	**52.5**	**39.2**
Unpaid family worker	9.7	60.1	7.1	56.3	**4.2**	**29.1**

Source: Labour force surveys of BBS

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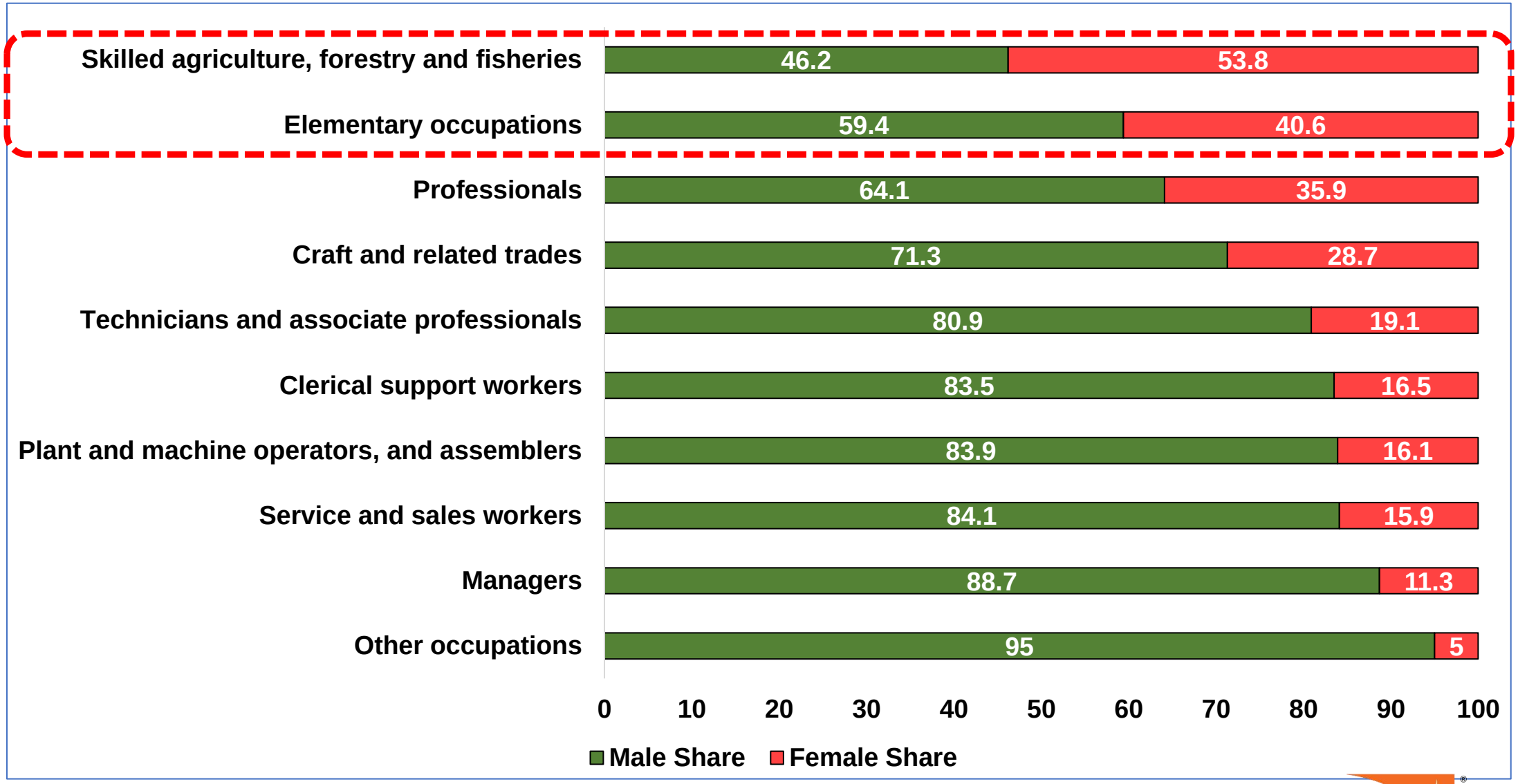
Occupation distribution of male and female (% of total)



Source: Labour force survey, 2017

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Overview of the programmes

5

Nobojatra

- Nobo Jatra or New Beginning is a five-year programme funded by the USAID
- The programme is being implemented in partnership with the Ministry of Disaster Management, GoB, and Winrock international
- The objective of the program is to induce and improve gender equitable food security, nutrition and resilience in the Southwest regions of Bangladesh.
- The project is implemented in Dacope and Koyra Upazilas in Khulna and Shyamnagar and Kaliganj Upazilas in Satkhira, targeting 200,495 households and 856,116 beneficiaries.
- The program attempts to address the Sustainable Development Goals (SDGs) of no poverty, zero hunger, gender equality, clean water and sanitation, decent work and economic growth and responsible consumption and production to generate sustainable improvements in the southwest coastal region of Bangladesh.

NSVC

- NSVC is a five-year project with an aim to improving the nutrition of 20,000 smallholder male and female farmers and their households in Jamalpur district, a Northern area of Bangladesh
- The programme covers 90,000 direct beneficiaries in 3 Upazilas.
- Through the adoption of nutrition sensitive agriculture (NSA) approach, the program aims to increase the income of male and female smallholder farmers and their households with gender and nutrition-sensitive value chain development that will enable farmers to afford nutritious food for the household (income pathway).
- The program aims to attain four broad outcomes from the interventions, which are higher income from value chain activities, improved consumption of nutritious food, improved gender-equitable relationships and increased learning on nutritious sensitive agriculture in Bangladesh

Ultra-poor graduation programme (UPG)

- In order to address and mitigate chronic poverty across four sub-districts in the Khulna division, Nobojatra undertook a modified version of BRAC's graduation model and the graduation approach of the USAID Food for Peace (FFP) Learning Agenda.
- The model aims to empower ultra-poor women by helping them graduate out of extreme poverty
- It provides the women with entrepreneurial training, access to savings, engagement with financial institutions, cash transfer, IGA implementation, productive asset development, kitchen gardening, coaching, and mentoring.
- The interventions also include life skills training, savings practice, and conditional cash grant transfer for livelihood promotion.

Survey Findings

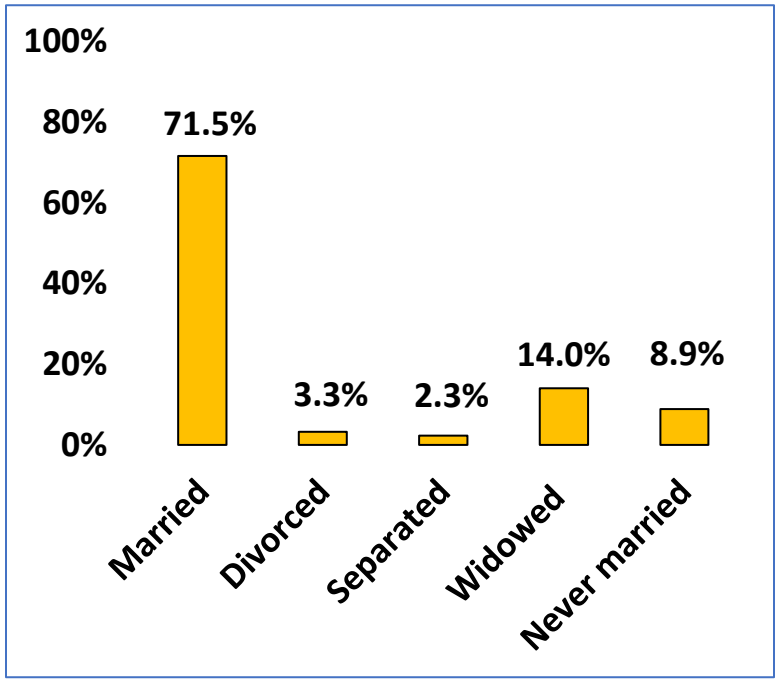
6

Distribution of interviewed women

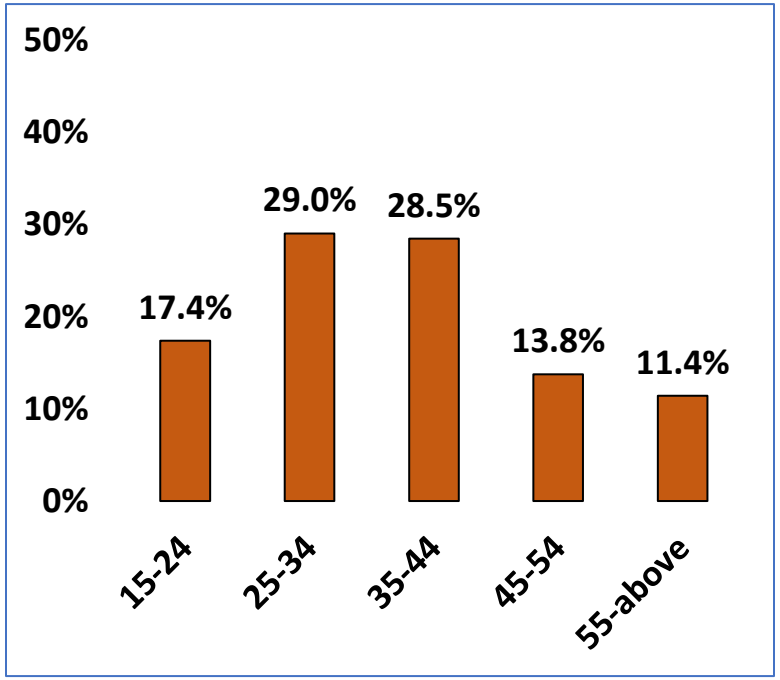
By program status

Program status	Frequency	%
Beneficiary	647	61.8
Family member of the beneficiary	150	14.33
Non-beneficiary	250	23.88
Total	1047	100

By marital status



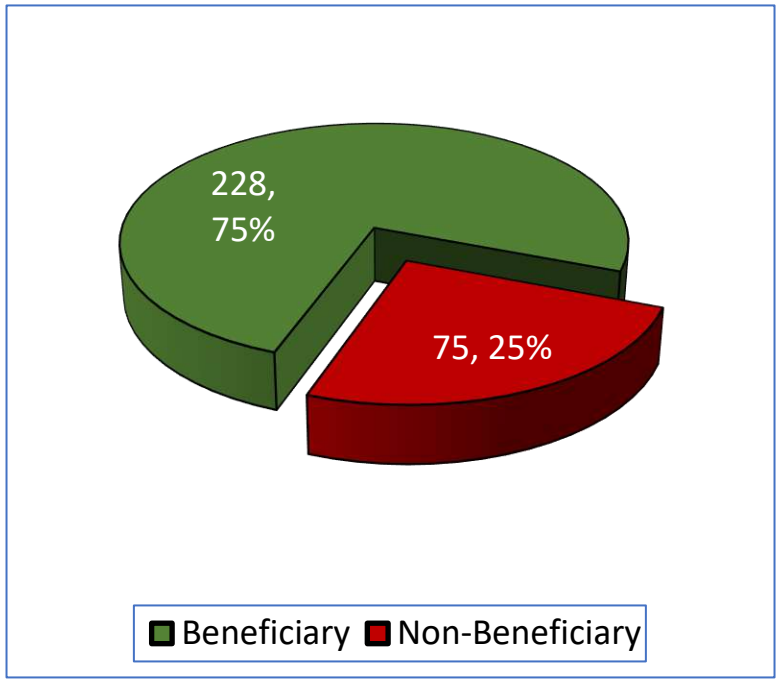
By age group (%)



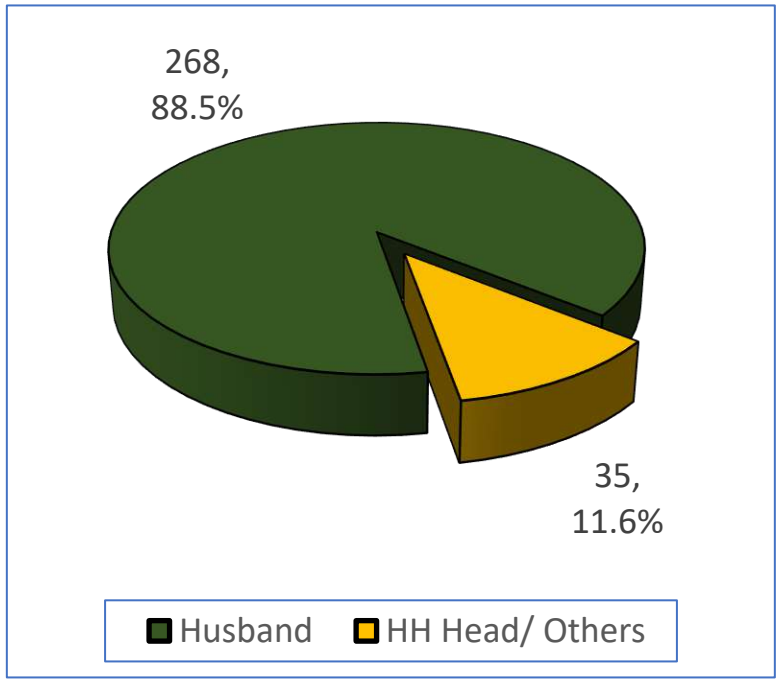
Source: SANEM-WVB survey 2021

Distribution of male respondents

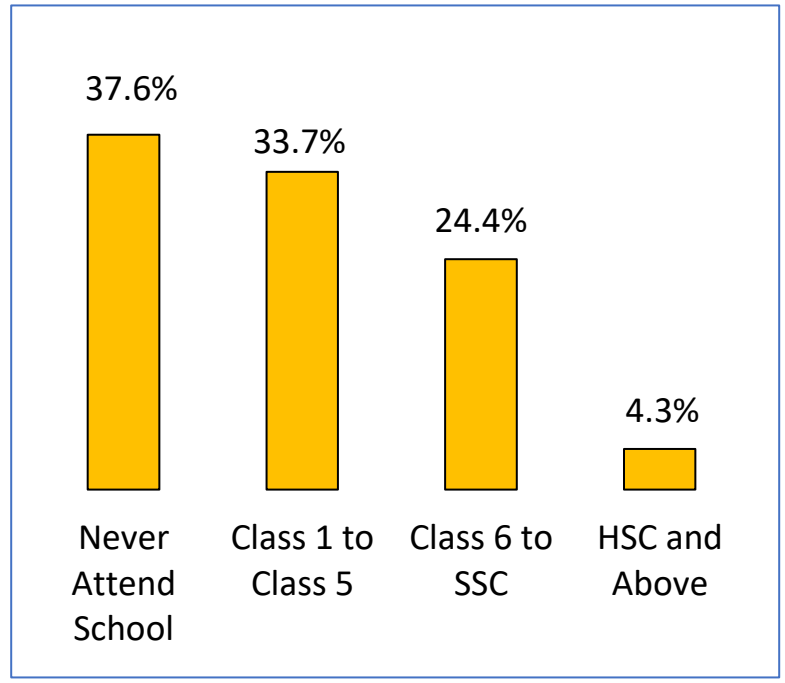
By program status (% of all males)



Relationship with the female respondent



Education level (% of all males)



Source: SANEM-WVB survey 2021

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Basic household characteristics (1/2)

Indicators	Overall (%)	Beneficiary (%)	Non-beneficiary (%)
Construction material of the walls of the main room			
▪ Straw/bamboo/polishing/plastic/canvas/Jhupri /mud	35.3	34.9	36.5
▪ Tin (galvanized sheet – commonly termed as GI sheet)	44.5	47.1	36.0
▪ Tally/Semi- pacca	5.3	5.1	6.0
▪ Pacca (brick and cement)	14.9	12.9	21.5
Type of tenancy occupied by dwelling-household			
▪ Owned	72.0	75.2	61.5
▪ Rented	8.6	6.6	15
▪ Rent-free	9.8	9.5	10.5
▪ Provided free by relatives/ employer	6.0	6.2	5.5
▪ Government residence	3.7	2.5	7.5
Main source of light in your household			
▪ Electricity	91.2	92.31	87.5
▪ Solar electricity	3.2	2.92	4.0
▪ Kerosene	5.7	4.77	8.5
Main cooking fuel in your household			
▪ Wood/ bamboo	54.4	55.85	49.5
▪ Kerosene	0.1	-	0.5
▪ Gas/LPG	9.3	8	13.5
▪ Electricity	0.1	-	0.5
▪ Straw/dry leaf/ cow dung	36.1	36.15	36.0

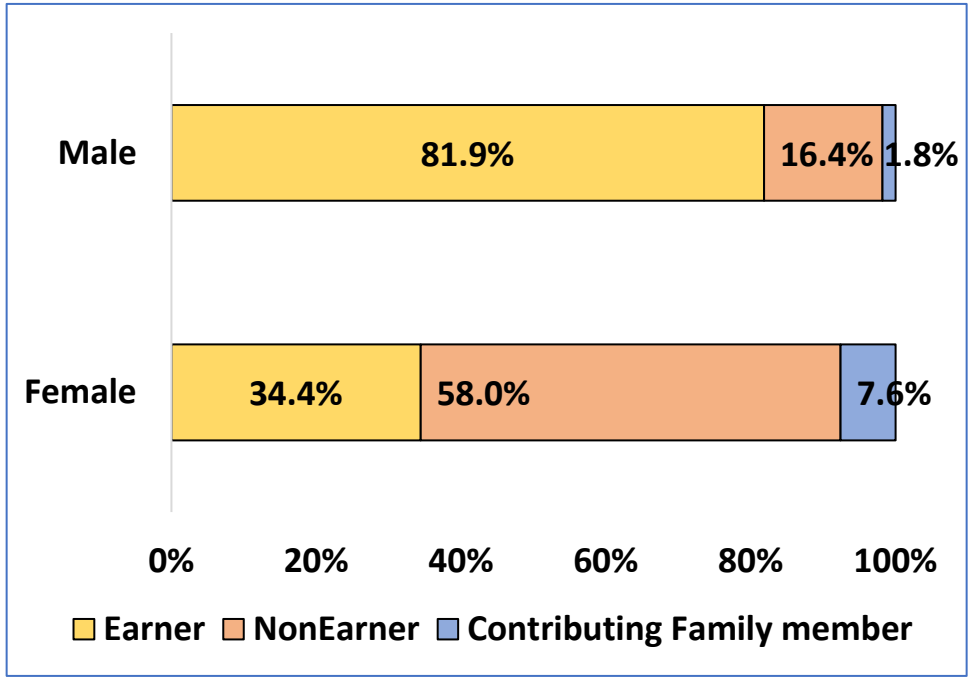
Basic household characteristics (2/2)

Indicators	Overall (%)	Beneficiary (%)	Non-beneficiary (%)
Main source of household income			
▪ Agriculture	32.6	35.23	24.0
▪ Industry	14.9	14	18.0
▪ Service	43.7	44.31	41.5
▪ Government allowance/pension	1.2	1.23	1.0
▪ Remittance	1.4	1.38	1.5
▪ Others	6.2	3.85	14.0
Main source of drinking water in your household			
▪ Tap/supply	20.1	22.2	13.5
▪ Tube-well/ deep tube- well	75.8	75.1	78
▪ Ring well/ Indara/Kup	1.2	0.8	2.5
▪ Surface water (pond, river, canal)	2.9	2.0	6
Distance to the source of the drinking water (in minutes)			
▪ Inside the house	58.9	58.5	60.5
▪ Within 30 minutes of walking distance	36.7	38.5	31
▪ More than 30 minutes of walking distance	4.4	3.1	8.5
Kind of toilet facility			
▪ Sanitary (water sealed)	13.9	13.2	16
▪ Sanitary (not water sealed)	53.8	54.6	51
▪ Non-sanitary/ Kacha	29.4	30.0	27.5
▪ Open space/no latrine	2.9	2.2	5.5
Distance to the toilet facility			
▪ Inside the house	85.5	87.1	80.5
▪ Within 30 minutes of walking distance	13.3	12.0	17.5
▪ More than 30 minutes of walking distance	1.2	0.9	2
Average Household Size	4.8	4.9	4.4
Female: Male ratio	113: 100	113: 100	112: 100

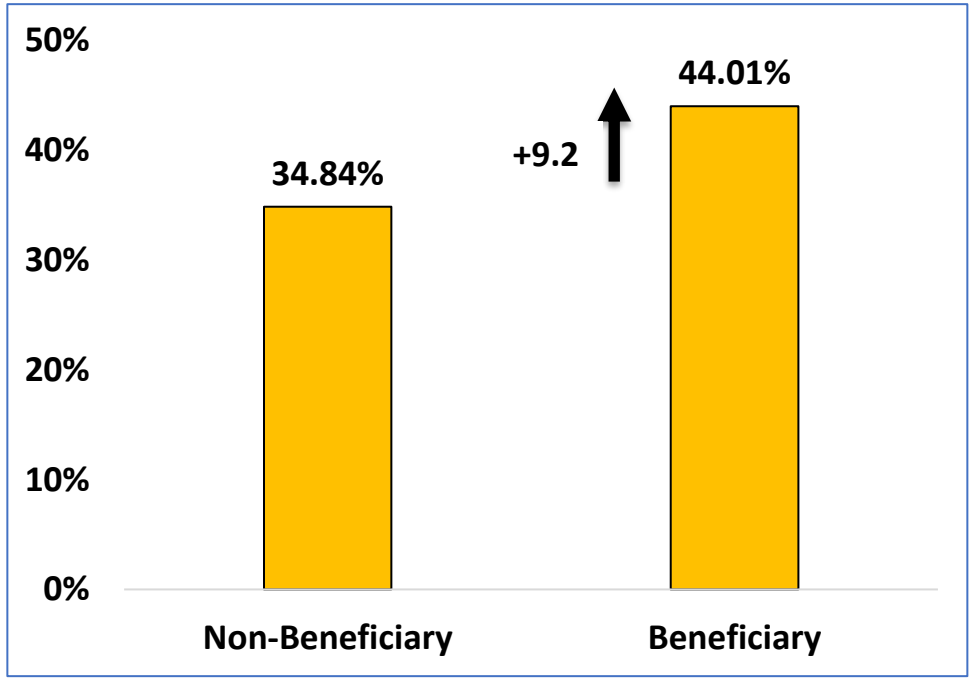
Comparison between beneficiaries and non-beneficiaries on selected indicators

Women employment

Earning status by sex (% of 15-49 years male and female)



% of women employed by participation in the program



Source: SANEM-WVB survey 2021

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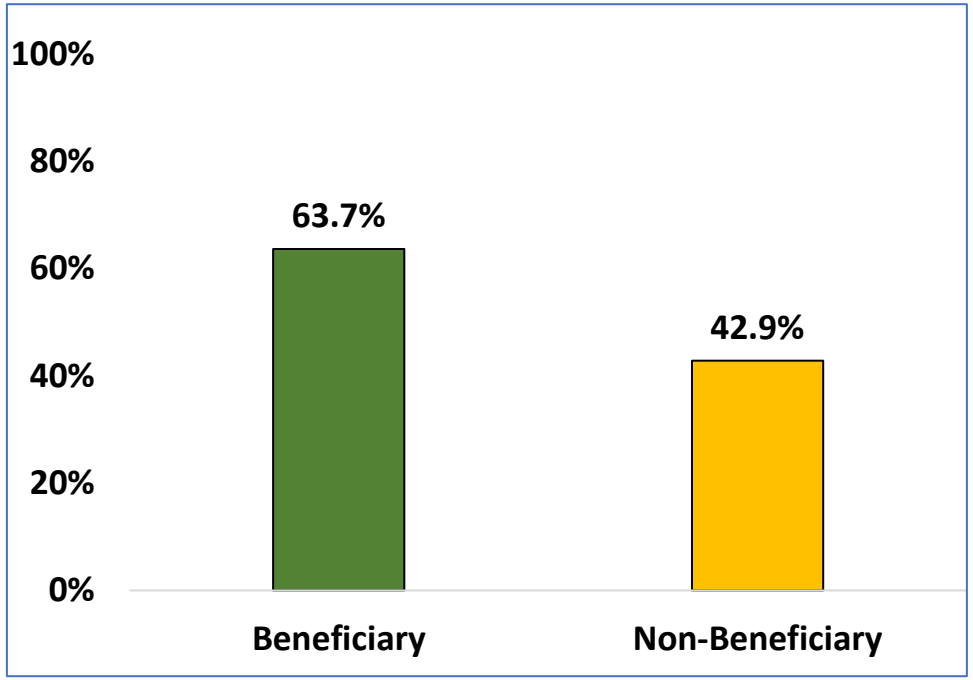
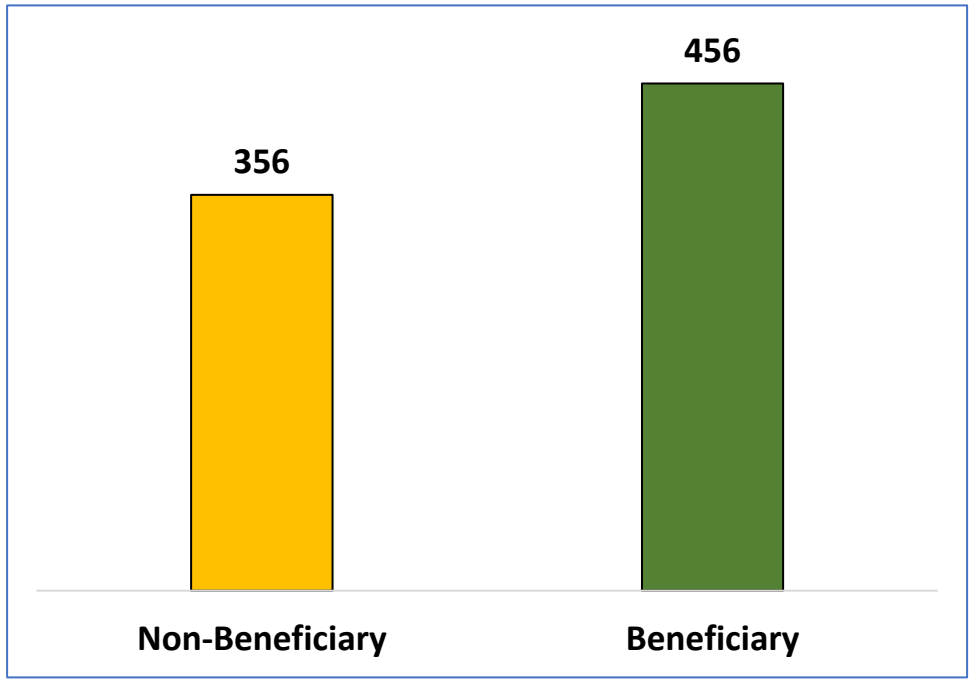
Savings

Percentage of earner women who save some parts of their earning



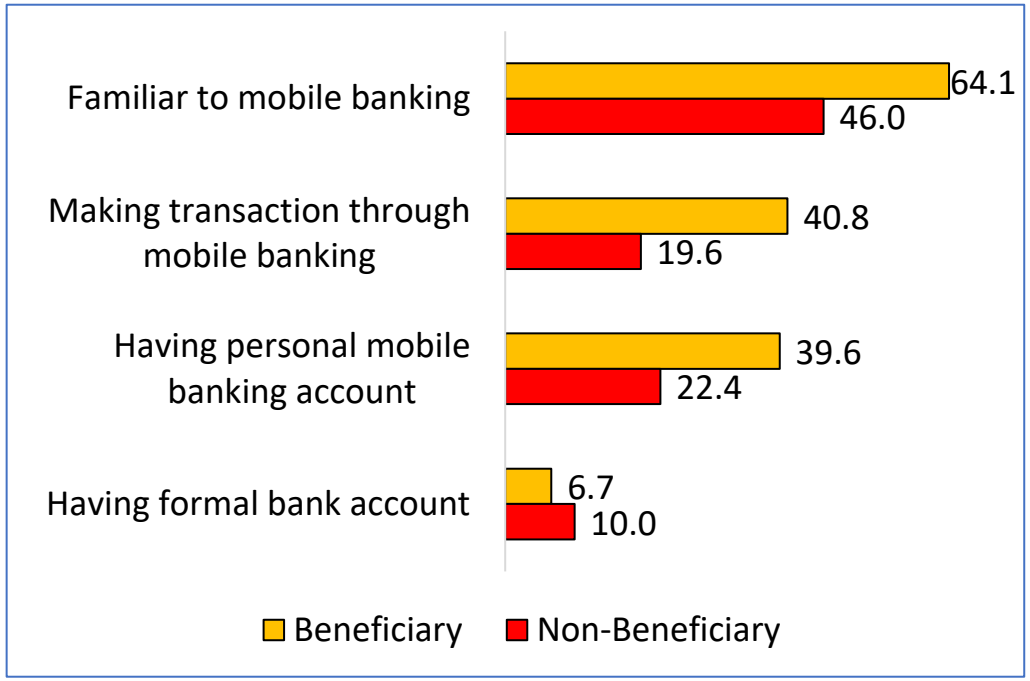
Average savings per month by earner women (BDT)



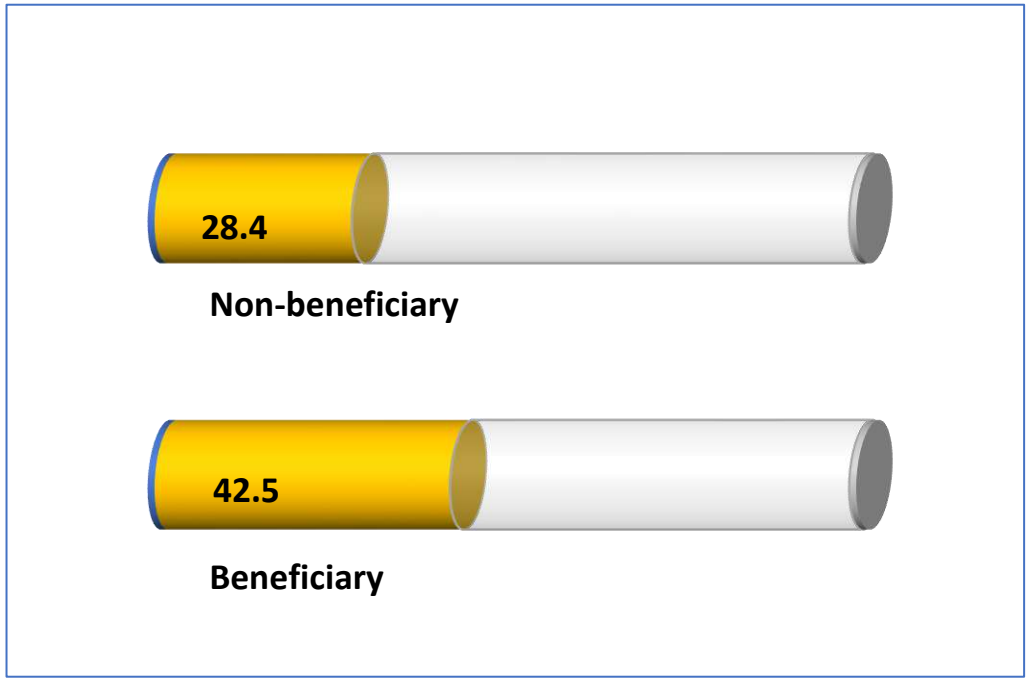
Source: SANEM-WVB survey 2021

Financial inclusion

Percentage women aged 15+ have financial literacy

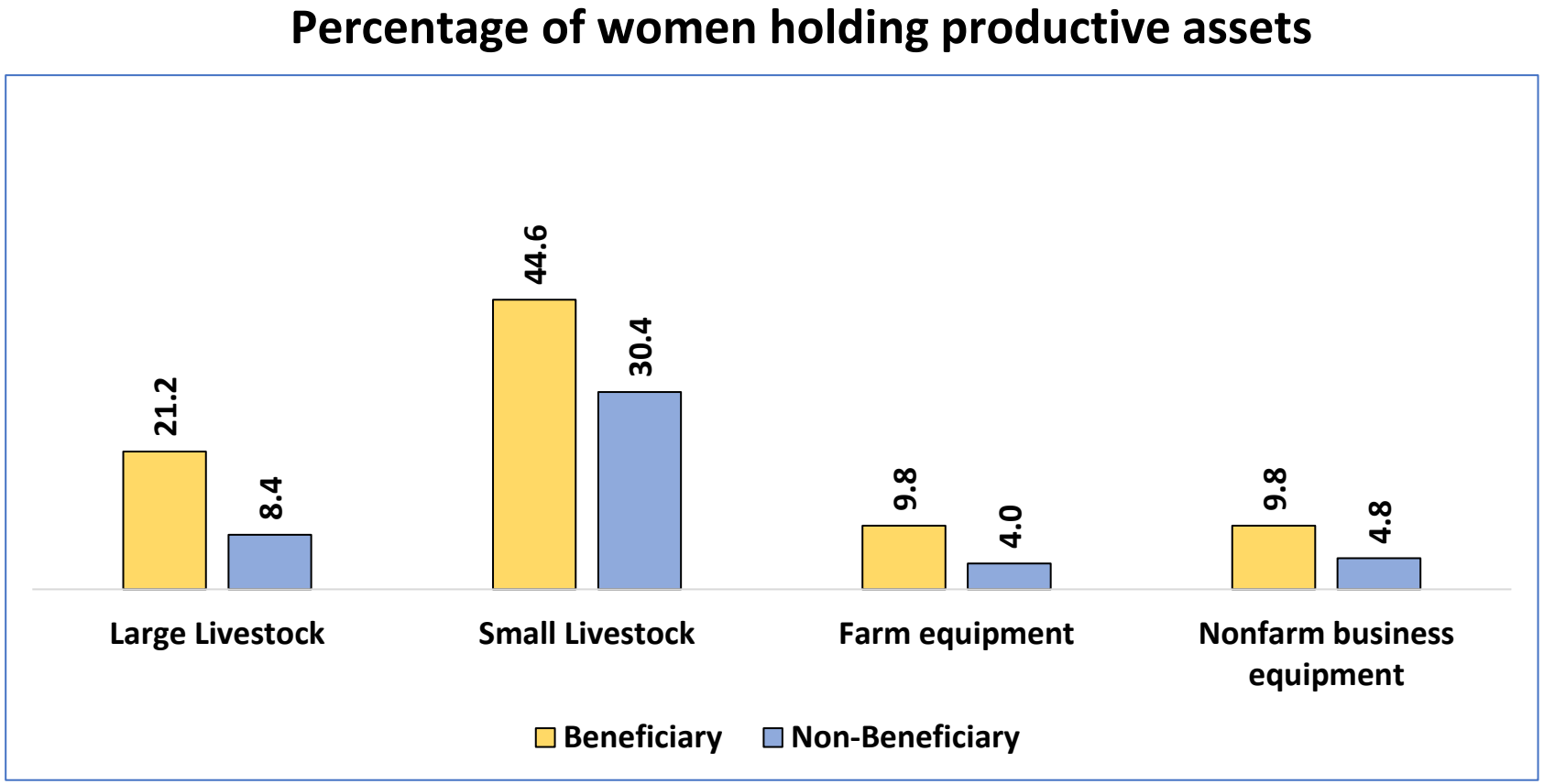


Percentage of women having bank and/or mobile bank account



Source: SANEM-WVB survey 2021

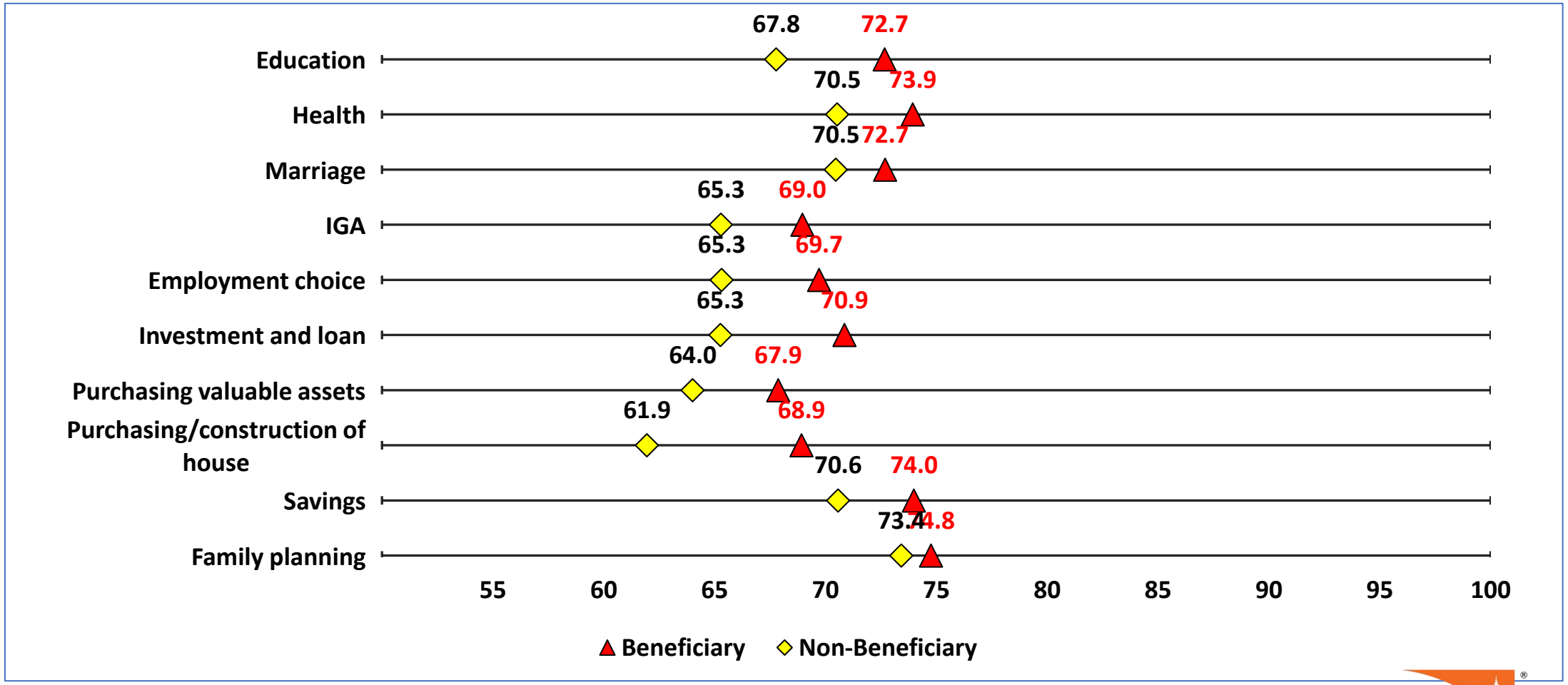
Productive asset accumulation



Source: SANEM-WVB survey 2021

Participation in household major decision making

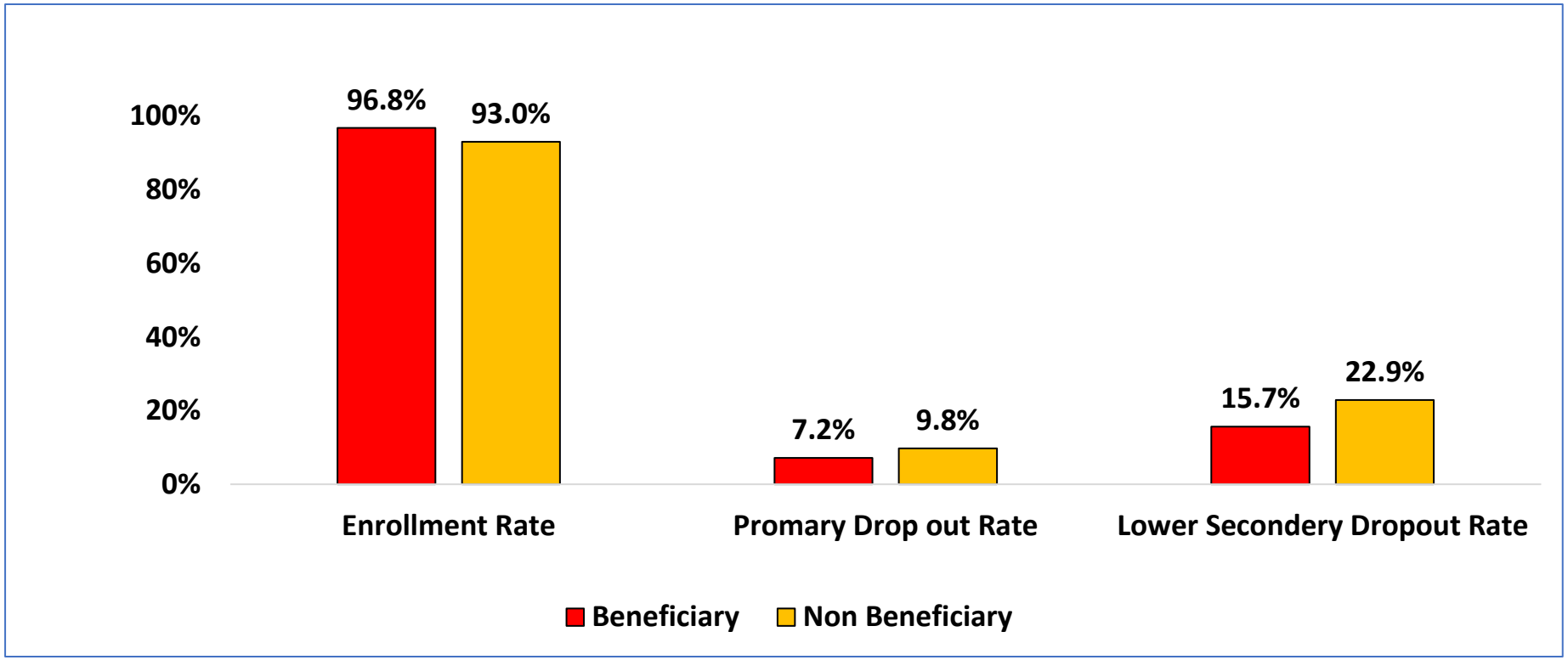
Women participation score (0 to 100) on major household decision making



Source: SANEM-WVB survey 2021

Education

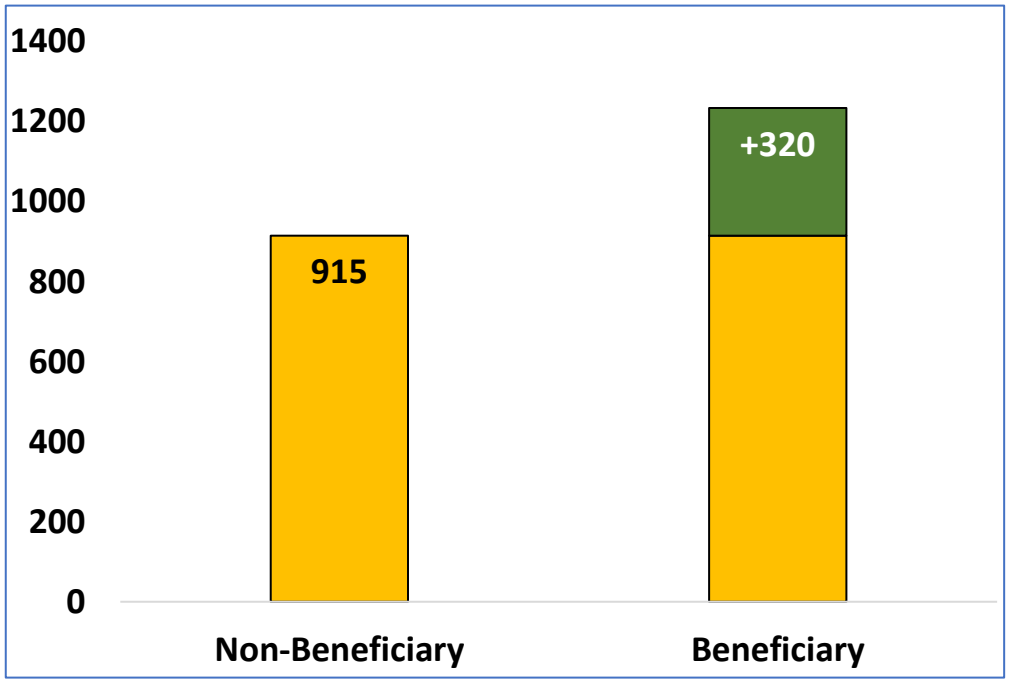
School enrollment and school dropout rates by programme participation



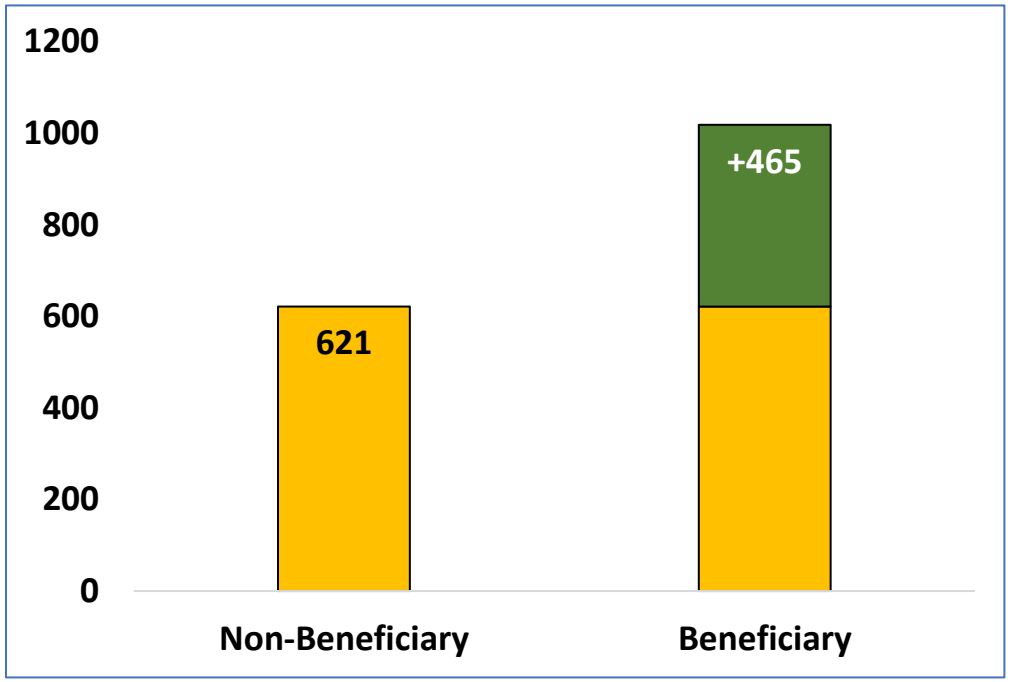
Source: SANEM-WVB survey 2021

Expenditure on human capital development

Average monthly education expenditure (BDT)



Average monthly healthcare expenditure (BDT)



Source: SANEM-WVB survey 2021

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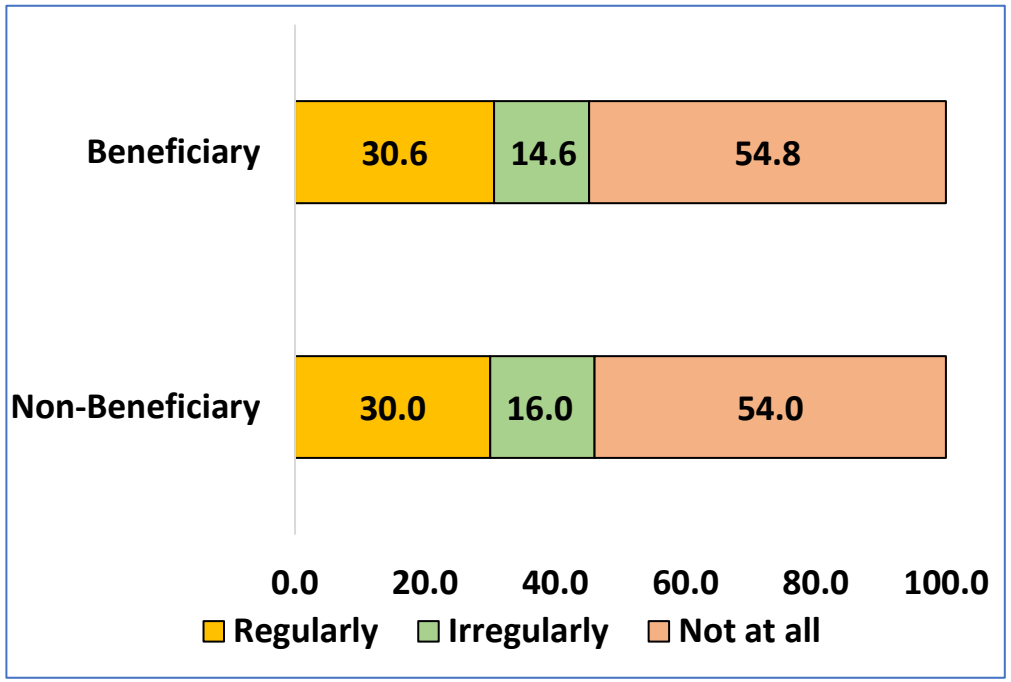
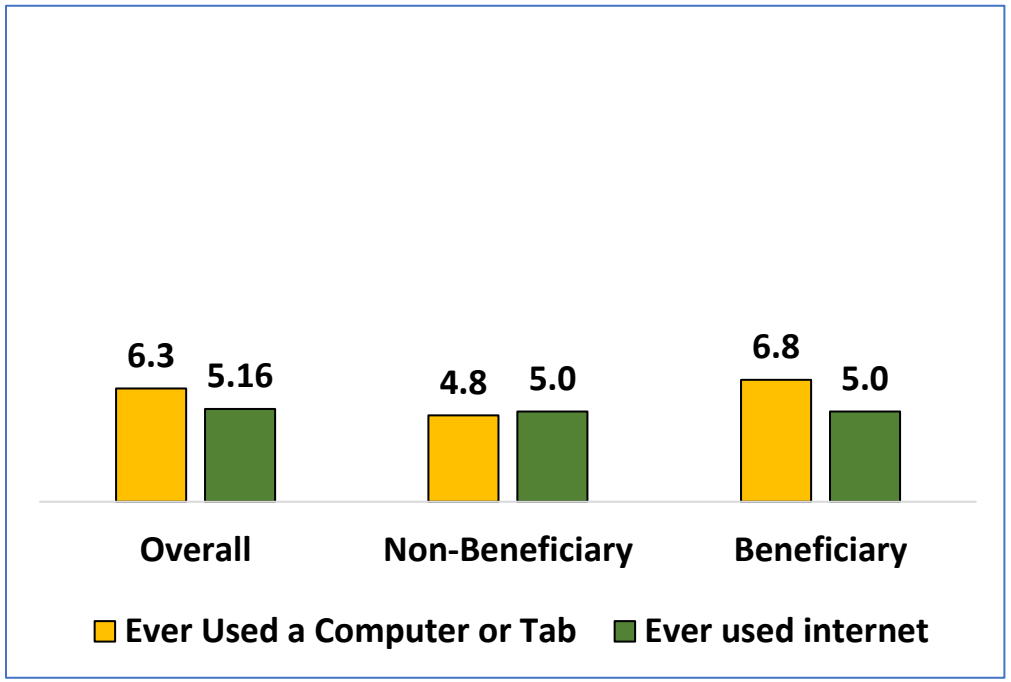
Women's access to media and ICT

Women access to media (TV or Newspaper (%)

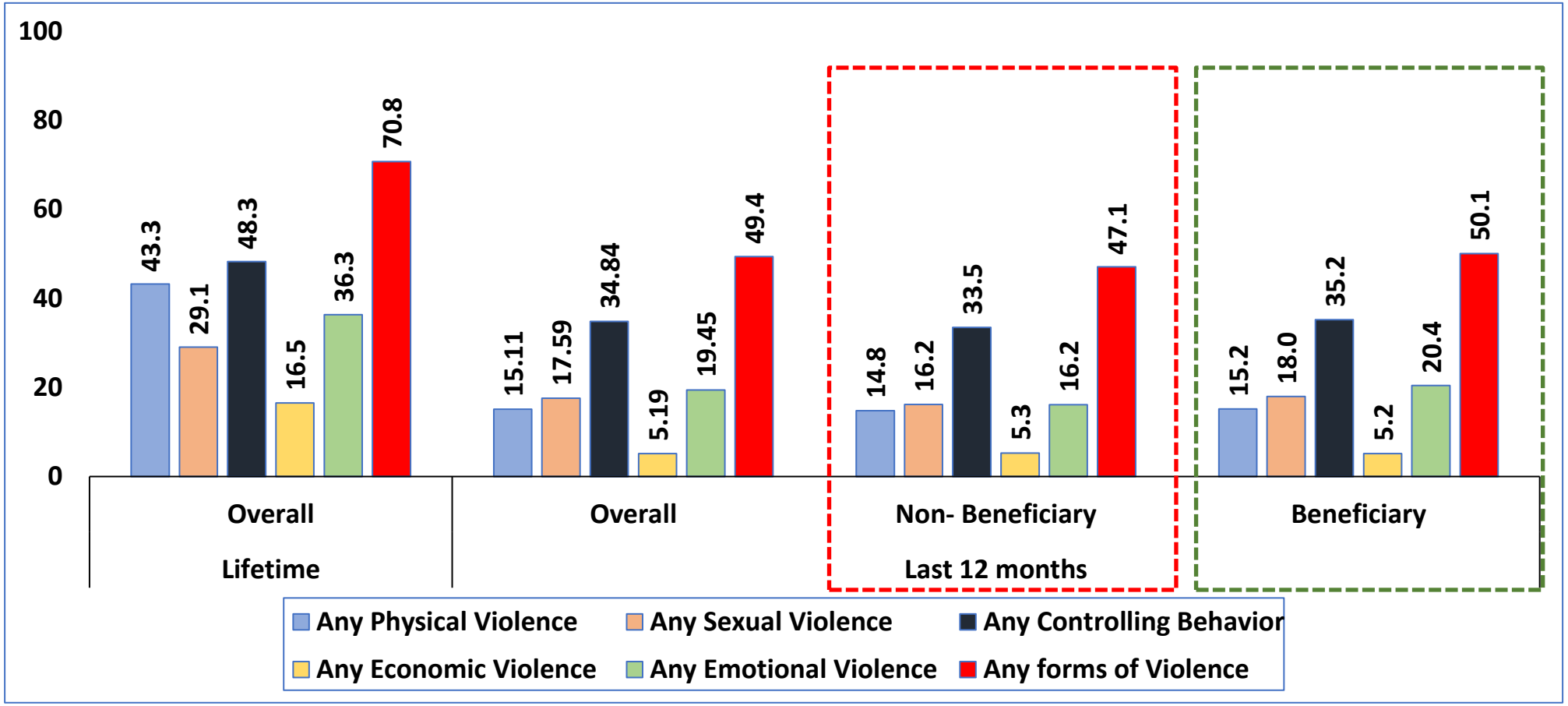


Women access to ICT (%)



Source: SANEM-WVB survey 2021

Violence against women



Source: SANEM-WVB survey 2021

Male perception toward women economic empowerment

Male perception toward WEE (% of total)

	Statements	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1	If women engage in work, they eventually take jobs away from men	9.24	23.76	10.23	32.34	24.42
2	If women engage in income-generating activities, it is helpful for the household.	33	54.13	6.93	4.62	1.32
3	Women working outside the home increase the honor of the family in the eyes of the family in the society/community.	12.54	33.99	23.76	17.82	11.88
4	It is equally good being a housewife as working in a job with regular pay	11.55	38.61	28.38	19.14	2.31
5	What most women really want is a home and children not a job / or work outside home	14.52	32.67	28.38	22.11	2.31
6	A woman and her family are happier if she works for income	23.76	46.2	18.48	10.56	0.99
7	A husband and wife should both contribute to household income	33.99	47.85	10.89	5.94	1.32
8	A full time job makes a woman independent	24.09	52.81	13.86	9.24	0
9	A man's job is to earn money, a woman's job is to look after the home and family	13.2	28.05	17.82	23.76	17.16
10	Employers should help with childcare	25.41	38.61	20.79	9.9	5.28

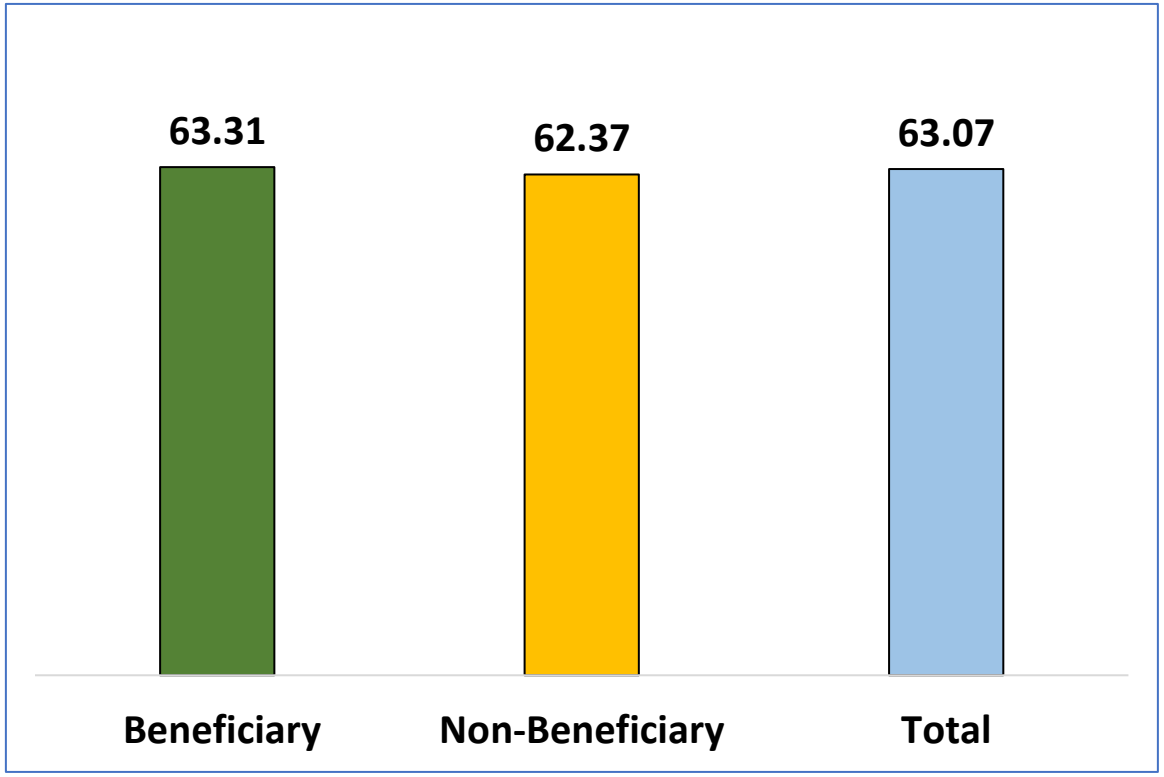
Construction of male perception score

Weights to the responses of statements to construct the male perception score

Indicators	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
If women engage in work, they eventually take jobs away from men	0	25	50	75	100
What most women really want is a home and children, not a job / or work outside the home	0	25	50	75	100
A man's job is to earn money; a woman's job is to look after the home and family.	0	25	50	75	100
Women working outside the home increase the honour of the family in the eyes of others in the society/community.	100	75	50	25	0
It is equally good being a housewife as working in a job with regular pay	100	75	50	25	0
A woman and her family are happier if she works for income	100	75	50	25	0
A husband and wife should both contribute to household income	100	75	50	25	0
A full-time job makes a woman independent	100	75	50	25	0
Employers should help with childcare	100	75	50	25	0

Male perception index by program status

Scale 0-100;
The higher the better



Source: SANEM-WVB survey 2021

Women economic empowerment index (WEE index)

❖The study develops a women economic empowerment index based on five broad domains of indicators, namely-

- ***Production:*** Women's participation in decision making over productive and income-generating activates,
- ***Resources***: Women's ownership and decision-making power over productive resources,
- ***Income***: Women's control over expenditure from their own income,
- ***Digital literacy:*** Women's digital literacy, and
- ***Household expenditure decision***: Women's participation on household expenditure decisions.

Women economic empowerment index (WEE index)

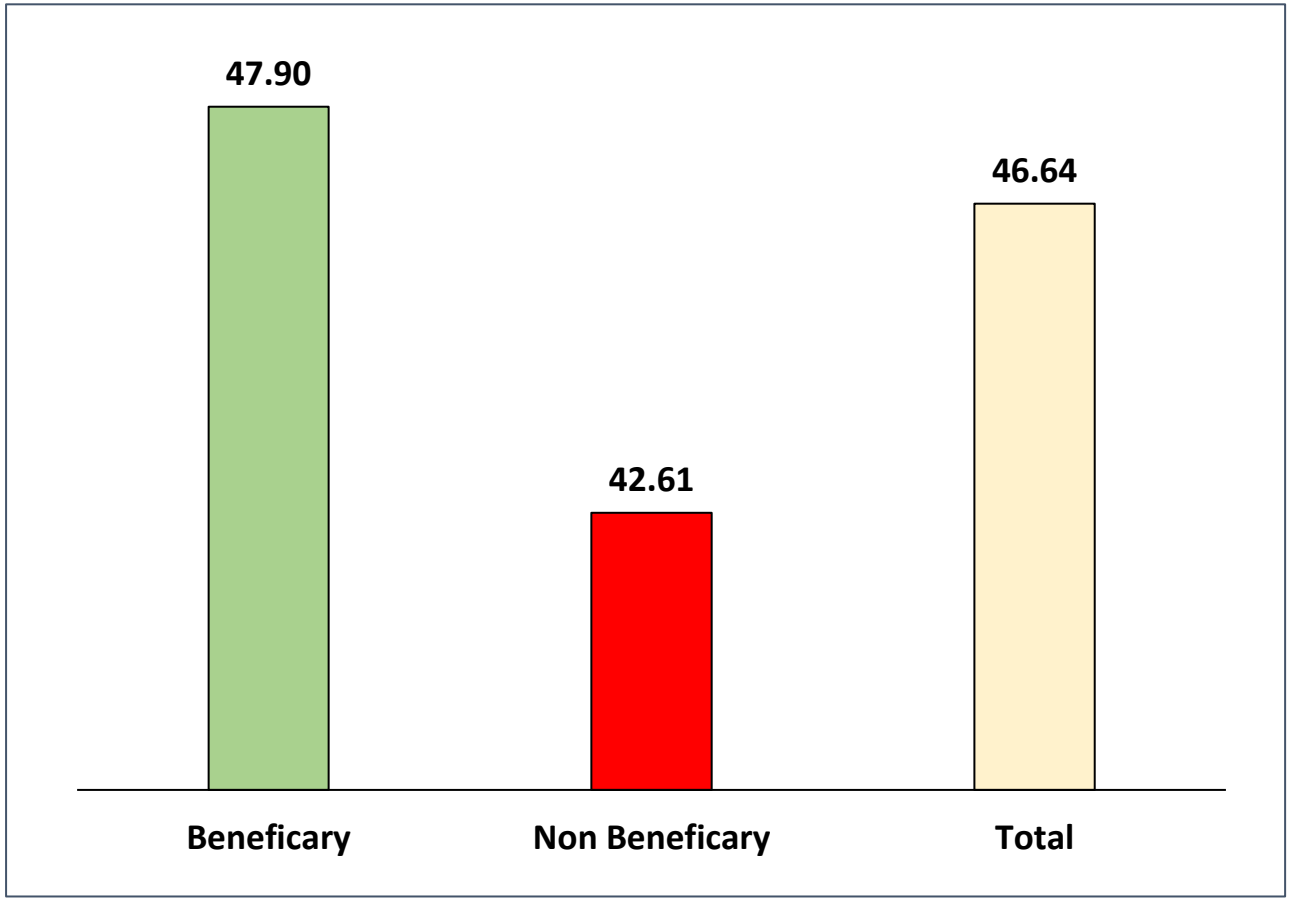
- Under each broad domain, several indicators are selected. Some of the indicators also have sub-indicators.
- The index is constructed based on the responses received from the women respondents on these indicators.
- The index ranges between 0 and 100. Each broad domain shares equal weight (i.e. 1/5 of total 100).
- For instance, under the production domain, there are two indicators. And therefore, each of them carries a weight of (1/10). Likewise, the weight of the sub-indicators is determined based on the number of sub-indicators available within an indicator.
- To obtain the empowerment score of each of the identified domain, the weighted score of the indicators (and sub-indicators) has been added up under the respective domains.

Women economic empowerment index (WEE index)

Broad domain	Indicators	Sub indicators	Definition
Production (1/5)	Input in income generating activities (1/10)		=1 if she has contribution in the household decision on income generating activities; 0 otherwise
	Employment/occupation choice (1/10)		=1 if her decision has significant importance to her occupational choice; 0 otherwise
Resources (1/5)	Ownership of assets (1/10)	Land (1/30)	=1 if she owns land; 0 otherwise
		House (1/30)	=1 if she owns house; 0 otherwise
		Large livestock (1/30)	=1 if she owns large livestock; 0 otherwise
	Access to and decision on credit (1/10)		=1 if her decision on credit has significant importance; 0 otherwise
Income (1/5)	Control over use of income (1/10)		=1 if she can spend her income independently; 0 otherwise
	Earning status (1/10)		=1 if she is an earner; 0 otherwise
Digital literacy (1/5)	Having banking/mobile banking account (1/15)		=1 if she has a bank/mobile bank account; 0 otherwise
	Having a mobile phone (1/15)		=1 if she owns a mobile;0 otherwise
	Have used computer/internet (1/15)		=1 if she has ever used computer/internet; 0 otherwise
Household expenditure decision (1/5)	Expenditure on basic needs (1/5)	Food (1/25)	=1 if she has significant input to the household spending decision on food; 0 otherwise
		Housing (1/25)	=1 if she has significant input to the household spending decision on housing; 0 otherwise
		Healthcare (1/25)	=1 if she has significant input to the household spending decision on health; 0 otherwise
		Education (1/25)	=1 if she has significant input to the household spending decision on education; 0 otherwise
		Clothing (1/25)	=1 if she has significant input to the household spending decision on clothing; 0 otherwise

Overall women economic empowerment score by programme status

Scale 0-100;
The higher the better



Source: SANEM-WVB survey 2021

The broad domains of the WEE index by programmes

Women economic empowerment score by broad domains and programme status

Category	Production (20)	Resources (20)	Income (20)	Digital literacy (20)	Expenditure decisions (20)
Beneficiary	**13.56**	**7.50**	**7.70**	**7.53**	**11.59**
Non-Beneficiary	12.00	6.40	7.04	5.97	11.20
Total	13.19	7.23	7.54	7.54	11.50

Source: SANEM-WVB survey 2021

An empirical investigation of the impact WVB's programmes on the Women Economic Empowerment (WEE)

- Although the descriptive statistics show a positive impact, however, such positive impact cannot be directly attributed to the WVB programmes unless and otherwise the impact of other influencing variables are controlled.
- The widely applicable approach under such circumstances is regression models
- It must be noted that, the observed higher scores of the WVB programme beneficiaries compared to the non-beneficiaries could originate due to two possible scenarios: (i) either the programmes effectively promoted women's status; or (ii) women who were already empowered (or had means to do so) participated in the programmes.
- The later cause is known as the participants' self-selection into programmes, which their inherent and unobserved characteristics may influence.

Empirical investigation of the impact WVB's programmes on the Women Economic Empowerment (WEE) (Cont.)

- The WEE index score is considered as the dependent variable.
- The variables of interests include the WVB programme participation status.
- This study applies the Heckman two-step procedure for addressing the heterogeneity bias.
- In the Heckman two-step approach, a probit model of programme participation (also termed as selection equation) is estimated in the first step, and the OLS equation modelling the participation score (called empowerment equation) is estimated in the second step

VARIABLES	(1) Participation equation	(2) Empowerment score	(3) Empowerment score	(4) Empowerment score
Beneficiary		4.214***		**5.437****
		(1.39009)		(2.16542)
Nobojatra			5.44***	
			(1.95841)	
NSVC			7.196***	
			(2.14194)	
UPG			3.05**	
			(1.49522)	
Age	0.051***	4.044***	4.14***	2.957***
	(0.01656)	(0.51969)	(0.52063)	(0.72557)
Age Squared	-0.001***	-0.049***	-0.05002***	-0.035***
	(0.00`020)	(0.00682)	(0.00684)	(0.00937)
Primary	0.122	20.957***	21.08***	12.324***
	(0.15752)	(2.43211)	(2.42980)	(4.03372)
Secondary	0.217	25.964***	26.31***	17.409***
	(0.16371)	(2.84171)	(2.84115)	(4.57764)
Tertiary	0.109	37.114***	37.05***	29.798***
	(0.15951)	(2.43706)	(2.43509)	(4.06620)
Married	-0.093	1.343	0.86	1.827
	(0.11033)	(1.95252)	(1.96629)	(3.33919)
HH Size		-2.007***	-1.88***	-0.687
		(0.38713)	(0.39340)	(0.61457)
Total land	-0.0151***	0.320***	0.298***	0.139
	(0.00390)	(0.08232)	(0.08307)	(0.11925)
Pacca House	-0.355***	-12.402***	-12.51***	-10.099*
	(0.11782)	(3.28362)	(3.28143)	(5.31599)
Female Head		7.929***	7.95***	5.247
		(1.78245)	(1.82211)	(3.63991)
Lambda		66.151***	69.23***	29.783
		(16.41620)	(16.45662)	(26.31672)
Male perception				**0.331*****
				(0.06629)
Constant	-0.210	-75.78***	-78.85***	-62.182***
	(0.32886)	(15.82086)	(15.85347)	(23.37301)
Observations	1,047	1,047	1,047	395
R-squared		0.39388	0.39699	0.38035

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

How does female employment affect GDP growth? Evidence from a time-series regression approach

7

Background

- As labour is an important factor of production, female employment can stimulate economic growth and can play an important role in poverty reduction by reducing the dependency ratio (Rahman & Islam, 2013).
- In Bangladesh, women's contribution to the national economy is much lower than it could be due to their low participation in the labour market (ibid).
- Women make a significant contribution in nonmarket activities, such as household work and care for children and the elderly at home, but to ensure inclusive growth in the economy, it is essential to ensure much greater participation of women in market-based productive activities (Raihan & Bidisha, 2018).

Background

- However, traditional gender norms and patriarchal values often restrict women's mobility and constrain their activities in the labour market.
- According to a study of ADB (2016) If the rate for women were raised to the same as for men, the labour force of Bangladesh would be increased by 43% and this would help bring about a 27% increase in gross domestic product, even without any increase in the capital stock.
- The level of female employment in Bangladesh has been lower than that for men as a result of both demand- and supply-side issues (Raihan & Bidisha, 2018)

Methodology

- This study applies Vector Error Correction Model (VECM) to estimate the relationship between WEE and GDP.
- With the VECM approach, this paper identifies whether female economic participation has any long-term relationship with GDP growth and the extent.
- The model for this econometric exercise is specified as follows:

$$GDP_t = \beta_0 + \beta_1 Capial_t + Male\ Employment_t + \beta_3\ Female\ Employment_t + \mu_t$$

- Where 'GDP' is the real gross domestic product, 'Capital' is the stock of capital in the economy, 'Male Labour' is the size of the male labour force, and 'Female employment' is the female labour employment size.
- The size of the female employment is used as a proxy of female economic participation

Data

- The data for this exercise are taken from the Penn World Table (PWT, version 10.0) and the ILOSTAT databases and the world economic forum data.
- The PWT database provides yearly data on capital stock, and real GDP for Bangladesh from 1960 till 2019. From the ILOSTAT, the number of male and female employed workers has been collected.
- Based on a combined dataset of PWT and ILOSTAT, it was possible to create time-series data for these variables from 1974 to 2019. Data from 46 years provides a sufficiently long time required to carry out a time-series econometric model.
- It must be noted that, the data on male and female employment used in this study has been derived based on the data of the ILO modelled estimate as well the PWT 10.0. The proportion of male and female employment have been derived from the ILOStat while this percentage has been used to get the male and female employment from total employment data of PWT 10.0.

Unit Root Test

Variables	ADF		PP		Breakpoint unit root test	Comments
	With intercept	With trend and intercept	With intercept	With trend and intercept		
GDP	5.23	1.67	7.64	-0.37	2.08	
ΔGDP	0.99	-3.57**	-7.09***	-10.99***	-11.82***	I(1)
Capital	2.26	-2.21	-0.43	-2.22	-1.37	
ΔCapital	-3.90***	-4.49***	-7.52***	-7.74***	-9.49***	I(1)
Male employment	-0.67	-2.81	-0.82	--2.09	-3.26	
ΔMale employment	-3.87***	-3.84**	-3.77***	-3.75**	-5.03***	I(1)
Female employment	-2.58	-1.51	-3.58	0.89	-2.65	
ΔFemale employment	0.14	-3.29**	0.18	-3.29**	-5.65***	I(1)
Note:*,**, and *** denote rejection of the null hypothesis that the series has a unit root at 10%, 5%, and 1% level of significance, respectively						

Lag selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	112.0518	NA	6.85e-08	-5.14533	-4.97983	-5.08467
1	436.8427	572.2505	2.83e-14	-19.8497	-19.02219*	-19.5464
2	463.6576	42.13771*	1.73e-14*	-20.36465*	-18.8752	-19.81871*
3	477.6190	19.28003	2.02e-14	-20.2676	-18.1162	-19.479
4	487.8138	12.13662	2.97e-14	-19.9911	-17.1778	-18.9599

Conintegration test

Co-integration rank test for the real output equation

No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.66789	92.72652	63.8761	0
At most 1 *	0.431011	45.32806	42.91525	0.0281
At most 2	0.266334	21.08058	25.87211	0.1761
At most 3	0.165185	7.763432	12.51798	0.2716

Co-integration max eigenvalue test for the real output equation

No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.66789	47.39845	32.11832	0.0003
At most 1*	0.431011	24.24748	25.82321	0.0796
At most 2	0.266334	13.31715	19.38704	0.3031
At most 3	0.165185	7.763432	12.51798	0.2716

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Vector Error Correction Model (VECM)

Long run cointegrating equation

	Dependent Variable: Ln GDP		
	Coefficient	Standard Error	t-statistics
Ln Capital	1.20	0.2430	4.93
Ln Male employment	1.32	1.125	1.17
Ln Female employment	**0.313**	0.111	2.82
Trend	-0.085	0.02	-

Vector Error Correction Model (VECM)

VECM Granger Causality test / Block exogeneity Wald test

Dependent variable: D(Ln GDP)			
Excluded	Chi-sq	df	Prob.
D(Ln Capital)	3.950479	2	0.1387
D(Ln Male employment)	1.987923	2	0.3701
D(Ln Female employment)	2.375330	2	0.3049
All	8.989490	6	0.1742

Key take-away from the time-series analysis

In summary, the results from the time series analysis show that female employment has a significant and positive relationship with economic growth in the long run.

A one per cent increase in female employment can effectively increase economic growth by .31 per cent.

That is, eventually, even if Bangladesh can increase female employment by only ten percentage points, that will add as much as 3.1 per cent of GDP.

If taken the 2021 figure of GDP, such an increase would have resulted in an additional $11.3 billion in the economy.

However, no significant relationship between GDP growth and female (or male employment) are found in the short run.

Conclusion and policy recommendations

8

Recommendations for the Government of Bangladesh (1/2)

- Given the covid context, a strong measure is needed from the Government of Bangladesh for containing school dropouts. An increase in the primary and secondary school stipend rates could work as an effective tool.
- The curriculum and textbooks should sensitise more on issues related to reproductive health, gender-based violence, the importance of women economic empowerment. Ensuring the hotlines for reporting GBV more accessible can be useful.
- Importance of family counselling and psychotherapy should be emphasized in policies and the government can make these services available at least at the Upazila level.
- The issue of workplace safety and affordable public transport for women should be taken into account with priorities.

Recommendations for the Government of Bangladesh (2/2)

- Effective monitoring and enforcement of laws related to day care services is crucial- the government can provide fiscal incentives such as tax rebates, subsidized credit facilities, or discontinuation of tax incentives etc.
- The government can also consider introducing day-care voucher system in the existing salary structure as an alternatively to mandatory day-care policy
- Another strategy would be to incentivize the private schools (and to make it mandatory for public schools) to incorporate pre-school facilities and to include after school facilities.
- Tax incentives can also be provided in the form of tax exemption in certain pre-defined percentage for those businesses which would adopt gender-friendly policies- e.g. flexible/part time working hour for female employees, additional leave facilities for pregnant/lactating mothers etc., meal and childcare vouchers and other work benefits related with supporting care activities.
- Although Bangladesh has a favourable maternity leave policy, it is important to implement the policy in all sectors.

Recommendations for the donors/development partners/INGOs:

- All the livelihood or similar projects taken by the donors/development partners should contain three integral parts: (i) the project must have a women economic empowerment component; (ii) the project must ensure sensitising the male household members on the importance of WEE, and (iii) the project must have a focus on GBV.
- Steps can be taken to: (i) inform the participants on the forms of violence; (ii) collaborate with the government and local stakeholders in implementing the actions against violence; (iii) stage the importance of equal rights through mass communication in the project area; (iv) ensuring stronger collaboration with the local religious leaders etc.
- The development partners can work with the government in undertaking some pilot initiatives addressing mental health and psychological issues.
- The GoB has large training facilities across almost all Upazilas in the country. In this regard, the donors/development partners can collaborate with the government to ensure greater participation of female participants.

Recommendations for the Private Sector

- The biggest role the private sector can play is by integrating women in the supply or value chain. For instance, female farmers can be offered concessionary prices for seeds, fertilisers, tractors, etc and it could be linked to the CSR funds. The private sector firms can also ensure more seamless transactions with female farmers or female suppliers.
- Ensuring some essential services (such as daycare centres, paid maternity leaves, etc.) is not possible without private sector support.
- The private sector should also contribute to ensuring equal employment opportunities for women. They could also encourage more participation of women in taking up their dealership deals, or work as distribution agents, etc. Engaging women in such non-traditional works can increase female employment by several folds.

Thank You

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