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Unlocking Women's Empowerment in Bangladesh: Key Determinants and Insights

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Abstract

Introduction: Though seventy percent of the world's poor are women who consistently face peculiar social, cultural, educational, political, and related problems, there is a need to address issues relating to women's empowerment to ensure sustained economic development. Bangladesh is a country where the social status of women is meagre. The socio-cultural environment of Bangladesh also contains pervasive gender discrimination, as a result, women have to face many obstacles to their development.

Objectives: The main objective of this study is to construct a women's empowerment index that shows the women's actual conditions and contributions to the household. Along with this, another objective is to estimate the socioeconomic determinants that can influence the value of women's empowerment index.

Methods: To achieve this goal, we constructed the Women's Empowerment in Agriculture Index (WEAI) under five major dimensions (production, resource, income, leadership, and time) using the data of the Bangladesh Integrated Household Survey (BIHS) for the period 2018-2019. After constructing the index, we performed both descriptive and econometric analyses to achieve the objectives.

Results: The study findings show that WEAI is positively influenced by household savings, expenditure, and livestock and negatively influenced by the age of the household head, size of household, land size, road types, and dependency ratio. Remarkably, the result shows that marital status has a positive and significant effect on the WEAI which means married women are more empowered than never married, divorced, and separated women.

Conclusions: The Bangladeshi government has been actively promoting women's empowerment through education and training programs, including the provision of stipends. We conducted research to develop Women Empowerment Index (WEAI), which assesses the level of women's involvement in and out of the home. According to the study, married women have greater empowerment than others due to engagement on both their land and their husbands' property. Socioeconomic variables, home conditions, and community conditions exert a significant influence on WEAI values, establishing that these elements are the primary determinants of WEAI.

Keywords: Women empowerment, WEAI, Socioeconomic determinants, Marital status, and OLS.

1. Introduction

Establishing gender equality and empowering women gained considerable popularity in development literature worldwide. Equal treatment for men and women is not just a fundamental privilege of all humans but also an indispensable base for a peaceful, prospering, and resilient globe. At the Millennium Summit in 2000, the world community pledged to empower women and promote gender equality, acknowledging the crucial role of gender equality in economic development (Akram, 2018). The fifth Sustainable Development Goal (SDG-5) also aims to achieve gender equality and women's empowerment by 2030 (Soharwardi & Ahmad, 2020; United Nations, 2023). Globally, it is critical that women

and girls have equal rights and opportunities and can live without suffering abuse or bias.

Developing countries adopted the notion of women's empowerment in the 1970s (Mosedale, 2005). Women's empowerment drives sustainable and inclusive growth (United Nations, 2017). Despite extensive knowledge of women's empowerment, a universal definition or measure of agency or achievement is lacking (Mahmud et al., 2012). Empowerment is a complex, multi-dimensional concept encompassing social, economic, and political dimensions, frequently characterized as the capacity to make and implement significant life decisions (Mosedale, 2005). In addition, Kishor & Gupta (2004) and Kabeer (2009) both define empowerment as a process that enables the powerless to assume control over their lives, highlighting the significance of achieving goals instead of exerting power over others.

In Bangladesh, women's empowerment remains a critical issue, with gender discrimination deeply embedded in the socio-cultural fabric. Despite making up 49.9% of the total population, women headed only 13.89% of households, indicating their limited role in decision-making. People often view women as financial burdens, investing less in health, care, and education. In the labor force, women's participation is significantly lower than men's (42.5% vs. 81.3%) (BBS, 2022a). Despite being a dominant workforce in key sectors like RMG/Textile and agriculture, women still face wage gaps, earning 35.8% less per hour than men, with the gap widening to 57.2% in agriculture (BBS, 2022b).

Women are the most disadvantaged section of society; they are the silent majority of the world's poor (Parvin & Ahsan, 2013). However, the landscape is shifting, with women increasingly contributing to the retail marketing of agricultural produce, homestead dairy, and poultry (Mulugeta & Amsalu, 2014; Omotesho et al., 2017). Despite the increasing contribution of women in farming and rural development, studies show low levels of access to properties and opportunities such as land, loans, and even extension services. Their productivity has therefore remained low relative to their potential (Alqurashi, 2016; Anaglo et al., 2014).

Different techniques have quantified, assessed, and classified women's empowerment, interpreting it as a dynamic process (Mahmud et al., 2012). Empirical research regarding women's empowerment in rural Bangladesh has predominantly examined its correlation with access to financial services (Goetz, A. M. & Gupta, 1994; Kabeer, 2001). The studies have used a variety of indicators to measure empowerment, including control and proper use of loans, knowledge of accounting, decision-making power, women's monetary help, freedom of movement, purchasing power, asset ownership, awareness of political issues, access to other member income, and holding good positions on family decisions. Furthermore, the identifying key factors influencing women's empowerment were involvement in microcredit, education, paid employment, mobility in all public areas, and a helpful household environment (Goetz, A. M. & Gupta, 1994; Kabeer, 2001; Mahmud et al., 2012).

Many studies have been undertaken to estimate the women's role not only in farming but also in food security and showed the women's contribution as well as their position compared to the men in agriculture. (Emran et al., 2019; Mganga et al., 2021; Mobarok et al., 2021; Sraboni et al., 2013, 2014). Chakma and Ruba, (2021) found that rural women in Bangladesh are highly engaged in poultry and livestock rearing, fisheries management, and homestead and field crop production. Women are particularly involved in post-harvest activities in crop production. Mobarok, Skevas and Thompson, (2021) have demonstrated a positive correlation between the enhancement of women's agricultural decision-making skills and improved productivity, technical proficiency, and efficiency. Sraboni, Quisumbing and Ahmed (2013) discovered a diverse correlation between women's empowerment and dietary quality, particularly among young children under five years old, but not across all age groups. Again, Sraboni, Quisumbing and Ahmed, (2014) found that rural women were 77% disempowered compared to 56% men in Bangladesh, and the largest gap in women's empowerment was in the dimensions of leadership in the community and access to property. According to Jaim and Hossain, (2011), the percentage of women in agriculture increased by 8% as it became 66% in 2008 from 58% in 2000. But in most of these cases, women were found more likely to engage in livestock raising and not so much in crop production.

Many literary sources (Banerjee et al., 2020; Dréze & Sen, 1996; Dutta, 2014) have highlighted the importance of education in enhancing women's empowerment. Furthermore, factors such as land ownership, readiness, access to formal credit, and participation in the Self-Help Group (SHG) have also been considered important factors in women's empowerment (Dutta, 2014). Besides, Allendorf (2007) also identified the importance of land, quoting that "Women who own land are significantly more likely to have a final say in household decisions." Furthermore, Banerjee et al., (2020) found that social context significantly influences women's empowerment and emphasized the importance of knowledge and awareness of legal and political rights on it. However political awareness and political participation serve as indicators of empowerment, particularly in developing countries where gender inequality in political fields exacerbates gender suppression (Banerjee, 2015). Furthermore, the significance of microcredit programs is undeniable. Researchers found that microcredit positively impacts women's empowerment in rural areas, provided they can independently invest the funds they receive from these programs in productive sectors (Hoque & Itohara, 2009).

2. Objectives

This research paper examines the primary factors contributing to women's empowerment, using both existing literature and empirical data to identify the most significant influences. The specific objectives of the study are as follows:

1. To construct the Women's Empowerment in Agriculture Index (WEAI).
2. To investigate the socioeconomic determinants that can influence the value of WEAI.

3. Methods

In the methodology section, we have discussed the data sources used in the study, explained the computation process of the WEAI, defined the dependent variables, described the econometric model used to analyze the study's objectives, and provided the rationale for using specific explanatory variables.

3.1 Data Collection

This study utilized data from the 2018-19 Bangladesh Integrated Household Survey (BIHS), conducted by the International Food Policy Research Institute (IFPRI) and published by Harvard Dataverse in 2020, representing the third and most recent round of the BIHS. This is the nationally representative survey of Bangladesh which collects data detailing 4 sectors. They are – (1) plot-level agricultural production and practices, (2) dietary intake of individual household members, (3) anthropometric measurements (height and weight) of all household members, and (4) data to measure women's empowerment in the agriculture index (WEAI). This survey covered 5604 households and its sampling units are 325. The sample is statistically valid representing both (a) a national picture of rural Bangladesh; and (b) representative of rural areas of each of the seven administrative divisions of the country: Barisal, Chittagong, Dhaka, Khulna, Rajshahi, Rangpur, and Sylhet (IFPRI, 2020).

3.2 Women's Empowerment in Agriculture Index (WEAI)

The Women's Empowerment in Agriculture Index (WEAI) is a survey-based tool designed to measure women's empowerment, inclusion, and agency within the agricultural sector (Alkire et al., 2013; Sraboni et al., 2013). Developed as part of the U.S. government's Feed the Future (FTF) initiative, the WEAI effectively reflects women's empowerment. The index is calculated at the country or regional level using the Alkire-Foster methodology, with data collected at the individual level through interviews with both women and men from the same households.

Since WEAI is derived from household surveys, it offers a balance between detailed information and concise, replicable data collection (Alkire et al., 2013). To construct the WEAI, quantitative data was used and this quantitative data and the whole survey were also justified by the qualitative case studies (Alkire et al., 2013). However, despite its strengths, WEAI is a complex and multidimensional index. This complexity can pose challenges in systematically measuring and incorporating it into programs, as well as complicating its calculation (Alkire et al., 2013). USAID has initially defined 5 domains for the WEAI that could reflect the priorities of agricultural programs (Alkire et al., 2013). The five dimensions are-

1. Production: This dimension concerns agricultural decisions related to production and whether those decisions were taken solely or jointly and what types of production would take place; for example, food and cash crops, livestock and fisheries, and also autonomy in agricultural production (Alkire et al., 2013).

2. Resources: The resource dimension concerns access to, ownership of, and decision-making authority about the different productive resources such as livestock, land, agricultural equipment, credit, and consumer durables (Alkire et al., 2013).

3. Income: The income dimension concerns to control over income and expenditure solely and jointly (Alkire et al., 2013).

4. Leadership: The leadership dimension concerns leadership in the community and it is measured by the membership of different groups that are related to agriculture and the ability to speak in public (Alkire et al., 2013).

5. Time: The time dimension concerns the allocation of time to domestic work and productive satisfaction with the allocation of time to leisure activities (Alkire et al., 2013).

The five-dimensional WEAI is constructed using each indicator and its corresponding weight. Each indicator has a different weight, but every dimension has an equal number of indicators. Table 1 shows the domain, indicators, and weights in the women's empowerment in agriculture index (Alkire et al., 2013; Mobarok et al., 2021; Sraboni et al., 2013; Sraboni & Quisumbing, 2018). Here, we are using 8 indicators under 5 domains and each domain has equal weight to reflect the equal importance of every domain. In the case of choosing equal weight in every domain, we have followed the original WEAI made by IFPRI.

Here the binary score for each indicator has been calculated from each person that reflects whether the individual is inadequate or adequate to achieve each indicator. For every person, the empowerment score has been generated by using the response of the indicators and the weights and making a score of WEAI for every household male and female (Alkire et al., 2013). A high WEAI score indicates that women and men are more empowered than those who have a low WEAI score.

3.3 Computation of 5 Dimensions of WEAI

3.3.1 Agricultural Production

Under the agricultural production domain, we have used one indicator- input in productive decisions.

Here we have converted the respondent's answers regarding agrarian production as an indicator of the index.

Input in Productive Decisions: To compute the productive decision of input, two questions were asked to the respondents. One was if the respondent could participate and determine the amount of input that would be used in the production of cash crops, food crops, fish culture, and livestock raising and the second question was, to what level the respondent could make his or her decision about the different aspects of household matters such as, what agricultural production would take place, which input would be used, which crop would be grown, who would sell the crops in the market and whether the household would be engaged in livestock raising. We have combined two indicators to measure the production dimension and assigned a weight of 1/5 to the indicator and the total weight of the production domain is 0.2.

3.3.2 Resources: To represent the resource dimension two indicators were used here. One was ownership of the assets and the other was access to and decision-making power about credit.

Ownership of Land and Assets: This indicator investigates whether the respondent had control over the land and assets solely or jointly. Here assets could be livestock, agricultural land, farm equipment, fishponds, houses, different household durables, non-agricultural land, cell phones, and different means of transportation. This asset-specific indicator indicates that a person is adequate if he or she solely or jointly owns at least one asset.

Access to and Decisions about Credit: This indicator investigates whether the respondent can decide from where the credit will be obtained and where it will be used. Credit can be obtained from different sources such as friends and relatives, non-government organizations, credit associations, formal and informal lenders, and rotating savings. To be adequate in this indicator, the respondent must be the individual from the household who has access to credit from the specific source of credit and the respondent can actively participate in the decision. After computing these two indicators, we

have combined them and put the weight of 1.5/15 per indicator and the total weight of the resource domain is 0.2.

Table 1. The domain, indicators, and weights in the women's empowerment in agriculture index

Domain	Indicator	Definition of Indicator	Weight
Production	Input in productive decisions	Sole or joint decision making over food and cash crop farming, livestock, and fisheries	1/5
Resources	Ownership of assets	Sole or joint ownership of major household assets	1/10
	Access to and decisions on credit	Access to and participation in decision making concerning credit	1/10
Income	Control over the use of income	Sole or joint control over income and expenditures	1/5
Leadership	Group member	Whether respondent is an active member in at least one economic or social group (e.g., agricultural marketing, credit, water users' groups)	1/10
	Speaking in public	Whether the respondent is comfortable speaking in public concerning various issues, such as intervening in a family dispute, ensuring proper payment of wages for public work programs, etc.	1/10
Time	Workload	Allocation of time to productive and domestic tasks	1/10
	Leisure	Satisfaction with the available time for leisure activities	1/10

3.3.3 Income

To represent the income dimension, we have used one indicator – control over income and expenditure.

Control Over the Use of Income: This indicator is constructed from two questions that are related to the usage of income. The questions are- 1. If the respondent actively participates in any activities, how much influence does he or she have in the decision about the use of money that is generated from the activities such as food crop production, cash crop production, fish culture and livestock rising 2. How much influence does he or she have to decide on the use of income in the context of household life such as employment of his or her wages or salaries and household expenditures; it can be major or minor expenditures. We have assigned 1/5 weight to the indicators and the total weight on the dimension is 0.2.

3.3.4 Leadership

This dimension investigates the ability of the individual to be the leader and influence the community. We have used two indicators to compute the dimensions.

Group Membership: We have tried to find out if the respondent is an active member of any group to recognize him or her as having social capital. We have considered 10 groups, like- marketing groups or agriculture producers, forest users' groups, water users' groups, microfinance or credit groups, trade and business groups, insurance or mutual help groups, local government groups, religious groups, charitable groups, and women's groups.

Speaking in Public: This indicator demonstrates that a person is comfortable on publicly speaking about different social issues and social welfare. We have considered three reasons to talk in public- 1. Helping to decide on the infrastructure that should be built like roads, wells, etc. 2. Confirming the payment of wages for public workers and other programs, and 3. Protesting the misbehavior of the elected authorities. We have put 1/10 weight on each indicator of this dimension and the total weight of the leadership dimension is 0.2.

3.3.5 Time

The dimension of time allocation is also constructed from two indicators. One is workload and another is leisure time. It reflects how people allocate time to productive and domestic work and how much they are satisfied with their allocation of time.

Workload: This indicator was derived from the domestic and productive workload of a person. The workload is defined between the primary and secondary activities. The definition of work-related tasks includes personal business activity, wages, and salary, construction, farming, fishing, shopping/getting services, weaving, and sewing, textiles, cooking, domestic work, commuting, traveling, and caring for children and the elderly. If

a person works less than or equal to 10.5 hours out of 24 hours, they are considered as adequate in this indicator.

Leisure Time: This indicator calculates the satisfaction of the allocation of time in leisure activities such as watching television, visiting neighbors, seeing movies, listening to the radio, and doing sports. We have ranked the satisfaction level from 1 to 10 where 1 is not satisfied and 10 is very satisfied. If a person's score is 5 or more than 5, they are considered as adequate in this indicator. We have put 1/10 weight in per indicator to compute the time dimension and the total weight of the time dimension is 0.2.

3.4. Econometric Model: Ordinary Least Square

We have applied the ordinary least square model (OLS) to see how the socioeconomic determinants influence the score of the WEAI index. OLS is referred to as the simple regression line and explains the relationship between the independent and the dependent variables.

The OLS regression can be written as

$$Y_i = \beta_0 + \sum_{j=i}^{n} \beta_i X_i + \mu_i \ldots\ldots\ldots\ldots (1)$$

Here Y_i is the dependent variable (WEAI), X_i is the list of the independent variables, β_0 represents the intercept of the model and β_i represents the coefficients and μ_i is the error term (Stock & Watson, 2016).

4. Results

In the results section, we have discussed the descriptive analysis and the results of the WEAI. Following that, we have provided a brief explanation of all the variables used in the econometric model to determine the study's objectives.

Table 2. List of Variables for OLS

Variable name	Description
Dependent variable	
Women's empowerment	Women's empowerment (Continuous variable)
Independent variable	
Age of household head	1 if the age of the head is from 22 to 30, 2 if the age of head is from 31 to 40, 3 if the age of the head is from 41 to 50, 4 if the age of the head is from 51 to 60, 5 if the age of head is from 61 to 70, 6 if the age of head is over 71 (Categorized variable)
Gender of household head	1 if female, 0 if male
Marriage status	1 if married, 0 if otherwise
Education of household head	0 if no education, 1 if education from 1 standard to 5 standard, 2 if education from 6 standard to 10 standard, 3 if education from 11 standard to 12 standard, 4 if education is graduate level or similar label, 5 if other (vocational, diploma, nursing) (Categorized variable)
Household expenditure in logarithm	Household expenditure per month in BDT (Continuous variable)
Household savings	Household savings per month in BDT (Continuous variable)
Household size	Size of the household (Continuous variable)
Technology	Using technology in agriculture (Dummy variable)
Extension service	Using extension services in agriculture (Dummy variable)
Land size	Size of the land in decimal (continuous variable)
Livestock	Current market price of livestock in BDT (Continuous variable)
Bazaar in the village	Availability of bazaar in the village (Continuous variable)
Weekly market	Availability of weekly market in the village (Continuous variable)
Bank	Availability of commercial bank in the village (Continuous variable)
Agricultural credit	Agricultural input dealers who sell in credit (Continuous variable)
Dependency ratio	Dependency ratio (Continuous variable)

4.1 Descriptive Analysis of WEAI

In this section, we have illustrated all the findings we get from the WEA index.

The diagram illustrates the comprehensive index of women's and men's empowerment in Bangladesh. Statistics indicate that in Bangladesh, 70 percent of women and men have nearly comparable levels of empowerment. That implies that in 70 percent of households, both the husband and wife can be empowered simultaneously. Within each domain, Figure 2 illustrates the disempowerment

experienced by both women and men. Women experience greater resource and financial disempowerment compared to men. That implies that women are often not the proprietors of assets and lack authority over the allocation of income. Women experience far less disempowerment in terms of output and time dimension compared to men.

Figure 1: Women's and men's empowerment

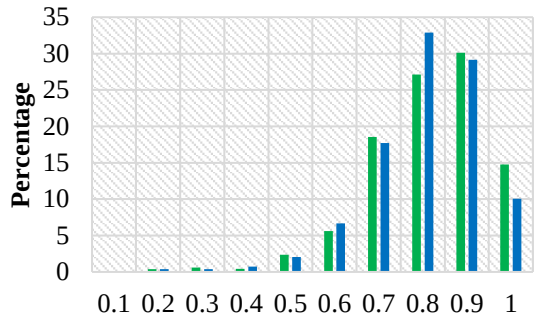


Figure 2: Women's and men's disempowerment in each domain

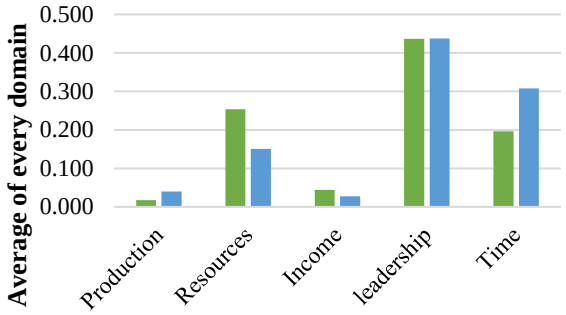


Figure 3: Women's and men's disempowerment in each indicator

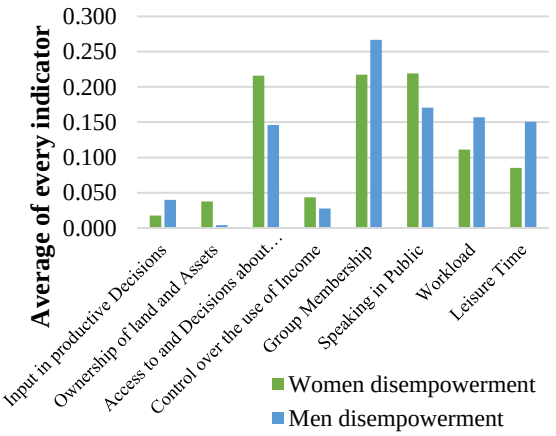
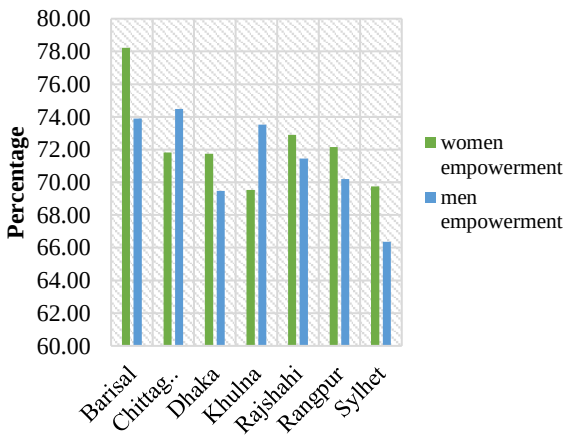


Figure 4: Women's and men's empowerment by division



Source: ***Authors' Own Calculation***

It clarifies that women are usually engaged in production affairs, such as selecting the crop to be cultivated or shepherding livestock. At the leadership level, both women and men experience equal disempowerment. Figure 3 displays the mean level of disempowerment experienced by women and men in each indicator across 5 dimensions. Women face greater disempowerment in terms of land ownership and productive assets, access to and decision-making capabilities regarding credit, control over income, and public speaking. Women experience rather less disempowerment in terms of their participation in productive decision-making, group affiliation, workload, and leisure time as compared to men.

Figure 4 illustrates that the women's empowerment index displays variations across different regions of Bangladesh when compared to the men's empowerment index. The Barisal division attains the highest women's empowerment ranking. The index for women's empowerment in Dhaka, Rajshahi, Rangpur, and Sylhet surpasses the index for men's empowerment. Female empowerment index in the Chittagong and Khulna regions is lower than that of men.

Moreover, these diagrams provide a holistic view of gender disparities in empowerment and disempowerment. The analysis of both broad domains and specific indicators reveals that while

women generally experience more empowerment, they still face significant challenges in economic and leadership domains. Though often considered more empowered in traditional roles, men also face substantial disempowerment, particularly in production and asset ownership. The regional analysis adds an additional layer, showing that empowerment is context-dependent and influenced by local conditions. These findings can inform policy and program interventions that target the nuanced needs of both genders to foster greater overall empowerment.

4.2 Descriptive Analysis of Regression Variables

We have used our key variables WEAI, and other covariates to run the regression.

Table 3. Summary Statistics of Regression Variables

Variable name	Observation	Mean	Std. Dev.	Min	Max
Women's empowerment	1,891	0.815	0.136	0.1	1
Men's empowerment	1,891	0.805	0.129	0.2	1
Education group of household head	1,891	0.832	0.975	0	5
Age group of household head	1,891	3.533	1.277	1	6
Marriage status (1,0), 1=married	1,891	0.944	0.229	0	1
Gender of household head (1,0), 1=female	1,891	0.088	0.284	0	1
Government assistance (1,0)	1,891	0.090	0.287	0	1
Using technology in agriculture (1,0)	1,891	0.705	0.455	0	1
Household savings in logarithm	1,891	6.372	4.612	0	14.285
Household expenditure in logarithm	1,891	8.318	0.436	6.865	10.058
Size of household	1,891	4.641	1.774	2	18
Size of the land in decimal	1,891	120.127	151.235	0.5	1886
Current market price of livestock	1,891	8.678	3.430	0	13.407
Availability of weekly market in the village	1,891	1.739	0.438	1	2
Bazaar in the village	1,891	0.432	0.495	0	1
Commercial bank in the village	1,891	0.073	0.261	0	1
Most common type of road surface in the village	1,891	1.503	0.593	1	4
Agricultural input dealers who sell credit	1,891	1.654	4.699	0	50
Dependency ratio	1,871	1.215	1.021	0	10

Table 4. Result of Ordinary Least Square

	Women Empowerment	
Education group of household head	0.002	(0.003)
Age group of household head	-0.005**	(0.003)
Marriage status (1,0), 1=married	0.025*	(0.015)
Gender of household head (1,0), 1=female	0.009	(0.012)
Government assistance (1,0)	-0.002	(0.011)
Using technology in agriculture (1,0)	0.007	(0.007)
Household savings in logarithm	0.006***	(0.001)
Household expenditure in logarithm	0.014*	(0.008)
Size of household	-0.005***	(0.002)
Size of the land in decimal	-0.000***	(0.000)
Current market price of livestock	0.003***	(0.001)
Availability of weekly market in the village	-0.001	(0.009)
Bazaar in the village	0.008	(0.007)
Commercial bank in the village	-0.018	(0.013)
Most common type of road surface in the village	-0.016***	(0.005)
Agricultural input dealers who sell credit	-0.000	(0.001)
Dependency ratio	-0.005*	(0.003)
Observations	1871	
Adjusted R^2	0.069	

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

We estimated that socioeconomic determinants could influence the WEA index score. Household savings, expenditures, and livestock positively influence WEAI. This implies that women are less likely to experience empowerment if the household head is older and the household size is large. However, women are more likely to experience empowerment if their household has high savings and expenditures, as well as livestock. In Bangladesh, women are the ones who mainly raise livestock. However, the result also depicts that women's empowerment is negatively influenced by the age of the household head, size of the household, land size, road types, and dependency ratio. Remarkably, the result shows that marital status has a positive and significant effect on the WEAI. That means married women are more empowered than never married, divorced, and separated women. In the case study of resource ownership, Bangladeshi married women feel more empowered if they own some land since it provides food all over the year and they can earn money by selling the crops. In that same case study, it was found that in Uganda women feel that single, divorced, or widowed women are more empowered than married women as they have control over their resources (Alkire et al., 2013).

5. Discussion

Many studies have calculated the average value of WEAI (Alkire et al., 2013; IFPRI, 2012; Mobarok et al., 2021; Sraboni et al., 2013; Sraboni & Quisumbing, 2018) with different sample sizes and have found different values of the 5DE. From the pilot project of the southwestern part of Bangladesh 2011-12, the average value of the women's empowerment index was 0.732 (IFPRI, 2012). Alkire et al., (2013) found in their study that the value of 5DE for women is 0.746 and the value of men's 5DE is 0.799. Besides Sraboni et al., (2014) found the average of 5DE is .647. Again Sraboni & Quisumbing, (2018) has found average empowerment score is 0.683 which is slightly higher than the previous one. Additionally Mobarok et al., (2021) also has followed the original index using the data from 2011-12 and found the mean value of empowerment is 0.60. From our study, we have found that the average of women's empowerment value is .816 and men's empowerment value is .805 using data from BIHS 2018-19. As other studies have calculated the WEAI from the data 2011-12 and our study has been conducted from the data 2018-19, we are assuming that over time the average value of women's empowerment will increase as we have found in our study.

Our findings from the OLS are also a matter of discussion. Whilst in Uganda women feel that widows, divorced and separated women are more empowered than married women as they have more access in the property (Alkire et al., 2013) and our findings go the other way. In Bangladesh from the BIHS data, we have found that marital status is positively associated with the score of WEAI.

6. Conclusion

The government of Bangladesh is trying to empower women through education and different training programs. Since 1994, the Bangladesh government has been providing stipends to female students to motivate and increase enrolment in the higher secondary school (Rahman Khandker et al., 2021). It is high time we should try to estimate women's contribution to the household. This study has tried to construct a women empowerment index (WEAI) as its first objective. However, Bangladesh is a male-dominated country, it is common for the male member could be the decision maker if the household does not lose the member. It does not mean women are not contributing to the household or their decisions are not considered. WEAI tried to compute the empowerment indirectly through their contributions to productive decisions and working in agriculture, the primary sector of the country.

We tried to find out the different socioeconomic variables that can influence the value of the WEAI. In the case of a developing country, we generally assumed that never married, widowed, divorced, and separated women could have the sole right on the property and their value of WEAI could be more than the married women. However, our analysis shows a different result that married women are more empowered than others. It could be because married women can work not only their land or property but also their husband's property as well. Our analysis also reveals that the value of WEAI is determined by the age of the household head, size of household, land size, road types, dependency ratio, household savings, household expenditure, and current price of livestock. Thus, the WEAI is mostly influenced by socio-economic factors, the state of the home, and the society in which the household resides.

Limitations of the Study

However, no study is free from the limitations, our study has some limitations as well. To make the index we have followed the basic instructions of IFPRI, the five dimensions, and equal weight in every domain though the number of indicators is different. If we changed the weight in each domain, the index value would be different. It is also debatable whether each domain represents the same importance for all areas and all households. One of the biggest limitations of this index is that there is no education domain or variable when education can make a human being an asset. Education can help people make better decisions, adopt new technology, and access different information like weather forecasts.

Moreover, the primary index was created through the collaboration of FTF and IFPRI, with data taken in the fiscal year 2011-12. Following the publication of the second round of data in 2016, the third round of data was released in 2020 (IFPRI, 2020). Also, the index was made with the data of the southwestern people of Bangladesh. But for this study, we have taken account of the whole country not just a specific part of Bangladesh as the other two rounds were not part of the FTF programme. So, this study is an aggregate of all rural areas of Bangladesh, but the facilities (provided by the government and different non-government organizations) are not the same all over the country. Representing the actual scenarios of women from other parts of the country is hard.

In the results, we found that the average of women's empowerment is a bit higher than the average of men's empowerment. It is true that over time, women's empowerment has improved a lot but if we could justify our findings with some real case studies the results would be able to represent a clearer picture of rural women in Bangladesh.

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