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Covid-19 Effect on Poverty Dynamics and Livelihoods Vulnerability in Rangpur: Evidence from Shatranji Industry

Habibur Rahman¹

Abstract

Over the years, the poverty incidence has been higher in Rangpur area. COVID-19 has aggravated the problem of poverty and livelihood insecurity in the informal sector including Shatranji in the region. The study aims to estimate the effect of COVID-19 on the change in poverty incidence and livelihood vulnerability for the households engaged in Shatranji. This research is based on a quantitative approach and relies on primary and secondary data. Primary data has been gathered from 245 sampled respondents using a multistage sampling design in Rangpur. The findings from descriptive statistics indicate that most respondents experienced a drop in average family income during COVID-19 in the study area. Based on both of upper and \$2.15 poverty line, the proportion of poverty among their households increased during COVID-19. The OLS regression result shows that for the respondents who have larger 'family size' and higher 'education level', their percentage income was decreased but, compared to self-employed groups, contract-based and salaried workers had higher percentage income during COVID-19. The logistic model result shows that 'married', 'contract-based work', 'regular salaried' and 'education' have negative effects but the variable of 'family size' and 'Shatranji as the main income source' have positive effects on the possibility of poverty incidence. Thus, emphasizing more on education, undertaking sufficient measures for family planning and ensuring fixed monthly income is vital for Shatranji workers.

Keywords: Shatranji, Informal sector, COVID-19, Lockdown, Poverty, and Vulnerability

JEL Classification: I32, I15, J46

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1. Introduction

Shatranji is a traditional handicraft of the Rangpur, recently declared as a Geographical Indication (GI) product of Bangladesh (The Daily Star, 2021). It is a traditional manually woven carpet, which astounds viewers and has a rich history as well (WIPO, 2022). The village Nishbetganj is famous for its ‘Shatranji palli’. The village was named after Mr. Nishbet, the district collector of Rangpur in 1830. Shatranji products gained national recognition for their distinctive and elegant features. Besides, it is one of the most popular exported handicraft products of Bangladesh as it exports it to over 50 countries including India, Sri Lanka, Indonesia, Thailand, Malaysia, USA, Germany, France, Holland, Belgium, Spain, and Japan, etc. (The Daily Financial Express, 2019). However, due to numerous internal and external constraints, it is experiencing a blurry future (Islam, 2015).

Due to the coronavirus pandemic, the demand for hand-loomed sitting mats both domestically and internationally has decreased, making the Shatranji sector in Rangpur more and more vulnerable to failure (The Daily Star, 2021). In December 2019, the Hubei Province of China first experienced the onset of the coronavirus disease (COVID-19) and it spread to every country in the world (Hassanin, 2020). The COVID-19 outbreak was declared as the Global pandemic on 11 March 2020 (WHO). The first three COVID-19-affected patients were reported in Bangladesh on March 8, 2020. On March 26, 2020, Bangladesh imposed a nationwide lockdown (Mahmud et al., 2020).

Handicraft including Shatranji is one of the informal sectors where the women’s workforce is predominant. Given the informal work relations in the Shatranji sector, a suspension of much economic activity during the lockdown resulted in severe loss

of employment, and earnings, and higher poverty in the households involved in Shatranj production which quickly translated to livelihood insecurity.

Researchers showed that nearly 20 million individuals in Bangladesh's informal sector lost their jobs as a result of the coronavirus (Mahmud et al., 2020).

Moreover, COVID-19 has had a significant impact on the country's poverty incidence. According to a GED-SANEM study, on account of COVID-19, the poverty rate in the rural area increased to 45.3% in 2020 from 24.5% in 2018 and in the urban area it increased to 35.4% in 2020 from 16.3% in 2018 (Raihan et al.2021). According to HIES (2022), although the recent poverty rate is 18.7 per cent at the national level, the incidence of poverty is still high in northwest Bangladesh. Rangpur poverty in 2022 is 24.8% which was 47.2% in 2016. Although there were several researches conducted on the Covid-19 effect in different areas including the informal sector, it was a very rare study on the informal workers of the Shatranji workers in the Rangpur region. Considering the facts above, the study is carried out for the development of the sector by identifying the major previous problems along with COVID-19-induced factors and suggesting recovery actions in Rangpur.

1.1 Research question and objective of the Study

The main research question in this study is: “Are households involved in Shatranji Industry vulnerable to poverty and livelihood challenges due to COVID-19 along with other issues in the study area?”

The main research question will be fulfilled by the following specific objectives:

- I. To find out the dynamics of livelihood, income, expenditure and poverty in the study area.

- II. To compute the poverty level before and after the period (February-July, 2020) by using different poverty lines in the study area.
- III. To predict how the poverty and income level on account of lockdown varies with the household-level characteristics.

2. Literature Review

Numerous studies conducted on the issue of handicrafts. Some of those studies focused on Shatranji. It is used to refer to a collection of a hundred vibrant fabrics. It is an unorganized, decentralized, labour-intensive handi industry characterized by the use of abundant & cheap labour, local resources, low capital investment, and unique craftsmanship (Islam, 2015). Similarly in another research, it refers to a broad range of imaginative and creative pursuits that have to do with creating things with one's hands and skill (Bangla Pedia, 2010)..

It is not unknown that COVID-19 significantly affected the income, expenditure, poverty and livelihood patterns of many people. The group of people most at risk from COVID-19 is households with lower incomes and those who rely on unofficial work. Some argue that the unregulated sector can act as a safety net for the economy during an economic downturn whereas the pessimistic view contends that the informal sector can suffer because of unsure income and the absence of government social security support during COVID-19 (Swarna et al., 2022).

Numerous studies from around the world have highlighted the pandemic's devastating impact on household income in developing countries. More than two-thirds of informal sector respondents in Kenya and Uganda reported income declines as a result of the COVID-19 crisis (Kansime, et al., 2020). The family non-farm income in rural Uganda was found to have dropped by 60% as businesses

decreased their earnings and workers lost wages(Mahmud & Reley,2020). In the Democratic Republic of the Congo, 84% of respondents reported a decrease in income; for COVID-19, per capita food expenditure fell by nearly 40%, owing primarily to job and wage losses (Stoop N. et al., 2020). In Thailand, it was discovered that the pandemic had a devastating effect on workers in the unorganized sector. In a survey of 384 samples of informal sector workers, about 95% of those who responded stated that the pandemic resulted in a sharp decline in their income (Komin W., 2020). Another study that involved six developed nations found that the Coronavirus outbreak put women at a 24% higher risk of permanently losing their jobs than men (Dang & Nguyen,2020).

A study conducted by Surbhi et al.(2021) on the COVID-19 effect on the informal sector in India. According to their findings, roughly two-thirds of respondents claimed to have lost their jobs during the lockdown, and those who had jobs at the time saw a significant drop in pay. The COVID-19 outbreak had a high to extremely high impact on people's livelihoods, indicating that the pandemic had led to the lower-income population becoming even more marginalized than before and joining the hard-core poor (Paul et al., 2021).

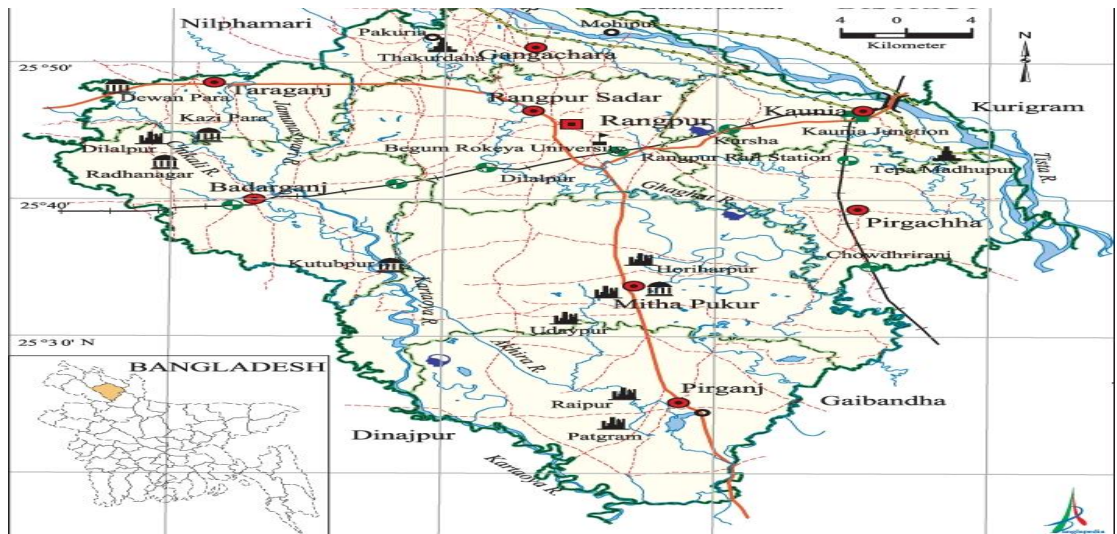
There are several studies reflecting COVID-19's effect on lower-income people in rural or urban informal economies in Bangladesh. Barkat, et al. (2020) conducted a study of the socioeconomic impact of lockdown and found the negative effects on the urban poor people from various perspectives. Similarly, others showed that the livelihood of 94.1% of respondents was affected by COVID-19 in the country (Kesar, et al., 2021). There are also some studies by Genoni, et. al(2020), World Bank,(2020), Hossain et.al (2020) etc. on the Covid-19 effect on livelihood, the labour market in Bangladesh and the world.

Although a wealth of research papers is available on the COVID-19 effect on handicrafts, studies on the COVID-19 effect on the Informal sector are very rare. Even though there are rare studies on the Shatranji sector. Siddiqua (2021) conducted empirical research on the problems and prospects of the Shatranji Industry using Factor analysis. She found that many factors like finance, economics, workforce, marketing, and the challenges and opportunities issues can affect the entrepreneurship of Shatranji sectors in different pathways. Citing many problems of the industry, she suggested more care of it to attain sustainable development goals at the local level. To the best of my knowledge, very few of the research has been conducted on the COVID-19 impact on the Shatranji industry. In particular, no empirical research regarding COVID-19's impact on the income, expenditure and poverty dynamics of workers in the Shatranji industry in Rangpur has been done. So this study is carried out to fill this research gap.

3. Methodology of the Study

Rangpur district is chosen as the study area since it is famous for its cultural heritage including the Shatranji industry. In this region, thousands of men and women are engaged in the production of Shatranji goods. The ups and downs in the industry can influence the poverty incidence and livelihood vulnerability of those workers in this area. Among eight Upazilas in the Rangpur district, we have selected two Upazilas named Rangpur Sadar and Mithapukur Upazila, which represent Shatranj-concentrated urban and village areas respectively.

Figure 1: Rangpur District Map



➤ **Data Source and Sampling Process**

In this study, quantitative approaches are used to collect and analyze data. This research is based on both primary and secondary data. Secondary data has been collected from the Bangladesh Bureau of Statistics (BBS), the websites of various government and non-government agencies, relevant literature, and daily newspapers. The households of the area who were either self-employed contract-based or salaried labor for a minimum of 1 year in the Shatranji industry are comprised of the study population.

To collect primary data, a multistage stratified random sampling design is followed. In the first stage, after the preliminary visit, two Upazilas (Rangpur Sadar and Mithapukur) are randomly selected then five villages/areas from urban/semi-urban regions and five villages from a rural part of the above two Upazilas are randomly selected. Finally, a total of 260 respondents, 130 from each upazila, are interviewed using a structured questionnaire on a random basis. After cleaning the data for missing variables, 245 households are identified as suitable for empirical analysis. The sample size is computed based on the formula directed in the popular website (<https://www.bizskinny.com/Statistics/sample-size.php>) as follows:

$$\text{Sample size determination formula} = \frac{\frac{z^2 \cdot p(1-p)}{e^2}}{1 + \frac{z^2 \cdot p(1-p)}{N e^2}}$$

Where: z: z-score(1.96), p: Population proportion (20%), e: Margin of Error (5%);
N: Population size(above 50000).

We collected all relevant data (and information) on the two most recent time points representing immediately before the lockdown (February 2020) and a few months after the start of the lockdown attributable to COVID-19. Here respondents were asked to recall the information before the situation of lockdown (February 2020) and after the lockdown (July 2020) during the survey time (January 2022) to explore the changes in the socio-economic situation and poverty status.

➤ **Analytical Strategies**

In this study, as a part of descriptive analysis, tabular technique through univariate and bivariate analysis, and graphical presentations are used to focus on socio-economic characteristics, the dynamics of income, expenditure, livelihood and poverty in the study area. A logistic regression model is used to estimate the change in poverty incidence due to Covid-19 and an OLS regression model is used to predict the proportionate change in income drop resulting from Covid-19.

➤ **Poverty classification and calculation of poverty line**

This study defines poverty as the percentage of households with ‘per capita monthly household income’ below or equal to the poverty line. Moreover, this research categorizes poverty further (Rahman, et al., 2020) along with extreme poor and moderate poor:

- (i) Extreme poor: Households with income \geq lower poverty line income(BDT 2448.43),

- (ii) Moderate poor: Households with income > the lower poverty line income (BDT 2448.43) but ≤ upper poverty line income (BDT 2956.77),
- (iii) Vulnerable non-poor: Households with income between the upper poverty line income (BDT 2956.77) and the median income (BDT 4092 for 2021) and
- (iv) Non-poor: Households with per capita monthly income > the median income (BDT 4092 for 2021).

In the Poverty line calculation, we used Inflation-adjusted divisional upper and rural poverty lines (in monthly Takas) from the HIES 2016 report. Here Rajshahi division poverty line is used as the proxy of the Rangpur division poverty line in the absence of Rangpur division poverty line data. The calculated Inflation-adjusted lower poverty line and the upper poverty line for Rangpur in 2021 are 2448.43 and 2956.77 (in monthly takas) respectively. Theoretically, these poverty lines are based on the Cost of Basic Need approach.

To focus on the International Poverty line calculation, using the PPP Conversion factor of the country collected from the World Bank open data, the poverty line is adjusted into local currency. The international poverty line is \$1.90/day, and \$2.15/day (updated). The equivalence of \$1.90/day and \$ 2.15/day in a month is 1983 BDT and 2245 BDT in 2021 respectively.

➤ **Model Specification**

To explore how a change in income due to COVID-19 and poverty varies with household-level characteristics, we estimated a multiple regression model using the OLS estimation method.

$$\text{Income_drop} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \varepsilon_i \dots\dots\dots$$

(i)

The dependent variable in this model is ‘income_drop’ means the change in reported family income between February 2020 and July 2020.

To further explore how poverty varies with household-level characteristics, we estimated a logistic regression model using a maximum likelihood where the result of the regression is reported as odds ratios.

$$Pov = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 D_1 + \beta_5 D_2 + \beta_6 D_3 + \beta_7 D_4 + \beta_8 D_5 + \varepsilon_i \dots \dots \dots (ii)$$

Here, pov = poverty, is the dependent variable, a dummy variable that takes the value of 1 if the households of the respondent are poor and 0 otherwise. We regress both of these dependent variables on the same set of explanatory variables which are related to the Individual level, the set of household-level, and the socio-economic characteristics of Shatranji Weaver. These attributes include the status of engagement in the Shatranji industry as the main profession or supportive job, the nature of work they are engaged in (self-employed, contract base work or regular salaried), age structure, education, family size, marital status, and status of family head.

Variables specification: Independent variables

In the regression models, the following independent variables are specified.

X₁ =Age of the respondent in years.

X₂ = Education in years

X₃ = Family Size (Number of family members of the respondent).

D₁ = 1, If married, 0=otherwise.

$D_2 = 1$, If the occupation nature is contract-based work, 0= otherwise.

$D_3 = 1$, If the occupation nature is regular salaried, 0= otherwise.

$D_4 = 1$, If Shatranji is the main income source, 0= otherwise.

$D_5 = 1$, If the respondent is the family head, 0= otherwise.

The study assumes that the change in reported income or income drop as well as the possibility of being poor depends on these independent variables. We have included these socioeconomic significant variables based on the existing literature review including (Swarna et al., 2022; Kumar et al., 2021; Genoni et al., 2020; Kesar et al., 2021). According to theory and literature, our hypotheses are as follows: Age(X_1), Educational Status (X_3), Family size (X_4), Marital status (D_1), Nature of occupation (D_2), Primary income source of the family (D_4), and family head (D_5) have a significant impact on the change in income and poverty of the respondent in the study area.

4. Result and Discussion

4.1 Findings from Descriptive Statistics

4.1.1 Socio-demographic Profile of the Respondents

Table: 1-Socio-economic profile of the respondents

Characteristics	No. of respondents (N= 245)	Percentage
Gender		
Male	21	8.6
Female	224	91.4
Age Level		
≥ 20 years	4	1.6
21 to 30 years	90	36.7
31-40 years	105	42.9
41-50 years	41	16.7
Above 50 years	5	2.0
Marital Status		
Single	27	11.0
Married	201	82.0

Otherwise	17	6.9
Family size distribution		
Small(1-3 members)	17	6.9
Medium(4-6 members)	207	84.5
Large(above 6 members)	21	8.6
Educational status		
Illiterate	22	9.0
Ability to sign	61	24.9
Primary	101	41.2
SSC	48	19.6
HSC or above	13	5.3
Family head		
Yes	63	25.7
No	182	74.3
The main occupation of the family		
Only engaged in shatranji	73	29.8
Others	172	70.2
Occupation nature		
Self-employed	43	17.6
Contract based	180	73.5
Regular salaried	22	9.0

Source: Field Survey, 2022

Socio-economic characteristics play a catalytic role in affecting the change in income or poverty incidence of the respondent through their participation in income-generating activities in the Shatranji Industry. It is clear from Table 1 that the majority (around 91.4%) of the respondents are female and the remaining 8.6% are male.

The age composition of the respondents reflects that only 1.6% of respondents lie in the range of below 20 years while 36.7% and 42.9% of respondents are in the age group of 21-30 years and 31-40 years respectively and the rest of 18.7% lie in the last two age groups (41-50 years and above 50 years). It implies that a major (43.9%) proportion of respondents belong to the working age group 31-40.

With regards to marital status, 82% of the respondents are married whereas 11% are still unmarried and 7% are a widow or separated. In terms of family size, Table 1 also shows that 84.5% of respondents belong to a family which lies in the range of

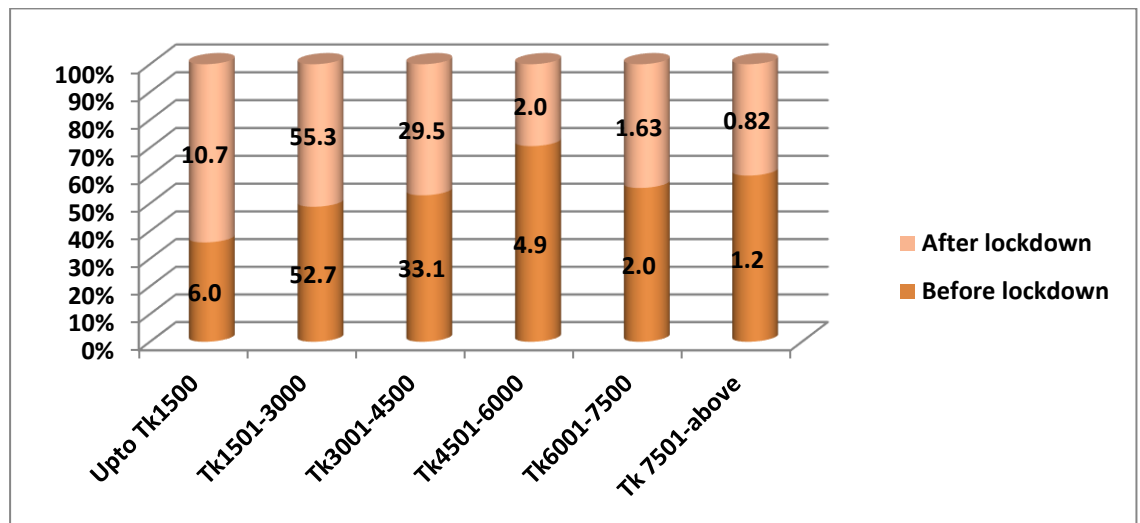
4-6 persons whereas 6.9 % and 8.6 % of respondents have a family size range of 1-3 and above 6 members respectively. The level of education leads to higher income for the respondent. It is seen from Table 1 that about 34% of respondents are illiterate or have the ability to sign. About 41% of respondents have primary education whereas 19.6% and 5.3% of respondents completed SSC and HSC level or above respectively.

Table 1 also depicts that about 74 % of respondents are not their family heads. Being the family head is very important for influencing the income status of the family. The table shows that only 29.8% of respondents are involved in the shatranji industry as their main profession. With regards to occupation nature, the majority (73.5%) of respondents work on a contract basis whereas about 17.6% of respondents are self-employed and 9% of respondents are regular salaried persons.

4.2 The Livelihood and Income Dynamics

The COVID-19 lockdown forced a variation in both income and expenses. The general standard of living for those residing in low-income communities was impacted by these changes. Living in low-income settlements, the considerably poorer sector of society is more severely affected by the negative effects than other groups of people. The first consequence they experience is a sharp decline in work prospects, which has a major negative impact on their income.

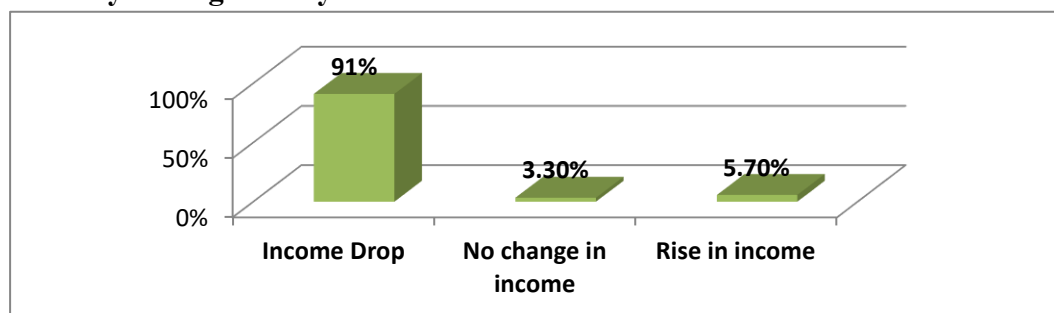
Figure 2: Distribution of family by Per capita monthly income category before and after lockdown



Source: Field Survey, 2022

Figure 2 shows that the percentage of families with income up to BDT 3000 has increased after the lockdown while the share of families with income more than BDT 3000 has decreased during the lockdown. It indicates that the respondents, who have higher income from either entrepreneurship or weaving shatranji, experienced a fall in income due to COVID-19.

Figure 3: Percentage of the respondents who experienced a change in monthly average family income due to COVID-19



Source: Field Survey, 2022

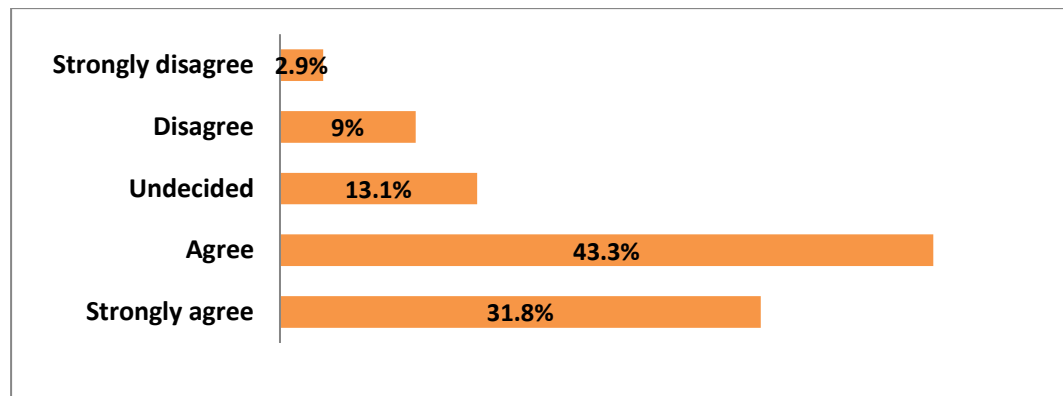
Figure 3 reflects that majority (91%) of respondents faced a drop in average family income due to COVID-19 although only 3.3% did not experience any change in

family income. However, the average family income rose for about 5.7 % of respondents.

4.2.1 Perception of the Respondents about Livelihood

The livelihood source of Shatranji workers was also affected by COVID-19. Figure -4 reveals that 43.3% and 31.8% of respondents admit or strongly admit that COVID-19 negatively affected their livelihood level. However, about 12% of respondents did not agree about the change in livelihood and about 13% of respondents were neutral in their view.

Figure 4: The level of livelihood was being negatively affected by COVID-19

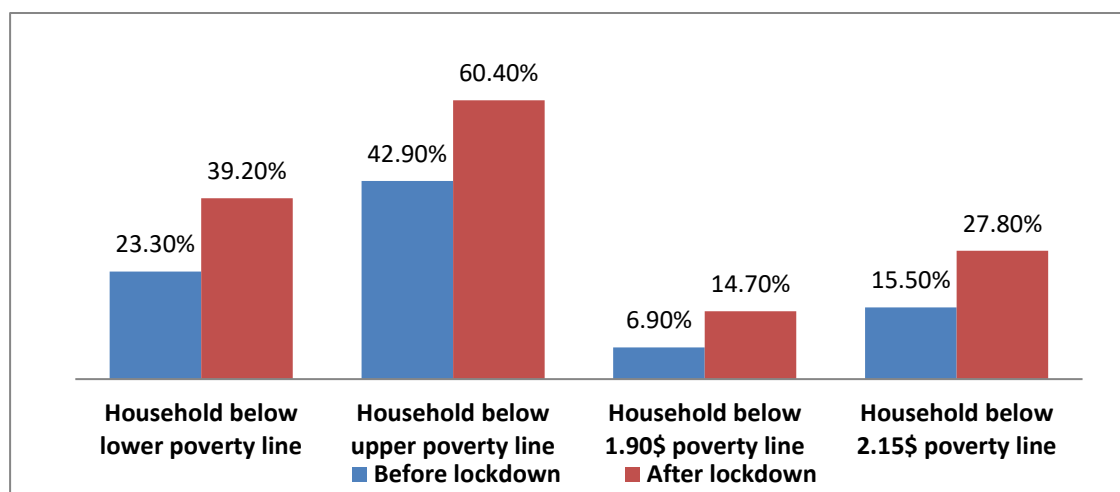


Source: Field Survey, 2022

4.3 Dynamics in the Poverty Status

It is well known that the COVID-19 outbreak worsened the poverty and living conditions of those with lower incomes. Figure 4 shows the comparative scenario of poverty rate change, using different poverty lines, on account of COVID-19.

Figure 5: Poverty incidence using different poverty lines before and after the lockdown



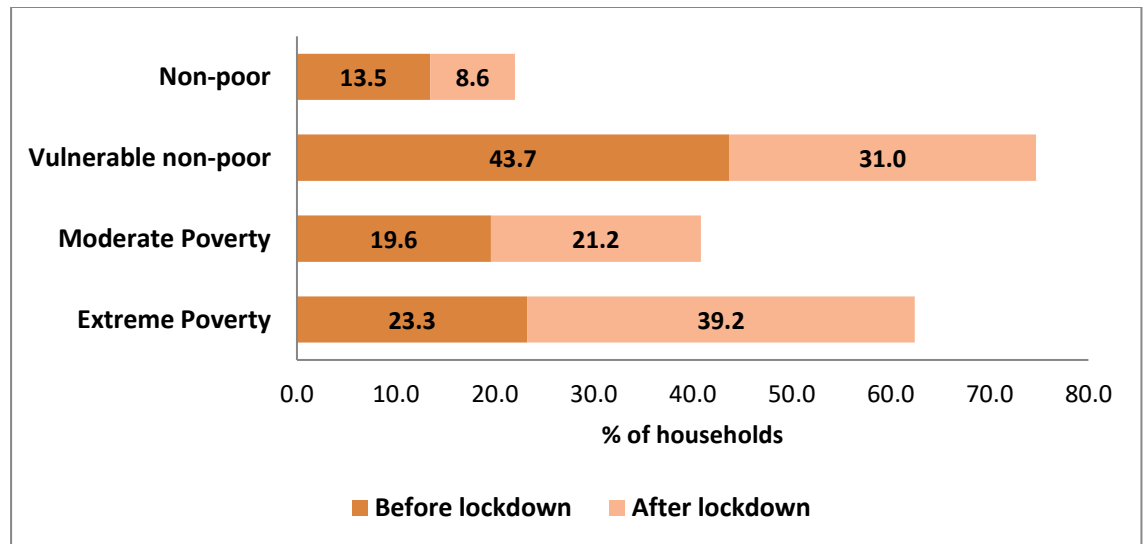
Source: Field Survey, 2022

Figure 5 reveals that using all poverty lines the proportion of poverty increased for all households during COVID-19. For the lower poverty line, the poverty rate rose from 23.30% to 39.20% although it increased from about 43% to 60% for the case of upper poverty line. The change in poverty is minimal using international old and new poverty lines, 1.90\$ and 2.15\$. About 7% percentage points of families experienced a rise in their poverty in the case of the 1.90\$ poverty line. However, using 2.15\$ poverty line, more than 12% points households faced the higher poverty incidence during COVID-19.

Figure 5 also indicates the changes in poverty dynamics among different groups during COVID-19. Extreme poverty is defined as the percentage of households with monthly per capita income below or equal to the lower poverty line. Moderate poverty is referred to as the percentage of households with per capita monthly incomes that are above the lower poverty lines but below or equal to the upper poverty line. The study’s definition of a vulnerable non-poor person is one whose reported income is between the upper poverty line and the median income (BDT

4092). The households classified as non-poor have per capita monthly incomes that are higher than the median income (BDT 4092).

Figure 6: Intra-group dynamics of poverty: Non-poor turning into poor



Source: Field Survey, 2022

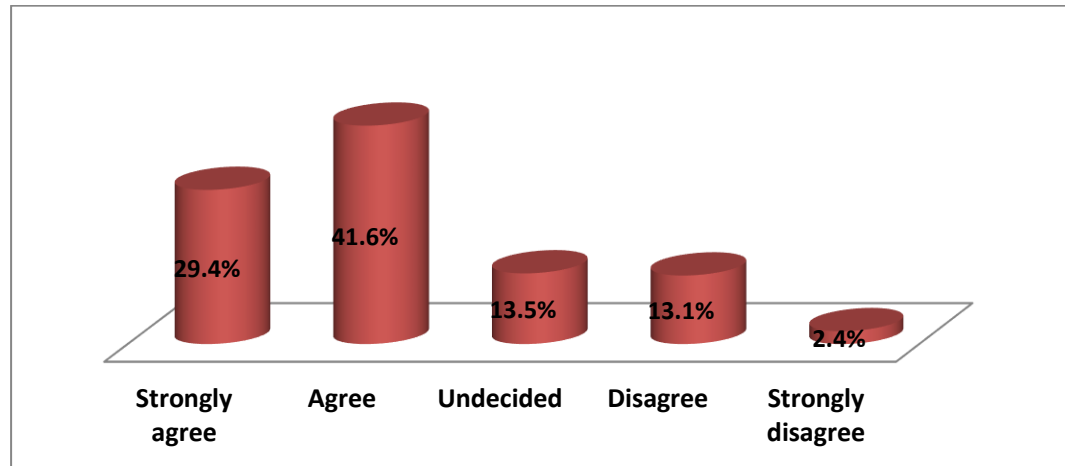
It is shown from the above figure-6 that extreme poverty and moderate poverty incidence increased from 23.3% to 39.2% 16% and 19.6% to 21.2 % respectively during the lockdown period. However, there was a fall in non-poor and vulnerable poor families during the period. It indicates that about 13% of households were vulnerable non-poor and they turned into poor families on account of lockdown during COVID-19. Similarly, about 5% of people turned into poor from non-poor households. It implies that about 18% of households are new poor who joined with existing moderate and extreme poor groups.

4.3.1 Perception of the Respondents about Poverty

To have a clear picture of poverty and living standards, the study took the opinion of the respondents about their status change. It is found in Figure that 41.6% and 29.4% respectively respondents admit or strongly agree that their family poverty level worsened during the COVID-19 period. However, about 15.5 % of

respondents posit oppositely and 13.5% of respondents did not know the change in their poverty status.

Figure 7: COVID-19 raised the poverty level of your family



Source: Field Survey, 2022

4.4 Findings from Regression Analysis

4.4.1 OLS and Logistic Regression Result

The result of the estimated regression model is briefly discussed in Table 2.

Table 2: OLS regression result for experiencing an income drop

Variables	Reported income drop (1)	Reported income change (%) (2)
Age(X ₁)	-12.85(17.72)	1.12(0.17)
Education(X ₂)	221.0**(109.6)	-2.822**(1.19)
F_Size(X ₃)	423.4*** (112.5)	-4.11*** (1.09)
Married(D ₁)	338.33 (304.26)	3.287(3.213)
Occupation nature:		
Contract based work(D ₂)	-348.7*** (115.8)	2.85**(1.32)
Regular salaried(D ₃)	-308.7*** (115.8)	2.81**(1.31)
Income_source(D ₄)	238.02(154.13)	-2.195(2.397)
Family_head(D ₅)	334.11(244.94)	-1.31(1.18)
Constant	986.34(841.73)	-6.75(4.77)
Observations	245	245
R-squared	0.637	0.604

Notes: Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.10

Source: Authors' calculation based on Field Survey, 2022

Among the two regression models, the first model shows the result of how the amount of income drop varies in value with the change in socio-economic variables and the second model reflects the proportional change in reported income with the change of the same explanatory variables. The coefficient of determination (R^2) shows that the predictors of the two models as a whole explained 62.7% variance of reported income drop and 59.4% variance of reported income change (%) by explanatory variables.

The estimated result for both models shows that only three independent variables, Education(X_3), Family size(X_4), and Occupation nature of the respondent (D_2 and D_3), made a unique statistically significant contribution to both models at various levels of significance ($\alpha=1\%$, & 5%). On the other hand, four independent variables including Age(X_1), marital status (D_1) Income source (D_4) and Family head (D_5) were insignificant.

According to Model-1 in the regression result, the income drop of the respondent is positively related to the education of the respondent and family size but negatively connected with occupation nature at 5% & 1% levels of significance respectively. It indicates that for an additional year of education, there was a 221 taka higher income drop for the respondent during COVID-19 other things remaining constant. This finding is consistent with another study which has shown that even while the samples for higher educated informal employees are small, highly educated workers experienced higher average losses in income during COVID-19(Swarna et al., 2022).

For occupational nature, when a respondent is contract based worker instead of a self-employed worker, there was a smaller income drop by 348.7 taka other things

remaining constant and in the same way, the regular salaried workers experienced 308.7 taka smaller income drop compared to the worker of self-employed worker. It is the same result as it's found in the previous study and our expectations. Kesar et al., (2021) concluded in their study that salaried persons were less vulnerable compared to other types of informal workers in India during COVID-19. However, for the larger family size, it resulted in a higher income drop of 423.4 taka in general. This finding is also in line with a previous study(Barkat, 2020) indicating that the larger the family size, the more expenditure for the family members resulting in income shortage among the informal workers during COVID-19. Model-2 result in Table-2 shows that reported percentage income change is also negatively associated with education level and family size but negatively related with occupation nature at a 5% and 1% significance level respectively. These results are the same as it's found in the existing literature(Kesar et al., 2021; Genoni et al., 2020; Swarna et al., 2022) and also the same as our expectations. Accordingly, the more educated respondents, the larger the fall in percentage income by 2.82 percentage points keeping the other variables constant. However, respondents who are contract-based and regular salaried workers have almost 2.85 times and 2.81 times respectively higher reported percentage income in comparison to a self-employed group of respondents. Regarding family size, the result shows that it also decreased percentage income by 4.11 percentage points, when other things remained constant. The result is also consistent with existing literature (Barkat, 2020; Genoni et al., 2020). They found that the larger family size mostly creates an extra burden on the family expenditure leading to a more proportional income drop of the workers who are engaged in informal sectors including shatranji. The

remaining variables had no significant effect on the percentage income change during the study period.

Table 3: Logistic regression result for the change in poverty incidence

Variable	Poverty After lockdown (using the upper poverty line) (3)	Poverty After lockdown (using \$2.15 poverty line) (4)
Age(X ₁)	1.015(0.022)	-0.0381(0.0285)
Education(X ₂)	-0.456***(0.161)	-0.435*** (0.151)
F_Size(X ₃)	1.065***(0.168)	1.319***(0.183)
Married(D ₁)	-0.835**(0.419)	-1.245**(0.471)
Occupation Nature:		
Contract based work(D ₂)	-1.139***(0.341)	-0.855**(0.352)
Regular salaried(D ₃)	-1.104***(0.215)	-0.810**(0.342)
Income_source(D ₄)	0.165(0.343)	**1.015(0.420)
F_head(D ₅)	0.412(0.417)	0.119 (0.483)
Constant	-4.578**(2.130)	-7.867*** (2.170)
Observations	245	245
Pseudo R ²	0.516	0.572

Notes: Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.10

Source: Authors' calculation based on Field Survey, 2022

Table 3 shows how the poverty incidence changed with household and socio-economic characteristics during the lockdown. The two different model results are shown using two separate poverty lines (Upper poverty line and 2.15\$ poverty line). Nagelkerke R² (pseudo R²) in both of the logistic regression models of poverty are 0.516 and 0.572 respectively indicating goodness of fit well. It is clear from Table 3 that marital status, education level, and Occupation nature had a significant negative effect on the possibility of poverty at various levels of significance although family size had a significant positive impact on the probability of poverty at a 1% level of significance. These relationships are in the same line as we expected

and we found in the existing literature (Genoni et al., 2020; Barkat, 2020; Kumar et al., 2021). Married persons are more dedicated to finding a job and engaging in earning activities. In some cases, married persons are allied by his/her spouse in the earning functions. Education is another issue to reduce the possibility of poverty because educated persons are more aware and skilled and their earnings are generally higher than less educated people. In the same way, when the respondent is a contract-based worker or regular salaried person instead of a contractual worker in Occupation nature, they are less vulnerable during any economic crisis or they have less variation of income. However, other variables have no significant effect on the possibility of poverty incidence of the respondents in the study area.

According to Model-3 results in Table-3, the log odds of the possibility of poverty after lockdown are significantly decreased by 0.83 units, and 0.45 units respectively for being married and higher education level with 5% or 1% statistically significant level, when other things remain constant. The respondents who are contract-based and regular salaried workers have 1.139 and 1.104 times respectively less probability of being poor in comparison to self-employed workers with 1% statistical significance. However, the log odds of the likelihood of being a poor respondent increased by 1.06 units as the family size of the respondent increased. Concerning Model-4 in Table-3, it is found the same result that respondents who are married, earned from salaried income or contract-based work instead of self-employed jobs, and higher levels of education, had a smaller possibility of being poor at various levels of significance levels. These results are also consistent with previous literature and prior expectations. The coefficient of the variable 'married' is 1.24 which indicates that the respondents who are married, had a lower probability of being poor, compared to respondents who are single or widowed.

Similarly, the table shows that respondents with more education showed an average 0.43 times smaller probability of poverty, compared to respondents with no education or illiterate. Similarly, when the occupation nature is changed from self-employed to contract-based worker, the possibility of poverty is smaller by 0.85 units and when the respondent is a regular salaried worker instead of a self-employed person, the possibility of poverty is smaller by 0.81 units. However, the log odds of the likelihood of being a poor respondent increased by 1.31 units as the family size of the respondent increased other things remaining constant. Table 3 also shows that when the respondents only engaged in shatranji industry as their main source of income, the probability of being poor is 1.05 times higher than that of those respondents who have other sources of income along with shatranji. It indicates that shatranji workers are so vulnerable to extreme poverty in the study area.

5. Conclusions and Policy Implications

The study aims to explore the effect of COVID-19 on the income and poverty dynamics of the people who are involved in the shatranji industry in Rangpur. The study found that the majority of respondents have no or low education and they mostly work on a contract basis. It reveals that respondents experienced lower family income and higher poverty incidence during COVID-19 in the study area. It also found that most of the respondents belong to the family which lies in the range of 4-6 persons. The Shatranji Industry in Bangladesh has a glorious past, a dubious present, and a hazy future due to numerous internal and external constraints like a lack of working capital, a high cost of raw materials, a lack of organizing ability, insufficient technology & efficiency, a lack of policy support, a significant knowledge gap, a lack of energy availability, and an absence of funding facilities.

On the one hand, Satranji helps to meet domestic and international demand; on the other hand, it paves the way for the people of Rangpur to raise their standard of living, social standing, and overall independence. The government and various non-government organizations are trying to promote the shatranji industry so that it can contribute to alleviating poverty and improve livelihood levels by generating employment.

There are many recommendations based on the research findings to develop this industry in Rangpur. The most important implications for reducing poverty incidence among the shatranj workers include emphasizing more education, undertaking sufficient measures for family planning and ensuring fixed monthly income for shatranj workers.

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Analyzing the Determinants of Life Expectancy in Bangladesh: A VECM Approach

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Abstract

This study elucidated the influence of financial development, economic growth, carbon emissions, population growth and food production on life expectancy in the context of Bangladesh. The data utilized encompasses the period from 1974 to 2019. The utilization of the Vector Error Correction Model (VECM) approach allows for the examination of both short-run and long-run correlations among variables. The ADF test was conducted to determine the stationarity of all variables, revealing that they are integrated of order 1. This implies that all variables exhibit stationarity when differenced once. The Johansen cointegration test was utilized to determine the presence of cointegrating equations in the variable. The outcomes of the trace test indicated that there is a maximum of two cointegrating equations. Economic growth and financial development have a positive impact on life expectancy, whereas carbon emissions have a negative impact. Economic progress and financial development make life expectancy better, while carbon emissions make it worse. The findings show that policies should be put in place to reduce carbon emissions and slow population growth while also boosting economic growth, financial development and food production to improve people's health. Bangladesh should consider implementing policies such as strengthening financial development, adopting clean and green technology, and enforcing rigorous environmental pollution regulations. These measures are essential for enhancing life expectancy, improving overall human well-being, and ultimately achieving sustainable development goals.

Keywords: Economic Growth, Life Expectancy, Financial Development, Population Growth, Food Production Index, VECM Approach.

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1. Introduction

Life expectancy is a critical indicator of a nation's overall well-being, reflecting its social progress, human health, and economic growth (Kunze, 2014). In recent decades, Bangladesh has witnessed a remarkable transformation in life expectancy, with projections indicating an increase from 46.507 years in 1972 to an estimated 73.29 years in 2022, according to World Bank Report (2023). This notable rise in life expectancy has been largely attributed to improvements in living conditions, access to education and economic development. However, the intricate relationship between life expectancy, economic growth and carbon emissions presents a complex puzzle.

Despite the undeniable link between rising life expectancy and economic growth, Bangladesh faces a paradoxical situation where simultaneous increases in economic prosperity and carbon emissions have created a perplexing interplay of influences on life expectancy. While economic growth has led to elevated living standards, better healthcare and improved access to education, carbon emissions have unleashed environmental consequences, affecting air and water quality, as well as the overall well-being of the population. This dynamic raises pressing questions about the sustainability of these trends and their long-term implications for life expectancy in Bangladesh (Mahumud et al., 2013).

Understanding the intricate relationship between economic growth, carbon emissions, and their impact on life expectancy is of paramount importance. This study aims to untangle the web of influences shaping life expectancy in Bangladesh by examining the conflicting forces of economic growth and carbon emissions. By conducting a rigorous analysis, we seek to shed light on the complexities of this relationship and provide insights that can inform policy decisions to ensure a healthier and more sustainable future for the nation's inhabitants.

According to World Bank (2023), Bangladesh's life expectancy at birth has showed a constant rising trend, despite sporadic changes. The life expectancy increased noticeably by 2020, rising to 71.9 years. The upward trend in population health and

overall living conditions suggests a profound improvement in the quality of life for people.

Between 1974 and 2021, the real gross domestic product (GDP) increased significantly, from \$30.3 billion to \$285.2 billion. The actual Gross Domestic Product (GDP) of Bangladesh experienced the largest rise from 2005 to 2016, with an average yearly increase of above 6%. However, the COVID-19 pandemic has slowed Bangladesh's actual economic progress, just like it has in other countries. The real Gross Domestic Product (GDP) showed admirable resilience despite the ongoing epidemic, registering a notable growth rate of 5.2% in 2020 and a further increase of 6.1% in 2021.

Agriculture, water resources and public health are just a few of the sectors of the economy that are significantly at danger from the phenomenon of climate change. The World Bank data 2023 used in this study show the pattern of Bangladesh's carbon emissions from 1974 to 2019. The results indicate that there has been a significant increase in carbon emissions over time. Bangladesh's carbon emissions were 4660.757 kilotons (kt) in 1974; however, they significantly increased in 2019 to 90739.99786 kt.

The food production index for Bangladesh is a measure of the amount of food that is produced per capita in the country. The index is based on the number of people who live in a country and the number of people who are able to produce food. The graph shows the food production index for Bangladesh from 1972 to 2021. The index is set to 100 in 2004-2006, so a value of 116.4 in 2021 means that food production per capita was 16.4% higher in 2021 than it was in 2004-2006. The overall trend in the food production index for Bangladesh is positive. The index has increased from 28.3 in 1972 to 116.4 in 2021. This means that food production per capita has more than quadrupled over the past 50 years. Therefore, the objective of the study is to examine the long run relationship among the variables.

This study is organized into several sections to comprehensively address the objectives outlined above. In Chapter 2, we provide a literature review to contextualize our research with theoretical framework. Chapter 3 presents the data sources and methodology used for analysis. Chapters 4 delve into the empirical findings regarding the impact of economic growth and carbon emissions on life expectancy, respectively. Lastly, Chapter 5 synthesizes our findings and offers

policy recommendations, highlighting the path forward for Bangladesh's sustainable development and the enhancement of its citizens well-being.

2. Literature Review

Many researchers agree that increasing life expectancy boosts economic growth by encouraging investment in human capital. Longer life expectancy leads to a higher return on human capital, encouraging more investment in education and stimulating economic growth. Kalemli-Ozcan et al. (2000) used an overlapping generation model with continuous time to study the influence of life expectancy in human capital investment during economic growth. Their findings indicate that life expectancy supports increased schooling. By integrating these theoretical frameworks into our investigation, we can develop a strong conceptual basis for our research on the factors influencing life expectancy in Bangladesh.

Numerous scholarly studies have explored the factors influencing life expectancy in both developed and emerging economies.

He & Li (2020) examined the relationships, both in the short and long term, between life expectancy and economic growth across a sample of 65 nations characterized by varying degrees of population ageing. The analysis covers the period from 1980 to 2014. The study used panel cointegration analysis and panel causality tests to examine the interrelationships. The findings indicate that there exists a statistically significant positive correlation between life expectancy and GDP per capita in the majority of countries. Moreover, this association is more pronounced in countries characterized by higher levels of ageing. The findings from the panel causality tests indicate the presence of short-term unidirectional causality, wherein life expectancy has a causal influence on economic growth for younger age groups. Conversely, there is evidence of unidirectional causality, with economic growth exerting a causal impact on life expectancy for older age groups. The aforementioned studies indicate that the link between life expectancy and economic growth is Kunze (2014) examined the correlation between life expectancy and economic growth within the framework of an overlapping generations model that incorporates family compassion. In this model, both private and state investments in the human capital of children play a crucial role in driving endogenous growth. The research reveals that there is an inverse association between life expectancy and income per capita increase, but this association is frequently not statistically significant before the occurrence of the demographic shift. However, following the transition, the

correlation becomes significantly positive. The findings present a novel perspective on the currently conflicting data and bear significant consequences for policymaking.

Acemoglu & Johnson (2007) study employed OLS regressions and instrumental variable (IV) methodology to ascertain the influence of life expectancy on a range of economic and population-related indicators. In addition, the researchers utilize a long-difference specification, which involves analyzing data from several time periods, in order to investigate the correlation between life expectancy and characteristics associated with population. The results indicate that there is a correlation between a rise in life expectancy and favorable impacts on both economic growth and population-related indicators.

Anand & Ravallion (1993) found a strong relationship among life expectancy and GNP per capita. When explanatory variables such as public expenditure on poverty and health are considered, the findings indicate that GNP has a negative effect on the first model.

Numerous studies on developed and developing (emerging) countries look at how emissions affect health. According to Nweke and Sanders III (2009), emissions were a primary cause of the large disease load suffered by Africans. Matthew et al. (2018) evaluated the connection between public health spending and health outcomes in Nigeria employing the autoregressive distribution lag (ARDL) econometric approach.

Kibria and Ullah (2020) studied the influence of carbon dioxide, urbanization, and economic growth on Bangladeshi life expectancy from 1972- 2014. They discover that all variables are stationary at I(1) using the time series unit root test. In Bangladesh, CO₂ and urbanization have a bidirectional link with life expectancy, whereas economic growth has no causal relationship with life expectancy. Rizzo (2019) examined a variety of socioeconomic factors that affect life expectancy in 34 low-income countries and finds that subsidized health care costs, access to basic healthcare facilities, the prevalence of HIV, urbanization, sex and education are important factors that increase life expectancy, while corruption, foreign aid and malnutrition are found to have only a tenuous relationship with life expectancy. Additionally, it was found that the LEAB was negatively and significantly impacted by the overall fertility ratio. On the other hand, it is discovered that the effects of

CO2 emissions, inflation rate, and the degree of urbanization on LEAB are negligible.

From 2001 to 2011, Bilas et al. (2014) investigated the LEAB bases in 28 member states of the European Union. There is a ton of research on environmental risks, but there aren't many studies on how CO2 has affected life expectancy in the last several decades. However, the outcome demonstrates that CO2 emissions have a detrimental impact on life expectancy in both the short- and long-term for all MENA countries.

Naeem et al. (2021) tried to explore the effects of CO2 emissions on infant health in Pakistan from 1975 to 2013. Some many economic factors were used in our analysis, and the results show that CO2 emissions have a negligible impact on child mortality. Increasing health-care facilities reduces child mortality in the short term, however the relationship reverses in the long run. In the short run, urbanization appeared to be a risk factor for child mortality. While income inequality continues to be inversely related to child mortality. Fertility and poverty are both found to be risk factors for child mortality. The people with higher poverty of the economy appeared to have higher child mortality rates due to inadequate health care and low living standards.

Patz et al. (2007) explored the global consequences of climate change on health. The study quantified global warming using cumulative depleted CO2 emissions per capita. Their report found that climate change is increasing health risks and that poor countries are less to blame.

In the D-8 countries (Indonesia, Malaysia, Nigeria, Bangladesh, Egypt, Pakistan, Iran, and Turkey) between 1992 and 2017, Murthy et al. (2021) analyzed the influences of CO2 emissions on life expectancy. To do this, we use the panel ARDL technique and pick the PMG estimator. The data show that while health expenditure, population growth and economic growth can all have a positive impact on life expectancy, CO2 have a negative impact on it. The primary findings indicate that the decrease in life expectancy can be related to the emissions of carbon dioxide (CO2). (Murthy et al. 2021)

Wang et al. (2020) considered the role of financial development as a possible determining factor. They analyzed data from 1972-2017 using autoregressive distributed lag (ARDL) in a study carried out in Pakistan. The findings showed that increased financial development and energy consumption can shorten people's

lives. This is due to the fact that increased environmental degradation is a direct result of increased energy consumption. Life expectancy is also strongly influenced by economic growth in Pakistan.

From 1975 to 2013, Albiman et al. (2015) have studied Tanzania's energy consumption, GDP growth and emissions. The study found that energy consumption and economic growth can affect CO₂ emissions, as determined by a battery of tests including the Toda and Yamamoto non-Causality and Variance Decomposition.

Economic growth (GDP), carbon emissions (CO₂), and life expectancy in Turkey are studied using long time series data from 1960 to 2018, as well as the Bayer-Hanck cointegration test, an overlapping generational model, wavelet coherence, Breitung-Candelon frequency-domain spectral causality tests and Fourier Toda-Yamamoto test. In contrast to the existing literature, we discover a positive correlation between LE and GDP across time scales, a causal relationship between CO₂ and LE and a bidirectional causality between LE and GDP in the long, medium and short run. Similarly, GDP has medium as well as long run causal relationships with LE, while LE has long, medium and short run causal link with GDP (Cristi et al. 2021).

Alam et al. (2020) evaluated the impact of financial development on Bangladesh's significant increase in life expectancy between 1972 and 2013. Using the ARDL bounds testing approach, the study demonstrated a long-term positive relationship between financial development and life expectancy, implying that developments in the financial sector can help to raise life expectancy. Alam et al. (2015) found that financial development, economic growth, and education expenditure all significantly and favorably impact on life expectancy in India. Uddin et al. (2023) conducted a study focusing on the factors that influence life expectancy in Asian countries such as Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka from 2002 to 2020. The study revealed that factors such as good institutional quality, financial development, and increased health expenditure have a positive impact on life expectancy by contributing to longer life spans. Hendrawaty et al. (2022) examined the connection between economic growth and life expectancy within ASEAN nations, exploring how financial development and energy consumption influenced this relationship. They found that financial development has a long-run significant effect on life expectancy in ASEAN countries.

Food production significantly impacts life expectancy in selected Economic Community of West African States (ECOWAS) countries. An increase in the food production index resulted in a 0.46% rise in life expectancy, as per the study (Imoagwu et al., 2023). In a study conducted by Nzeh in 2023 examined the relationship between food production and life expectancy in low-income African food-deficit countries. The study utilized various panel models, including dynamic ordinary least squares (DOLS) and fully modified ordinary least squares (FMOLS), to analyze the impact of the food production index on life expectancy. The findings indicated that food production positively and significantly affected life expectancy. The study on the determinants of life expectancy in Bangladesh has a research gap due to the limited utilization of advanced time series models, specifically the Vector Error Correction Model (VECM). These models are crucial for comprehensively capturing the intricate and evolving connections between economic growth, carbon emissions, and other factors that influence life expectancy. Prior research frequently overlooked the thorough examination of environmental elements, exhibited a lack of effective integration between economic and environmental viewpoints, and omitted the utilization of cointegration analysis to evaluate potential long-term equilibrium linkages among variables. The selection of VECM for this research is justified by its ability to capture dynamic and long-term relationships, rectify short-term deviations and offer practical policy insights. Consequently, this choice addresses the existing gaps in literature and contributes to a comprehensive comprehension of the determinants influencing life expectancy in Bangladesh.

3. Methodology

3.1 Sources of the Data

Using time-series data spanning 1974-2020, this study explored the causal influence of food production, financial development, CO₂ and economic growth on life expectancy in Bangladesh. To check for normality across all series, the current study converted all variables to natural logarithms. Life expectancy (LE) is the dependent variable in this analysis, while RGDP, CO₂ emissions, population growth, financial development and food production are the explanatory variables. The data used came entirely from the World Bank's 2022 database. Here, Real GDP is the proxy for the economic growth and financial development is typically measured by the proportion of domestic credit to the private sector relative to GDP. Food production

is measured by food production index which covers edible food crops containing nutrients, excluding coffee and tea due to lack of nutritive value.

The variables are described as follows:

Table 1: Variables Nature

Variables	Form of Variable	Sources
Life Expectancy (LE)	Natural log of LE	WDI
Real GDP (GDP)	Natural log of GDP	WDI
Carbon Emission (CO2)	Natural log of CO2	WDI
Financial Development (FD)	Natural log of FD	WDI
Food Production Index (FP)	Natural log of FP	WDI
Population Growth (PG)	Natural log of PG	WDI

The model we tested in these papers is given below

$$\ln LE_t = \alpha_0 + \alpha_1 \ln GDP_t + \alpha_2 \ln CO2_t + \alpha_3 \ln FD_t + \alpha_4 \ln FP_t + \alpha_5 \ln PG_t + \epsilon_t$$

3.2 The Analysis Tool

Methods used for collecting and analyzing data are covered here. Stationarity testing, cointegration testing are just some of the estimations and tests that are performed in this research.

3.2.1 Stationarity Tests

Nonstationary is common in time series. Nonstationary data causes spurious regression. Stationarity tests must be performed as the initial stage in this empirical study to establish the order of integration of series.

3.2.2 Johansen Cointegration Test

The Johansen test is operated to examine the cointegration of a number of non-stationarity time series data. The Johansen test, unlike the Engle-Granger test, permits multiple cointegrating correlations. The Maximum Eigenvalue test and the Trace tests are the two basic variations of Johansen's test.

Eigenvalue is identified as a non-zero vector that changes by a scalar factor when subjected to a linear transformation. Similar to Johansen's trace test is the Maximum Eigenvalue test. The null hypothesis is the main difference between the two. Trace tests estimate the number of linear combinations in a time series data, i.e., K to be equal to the value K_0 and the hypothesis for the value K to be greater than K_0 . The VECM will be specified based on the results of the Johansen co-integration test. The VECM includes an error correction term to capture the long-run equilibrium relationship among the variables. Here is the equation,

$$\Delta Y_t = \Pi Y_{t-1} + \sum_{i=1}^{k-1} \Gamma_i \Delta Y_{t-k} + \epsilon_t$$

ΔY_t represents the vector of differenced variables at time, Π and Γ_i denotes the matrix of long run and short run coefficients respectively.

4. Result Analysis and Discussion

4.1 Descriptive Statistics

The parameter used in this paper is described in Table 1. Log of Emissions of carbon dioxide (CO₂) range from 8.44 to 11.43; log of life expectancy is 3.89 to 4.28; and log of gross domestic product (GDP) is ranging from 24.09 to 26.309; and so on. In addition, the used parameters have a skewness that is very close to zero. Results from tests for skewness and kurtosis are consistent with the idea that our data follow a normal distribution. All the parameters, in particular, are very close to zero, which is a sign of normal distribution. The p-value from the Jarque-Bera results addresses that all factors are normally distributed, with the exception of GDP, which does not follow a normal distribution.

Table 2: Descriptive Statistics

	Life Expectancy	Economic Growth	Carbon Emission	Financial Development	Food Production	Population Growth
	lnLE	lnGDP	lnCO2	lnFD	lnLFP	lnPG
Mean	4.107852	25.07756	9.920118	2.854715	4.040155	0.550717
Median	4.117849	24.99998	9.850614	3.020261	3.920785	0.629219
Minimum	3.895080	24.09228	8.446933	0.650824	3.419037	-0.127730
Maximum	4.287798	26.30961	11.43766	3.793396	4.720194	1.019984

Std. Dev.	0.127053	0.660858	0.893660	0.822549	0.410091	0.323638
Skewness	-0.141869	0.275265	0.150162	-0.932416	0.251218	-0.421506
Kurtosis	1.465367	1.891867	1.819662	3.109441	1.642808	1.993093
Jarque-Bera	4.769729	2.998290	2.904974	6.833756	4.101559	3.377207
Prob.	0.092101	0.223321	0.233988	0.032815	0.128635	0.184777
Sum	193.0690	1178.645	466.2455	134.1716	189.8873	25.88369
Sum Sq. Dev.	0.742552	20.08971	36.73687	31.12300	7.736044	4.818114
Obs.	47	47	47	47	47	47

4.2 Unit root test:

Integrated order is necessary for the VECM model. For VECM, the order of variables should be I(1). Unit root test is conducted by Augmented Dickey Fuller test. In ADF test all the series become stationary after 1st differencing at the 5% significance level. Thus, the variables are I(1). The summary of the variables which is conducted by the ADF test is given below.

Table 3: ADF Test

<u>At Level</u>							
		LLF	LGDP	LCO2	LFD	LFP	LPG
With Constant	t	-1.1063	4.2653	-0.0346	-2.7245	0.1081	-1.2160
	Prob.	0.7056	1.0000	0.9502	0.0777	0.9630	0.6595
With Trend & Constant	t	-1.5604	-1.4538	-1.9776	-1.8925	-2.0583	-3.4492
	Prob.	0.7932	0.8310	0.5977	0.6422	0.5546	0.0576
Without Trend & Constant	t	3.9620	8.4783	7.3266	2.0286	5.3508	-1.2570
	Prob.	0.9999	1.0000	1.0000	0.9888	1.0000	0.1890
<u>1st Difference</u>							
		d(LLF)	d(LGDP)	d(LCO2)	d(LFD)	d(LFP)	d(LPG)
With Constant	t	-7.7157	-8.2832	-5.9057	-7.1500	-8.2248	-3.8134
	Prob.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0054
With Trend & Constant	t	-7.6936	-11.5360	-5.8307	-8.8256	-8.2872	-3.7731
	Prob.	0.0000	0.0000	0.0001	0.0000	0.0000	0.0274

Without Trend & Constant	t	-3.0144	0.0166	-3.3593	-5.7978	-1.7500	-3.7649
	<i>Prob.</i>	0.0034	0.6826	0.0012	0.0000	0.0760	0.0004
Decision		I(1)	I(1)	I(1)	I(1)	I(1)	I(1)

4.3 Johansen Cointegration Test:

After establishing that all series are stationary, we can move on to the cointegration test, which determines if the linear combination of the variables is stationary or if the variables are in some kind of equilibrium or long-term relationship.

The following tables show the outcomes of Johansen cointegration according to the Trace and Max eigen test.

Table 4: Outcomes of Cointegration Test (Trace Test)

Rank Test of Unrestricted Co-integration (Trace Test)				
Hypothesized No. of CE(s)	Trace Statistic	Eigenvalue	Critical Value (0.05)	Probability
$H_0: r = 0 *$	119.9801	0.579519	95.75366	0.0004
$H_0: r \leq 1 *$	80.99417	0.478327	69.81889	0.0049
$H_0: r \leq 2 *$	51.71201	0.432408	47.85613	0.0208
$H_0: r \leq 3$	26.22617	0.293809	29.79707	0.1221
$H_0: r \leq 4$	10.57204	0.190400	15.49471	0.2393
$H_0: r \leq 5$	1.067384	0.023441	3.841466	0.3015

Table 5: Outcomes of Cointegration Test (Max-Eigen Test)

Unrestricted Co-integration Rank Test (Max-Eigenvalue)				
Hypothesized No. of CE(s)	Max Eigen Statistic	Eigenvalue	Critical Value (0.05)	Probability
$H_0: r = 0$	38.98598	0.579519	40.07757	0.0660
$H_0: r \leq 1$	29.28216	0.478327	33.87687	0.1604
$H_0: r \leq 2$	25.48585	0.432408	27.58434	0.0906
$H_0: r \leq 3$	15.65413	0.293809	21.13162	0.2457

$H_0: r \leq 4$	9.504653	0.190400	14.26460	0.2465
$H_0: r \leq 5$	1.067384	0.023441	3.841466	0.3015

The Johansen test implies that there are three cointegration among the variables at 5% level of significance regarding the trace test. And according to the Max-Eigen value test there is a only on cointegrating equation in the variables at 10% level of significance. Thus the test confirms that there will be a long term link among the variables. Here, the normalized cointegrating equation is given below.

Table 6: Normalized cointegrating coefficients

lnLE	lnGDP	lnCO2	lnFD	lnFP	lnPG
1.000000	-0.755309	0.418856	-0.268264	0.377048	-0.454200
	(0.38807)	(0.26591)	(0.06744)	(0.51330)	(0.15265)
				(standard error in parentheses)	

The above table shows the cointegrating equations. Here, if GDP rises in 1%, then the life expectancy will be risen by 0.76% with other variables are constant. If CO2 increases 1%, then the LE will reduce 0.42%, ceteris paribus. Also, 1% rise in FD will lead to increase the LE by 0.27% with other variables are constant. If food production increases 1%, then LE will reduce 0.38% as well as 1% increase in population growth will cause to reduce the LE 0.45% with other things remain constant. Here, GDP and CO2 are statistically significant to influence the life expectancy at 5%. Where financial development is highly significant to impact the LE.

5. Conclusion and Policy Recommendation

Our examination of the effect of population growth, financial development, CO2 and economic growth on life expectancy in Bangladesh demonstrates the need of tackling environmental concerns concurrently with economic progress. Life expectancy is adversely affected by carbon emissions, whereas economic growth has a positive impact. Yet, there is evidence of a trade-off between these factors, in which the positive effects of economic expansion on life expectancy are outweighed by the detrimental consequences of carbon emissions on life expectancy.

This comprehensive analysis of key statistics highlights the intricate relationship between various factors and life expectancy in Bangladesh. Notably, a 1% increase

in GDP is associated with a significant 0.76% rise in life expectancy, underscoring the role of economic growth in improving living conditions. However, the concerning statistic is the 0.42% reduction in life expectancy for every 1% increase in carbon emissions (CO₂), emphasizing the urgent need for effective environmental policies to mitigate pollution's adverse health effects. Additionally, the positive impact of financial development on life expectancy, with a 1% increase resulting in a 0.27% rise, reinforces the importance of accessible healthcare and education. Conversely, the alarming statistics reveal that a 1% increase in food production leads to a 0.38% reduction in life expectancy, emphasizing the need for sustainable agriculture practices. Lastly, a 1% rise in population growth correlates with a 0.45% decrease in life expectancy, underscoring the significance of population management strategies. In light of these statistics, a holistic, interdisciplinary approach is imperative for policymaking, aiming to enhance the population's well-being and longevity while preserving the environment.

The results indicate that Bangladeshi officials should prioritize reducing carbon emissions and encouraging sustainable development, as well as emphasizing investments in financial development and food production, to enhance the country's overall health. To shrink the negative impact of population expansion on life expectancy, it is necessary to establish policies that attempt to slow population growth, such as family planning and reproductive health education initiatives.

Bangladesh must cut carbon emissions in order to increase the country's life expectancy. The government can foster the utilization of renewable energy resources, such as wind and solar power, and decrease dependency on fossil fuels. In addition, the government can develop laws that promote the adoption of energy-efficient technology and methods. Life expectancy is influenced favorably by economic development. Thus, the government should invest in the financial sector to enhance the nation's financial development. This can be accomplished through encouraging financial inclusion and expanding access to financial services such as credit and insurance.

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Exploring the Role of FinTech through Mobile Financial Services towards a Cashless Society in Bangladesh

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Abstract

Purpose: The primary purpose of this study is to investigate the transformative impact of financial technology (FinTech), with a specific focus on Mobile Financial Services (MFS), on the progression towards a cashless society in Bangladesh. This research aims to analyze how MFS is reshaping financial transactions, enhancing financial inclusion, and driving socio-economic changes in the country.

Objectives: This article aims to achieve several key objectives: assessing the reach of Mobile Financial Services (MFS) among various demographic groups, and pinpointing the main factors that drive the adoption and sustained use of MFS. Additionally, it seeks to understand how MFS grants access to financial services for unbanked and underbanked populations. It also evaluates the extent to which MFS diminishes the reliance on cash for everyday transactions and identifies the obstacles and challenges to realizing a completely cashless society through MFS.

Method: This study employs a quantitative research approach, gathering data through questionnaires and conducting a survey with 106 participants, comprising both younger and middle-aged individuals. The objective was to gain insights into the factors that influence their adoption of various cashless payment methods. The Friedman test and Kendall's W test were executed to justify the hypothesis.

Result: This article effectively demonstrates the positive impact on economic growth through simplified transactions that require minimal technological expertise, reduced costs associated with handling cash, and convenient and secure transaction processes. It also highlights how these factors contribute to greater financial inclusion, paving the way for a cashless society.

JEL Classification: E50, E59, G20, G28, M15

Keywords: Mobile Financial Services, Digital Payment, Financial Inclusion, Cashless Society, Bangladesh Economy.

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1. Introduction:

It could be argued that the financial industry has consistently been at the forefront of embracing and extensively utilizing technology. The fusion of finance and technology has acted as a catalyst for the process of globalization (Arner et al., 2016; Milian et al., 2019; Warf, 1989). Among various representations, 'FinTech' seems to be the most widely recognized and effectively emphasizes the fusion of finance and technology, more so than 'fintech' or 'Fintech'. The Financial Stability Board describes FinTech as 'innovation in financial services facilitated by technology (Andresen, 2017: 1). Arner et al. (2016: 22) refer to FinTech is defined as 'utilizing technology to provide financial solutions.' They identify three phases of FinTech evolution. The first era, known as analog finance, commenced with the transatlantic telegraph in the 1860s. The second era, initiated in the 1960s with the advent of the first computers, automated teller machines, and electronic payment systems, marked a gradual transition toward digital finance.

The swift evolution of technology has significantly transformed financial service providers on a global scale, reshaping their approach to delivering a wide array of financial services aimed at improving economic conditions. These providers now can modify their business models and introduce new income streams and opportunities for value creation that originate beyond the traditional financial system. This transformation is a result of the rapid progress in digital technology, notably in the utilization of online platforms and the subsequent emergence of Mobile Financial Services, often referred to as MFS (Makina, 2019). In addition to the services offered by mobile wallets, payment apps, the cloud, analytics, artificial intelligence, cryptography, crowdfunding, and many other forms are now available that modernize and facilitate financial services to draw the unbanked as bankable clients as a means of reducing financial exclusion and producing an inclusive economic growth (Casanova et al., 2018; Makina, 2019; Pramanik et al., 2019). Customers can thus access affordable methods of managing their financial activities, including spending, borrowing, saving, investing, and safeguarding their financial security through insurance, which is referred to as sustainable finance or financial inclusion and is one of the key principles of the World Bank (Arner et al., 2020; Patwardhan, 2018).

The Bangladesh Bank has increased the limit for PIN-less transactions to five thousand takas (TBS Report, 2023). With over 170 million mobile phones and 112 million internet subscribers, Mobile Financial Services (MFS) have become popular. MFS transactions totaled Tk 67,967 crore in November 2021, with a 132% increase in government payments usage. (Van Hoeck, 2021).

Bangladesh has been marching forward very fast, riding on its robust economic growth, expected to be 6.9 percent in FY22 and 7.1 percent in 2023. Among other initiatives, this growth has been due to the far-sighted vision of the government's "Digital Bangladesh" initiative. Digital transformation and the resulting innovations have spurred growth in different sectors, opening new horizons to be explored. It will have an exponential impact if more people are encouraged to adopt contactless payments and digital transactions. The "National

Digital Payments Roadmap 2022-2025" states that digital payments could boost Bangladesh's annual gross domestic product (GDP) by 1.7 percent, adding \$6.2 billion to the economy annually (Soumya Basu, 2022).

2. Research purpose and questions:

The study aims to investigate the potential for mobile financial transactions (MFS) to lead Bangladesh toward a cashless economy, while also examining the recent growth trends in cashless transactions.

Specific questions are

RQ-1: What are the current adoption rates and usage patterns of mobile financial services in different demographic groups and regions?

RQ-2: What factors influence individuals to adopt and use mobile financial services for their day-to-day transactions?

RQ-3: To what extent have mobile financial services contributed to improving financial inclusion in Bangladesh?

RQ-4: What are the key regulatory challenges and opportunities in facilitating a cashless economy?

RQ-5: How can sustainable practices be integrated into the mobile financial services ecosystem?

3. Literature Review:

Milestones for a Global Cashless Economy have passed comments on the cashless economy, "There was no consensus on the exact form this paperless, chequeless, cashless society should adopt. Yet ever since then bankers, consultants, journalists, regulators and even philanthropists (such as Bill Gates) have dreamed about digital solutions displacing all forms of paper, including and especially banknotes" (Bernardo Batiz-Lazo & Leonidas Efthymiou, 2016).

The banking industry has experienced significant change as a result of the rapid advancement in information and communication technology. Integrating various information technologies has improved the services provided by financial institutions, especially banks. Not just in developed countries but also in Bangladesh, mobile phones have become a widely accepted and used technology. It is currently evident in Bangladesh that the conventional model of branch banking is on the decline, mainly because of the rise in mobile banking facilities (Arner et al., 2020; Patwardhan, 2018).

By removing barriers to accessing a wide range of financial products and services for the entire population, financial inclusion in this digital age catalyzes the fulfillment of all the Sustainable Development Goals of the United Nations (UN

SDGs). By ensuring that necessary formal financial services may be obtained at a reasonable cost with the aid of technological advancements, digital finance has emerged as a major alternative to improve the stability of the financial system and to reduce the inclusion gap (Kandpal & Mehrotra, 2019). To put it briefly, 'FinTech,' or similar financial technologies, has expanded in acceptance across the globe since 2014 (Lai & Samers, 2020).

"According to Arner et al. (2016), the year 2008 marked the beginning of the present era in FinTech, characterized by a shift in who offers financial services and the speed of innovation. In the past, technology was primarily used by financial institutions to support service delivery, but now startups and established technology companies also provide these services (Brummer and Yadav, 2018). The development of FinTech since 2008 can be attributed to factors in both the financial and technological realms. The financial crisis of that time disrupted the financial sector and damaged the reputation of banks. Simultaneously, the rise of smartphones and application programming interfaces (APIs), enabling computer applications to communicate over networks, opened up new avenues for financial innovation. Additionally, 2008 saw the introduction of Bitcoin, the pioneering application of blockchain (Fernandez-Vazquez et al., 2019; Lansiti and Lakhani, 2017). The persistently low interest rates since 2008 have further fueled the investment surge in FinTech (Dermine, 2017).

Additionally, compared to their non-bank peers, institutions run by banks enjoy competitive advantages in terms of resources and operational advantages (David-West et al., 2018; Sapovadia, 2018). In recent times, the central bank of Bangladesh, Bangladesh Bank (BB), has introduced numerous initiatives, particularly targeting the impoverished, marginalized, and specifically disadvantaged communities. These initiatives aim to facilitate their inclusion in the formal financial system through significant avenues like agent banking, mobile financial services (MFS), digital financial services, as well as traditional branch banking (Bangladesh Bank, 2020). Bangladesh Bank has released a preliminary guideline specifically for Mobile Financial Services (MFS) and has authorized 28 banks to offer mobile finance services within a bank-led framework.

FinTech holds considerable importance for several key reasons. To begin with, its growth was exceptionally swift throughout the 2010s, with global venture capital investment in FinTech surging from approximately US\$1.8 billion in 2010 to US\$56 billion in 2018, as reported (Accenture in 2019). Furthermore in second, FinTech is actively encouraged by both governments and private entities in significant international financial centers (IFCs) as a means to seize fresh market opportunities and cultivate new capacities that would enhance their status as IFCs. Thirdly, FinTech seems to 'disrupt' (or at least reshape) established financial institutions and market sectors by offering the potential for reduced expenses, enhanced efficiency, increased convenience, and personalized product offerings that align more closely with customer profiles and requirements. Fourthly, FinTech carries substantial implications for restructuring global production and financial networks, as well as influencing the concept of 'development' in less affluent nations (Gomber et al., 2017).

The discussion on "Cashless Transaction: Modes, Advantages, and Disadvantages" suggests that transitioning to a cashless transaction economy doesn't imply a scarcity of physical cash; instead, it signifies a shift towards people conducting transactions digitally. In a contemporary economy, funds are transferred electronically. Consequently, to attain this objective, it's essential to promote the adoption of digital payment practices and enhance the infrastructure to support this shift (Ramya N. and D Sivasakhti, 2017).

The digital economy in Bangladesh heavily depends on electronic fund transfer services such as BKash and Rocket. However, for a complete modernization, the transition to a cashless society is imperative. The government should actively promote digital payment methods like e-wallets and mobile banking to enhance efficiency, transparency, and financial inclusion. This initiative will also have a positive impact on disadvantaged groups and enable the formulation of more effective economic policies (BBF Digital, 2022). Bangladesh Bank Governor Abdur Rauf Talukdar said that efforts will be made so that 75% of the country's transactions go cashless within the next four years. A reliance on cash in the economy can give rise to issues such as corruption, tax evasion, money laundering, and extortion (Naser Ezaz Bijoy, 2023).

The financial technology (FinTech) sector in Bangladesh has experienced substantial growth and transformation in recent years, revolutionizing the way financial services are delivered and accessed. While still emerging, FinTech in Bangladesh is showing great promise, with numerous startups and established financial institutions embracing technology to provide innovative solutions to a largely unbanked or under-banked population (Ahmed, 2019).

Furthermore, the emergence of digital payment gateways, peer-to-peer lending platforms, and online insurance providers is reshaping the financial landscape. These innovations are enhancing access to credit, simplifying payment processes, and promoting financial literacy among the population.

Mobile Financial Services (MFS) have witnessed significant growth and transformation in Bangladesh, playing a pivotal role in advancing financial inclusion and moving the country toward a cashless economy. The success of MFS in Bangladesh can be attributed to several factors, including widespread mobile phone penetration, a large unbanked population, and government support. Regulatory bodies like the Bangladesh Bank have also played a crucial role in fostering a conducive environment for MFS growth by establishing clear guidelines and ensuring security and consumer protection (Rubaiyat, 2020).

Bangladesh benefits from having a significant youth demographic and exceptionally widespread mobile subscription coverage. When these two factors are synergized, FinTech has the potential to play a pivotal role in stimulating macroeconomic growth. Nevertheless, the presence of a well-structured regulatory authority is essential to facilitate this growth.

FinTech has the potential to create financial markets at the grassroots level, benefiting rural communities such as farmers and fishermen who often face challenges in securing fair prices for their products, ultimately leading to an enhancement in their living standards. With these considerations, the government

of Bangladesh has already established a timeline spanning from 2019 to 2024 for the development of its inaugural National Financial Inclusion Strategy (NFIS) in alignment with the government's Vision 2021 (Islam, 2019).

Keeping this in consideration, a collaboration was established in partnership with UNDP to facilitate access to information, aiming to support the digital advancement of Bangladesh. Additionally, their agenda encompasses the promotion of financial inclusion through the utilization of FinTech ("a2i", 2020). Currently, FinTech companies that are performing well in Bangladesh included:

Sl No.	Name of the MFS Service
1.	bKash
2.	ROCKET
3.	Nagad
4.	MYCash
5.	mCash
6.	Trust Axiata Pay (tap)
Sl No.	Name of the MFS Service
7.	FirstCash
8.	উপায় (Upay)
9.	OK Wallet
10.	Rupali Bank
11.	TeleCash
12.	Islamic Wallet
13.	Meghna Pay

Table: Present FinTech Companies in Bangladesh

Out of the entire market share, the leading four Mobile Financial Services (MFS) providers, namely bKash, Nagad, Rocket, and SureCash, collectively account for 95.36 percent of account holders, 70.52 percent of MFS agents, 99.35 percent of the average daily transactions, and 99.85 percent of monthly cash-out transactions (The Business Post-2022).

4. Research methods and plan:

4.1. Sampling and data collection:

After careful consideration, we designed questionnaires and surveyed 106 participants, both younger and middle-aged, to understand the factors driving their adoption of cashless payment methods. To specifically explore the perspectives of younger individuals, surveys were conducted among students and educators from public and private universities outside Dhaka. Data was collected through an online self-administered questionnaire distributed to all university students and faculty members. Ethical protocols required informed consent from participants, ensuring voluntary and anonymous participation for academic purposes.

The questionnaire had two sections: Section 1 gathered demographic information, while Section 2 assessed factors influencing the adoption of cashless payment systems.

4.2. Sample profile:

The majority of respondents were aged between 20 and 30 years, which is similar to the Bangladesh youth population of 34% (World Population Review 2023).

Out of the 106 participants, around 58.5% hold a bachelor's degree, while approximately 34% possess a Master's degree. Additionally, approximately 52% of participants or their parents report a monthly income before interest and tax in the range of 20,000 to 30,000. Participants primarily utilized their mobile applications for ordering restaurant meals, with take-away meals being the second most common use. This was followed by activities such as grocery shopping, buying electronic products, settling bills, and making purchases of food and beverages in food markets.

4.3. Instrument design and measurements:

We have designed a structured questionnaire for data collection, where respondents convey their opinions using the Likert scale, employing varying labels for different questions.

<i>Strongly Disagree</i>	Disagree	Neutral	Agree	Strongly Agree
<i>1</i>	2	3	4	5

The survey instruments for both independent and dependent variables were assessed using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

4.4. The Analysis Tool:

Various statistical tools were utilized to analyze the collected data, including the Friedman test and Kendall's W test to test the hypothesis.

The Friedman test, used for comparing more than two related groups or repeated measures, identifies differences in distributions, particularly when parametric test assumptions are unmet. It determines if there are significant differences across the distributions of three or more related groups. Conversely, Kendall's W, or Kendall's coefficient of concordance, measures the degree of agreement among raters or rankings, assessing the consistency of multiple raters' rankings of a set of items.

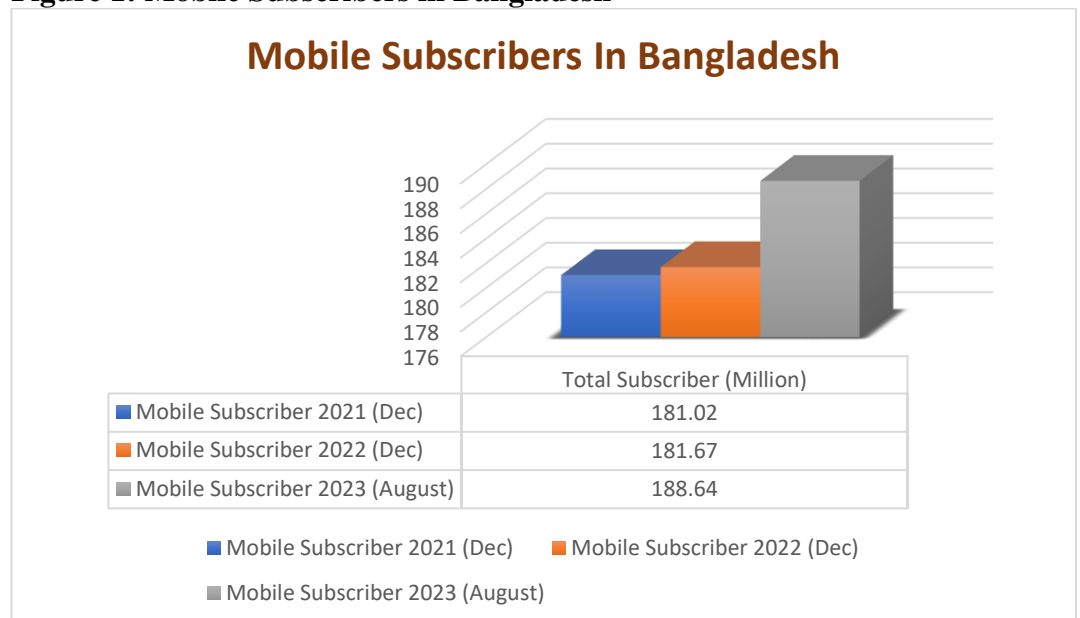
For the Friedman test, the test statistic is compared to the chi-square distribution to obtain the p-value. A p-value below the significance level (e.g., 0.05) leads to rejecting the null hypothesis, indicating significant group differences. A significant and high Kendall's W value indicates strong agreement among raters, while a non-significant or low value suggests little to no agreement.

5. Statistics of MFS:

5.1. Number of mobile subscribers:

Bangladesh boasts a robust and rapidly growing mobile subscriber base, reflecting the country's increasing connectivity and digitalization. As to the statistics shown in the following table update in December 2021, Bangladesh had over 180 million mobile subscribers, making it one of the most densely populated mobile markets in the world.

Figure 1: Mobile Subscribers in Bangladesh



Source: Bangladesh Telecommunication Regulatory Commission (BTRC)
(<http://www.btrc.gov.bd/site/page/0ae188ae-146e-465c-8ed8-d76b7947b5dd/->)

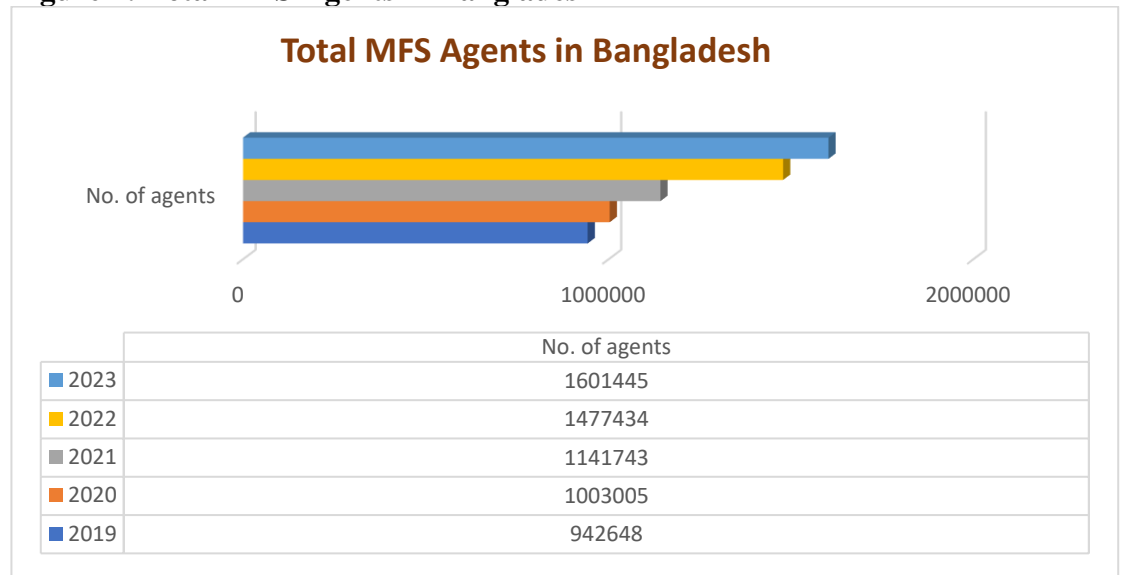
The growth of mobile subscribers in Bangladesh can be attributed to several factors, including fierce competition among mobile network operators, affordable mobile devices, and extensive network coverage, even in remote areas. Mobile phones have become an essential part of daily life, serving not only as communication tools but also as gateways to financial services, the internet, and digital information. In the above table, in the last 3 years, there is an extensive upward slope of new users of mobile phones.

5.2.MFS Agents in Bangladesh:

Mobile Financial Services (MFS) agents in Bangladesh play a pivotal role in bridging the gap between traditional banking and underserved populations, especially in rural and remote areas. These agents serve as the face of MFS providers, facilitating various financial transactions for customers who may not have easy access to traditional banking systems.

MFS agents are typically local entrepreneurs or shopkeepers who have partnered with mobile financial services providers like bKash, Nagad, Rocket, and SureCash. They offer a range of services, including cash deposits, withdrawals, fund transfers, and bill payments, using their mobile phones and Point of Sale (PoS) devices.

Figure 2: Total MFS Agents in Bangladesh



Source: Bangladesh Bank

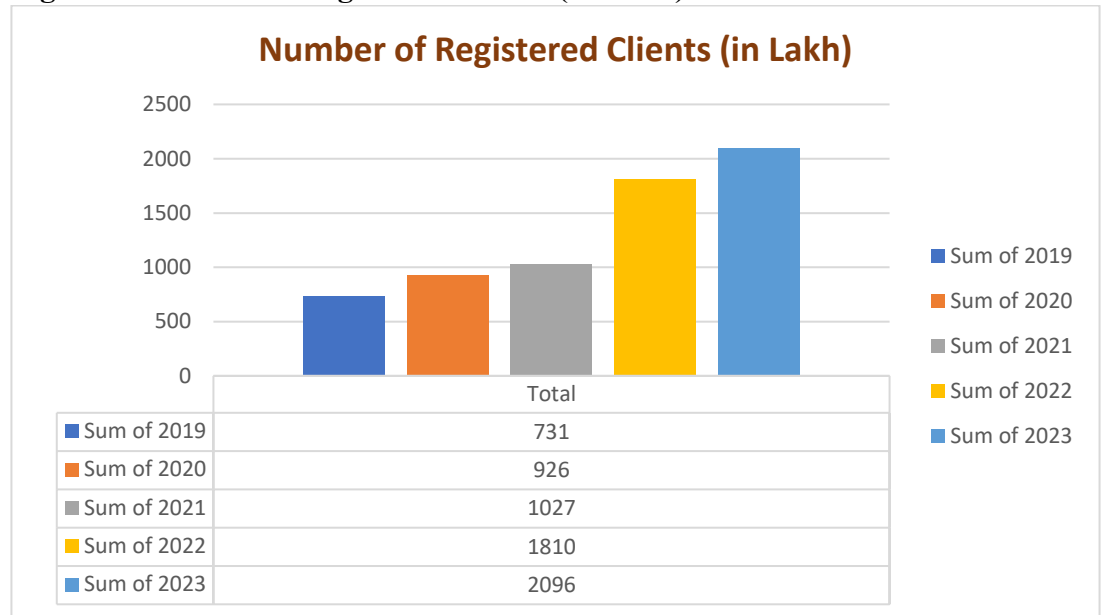
(<https://www.bb.org.bd/en/index.php/financialactivity/mfsdata>)

5.3.Number of Registered MFS clients in Bangladesh:

Since September 2021, Bangladesh had a significant number of registered Mobile Financial Services (MFS) clients, with millions of individuals using MFS platforms like bKash, Nagad, Rocket, and SureCash.

The exact number of registered MFS clients may have continued to grow since then, given the country's dynamic and expanding mobile financial services sector. The convenience and accessibility of MFS have made it a popular choice among diverse segments of the population in Bangladesh.

Figure 3: Number of Registered Clients (in Lakh)



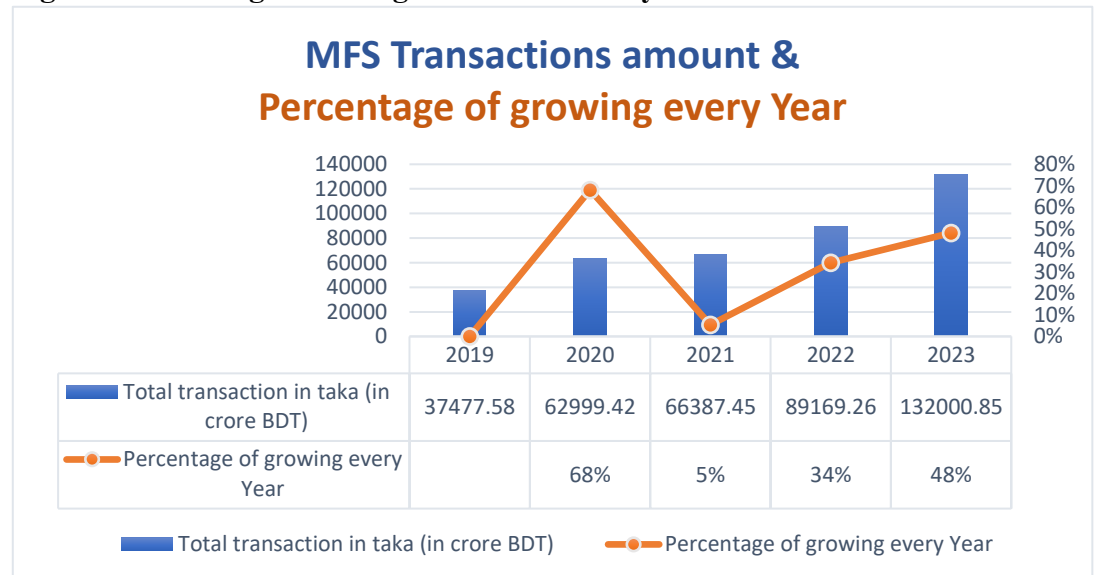
Source: Bangladesh Bank

(<https://www.bb.org.bd/en/index.php/financialactivity/mfsdata>)

5.4. Transactions amount through MFS in Bangladesh:

Mobile Financial Services (MFS) transactions in Bangladeshi Taka (BDT) have constituted a substantial portion of the country's financial landscape. The following table demonstrates that there has been substantial growth in Mobile Financial Services (MFS) transactions in every year except for 2021. As of June 2023, a total of 1.32 lakh crore BDT has been transacted through MFS, reflecting a 48% increase compared to the previous year in Bangladesh.

Figure 4: Growing Percentage of MFS in Every Year



Source: Bangladesh Bank

(<https://www.bb.org.bd/en/index.php/financialactivity/mfsdata>)

Data from the central bank reveals that there was a remarkable surge in transactions in June, with a record high of Tk 1.32 lakh crore being transacted through services like bKash and Rocket. This milestone signifies the fourth consecutive month in which transactions have surpassed Tk 1 lakh crore. In June, transactions witnessed a notable rise, with an increase of around Tk 24,000 crore compared to the preceding month. According to experts within the industry, when Mobile Financial Services (MFS) were first introduced, customers exhibited a degree of hesitancy regarding the service's characteristics (The Business Insider-2023).

6. Research hypothesis:

H₀: There are no significant prospects of Mobile Financial Services (MFS) through a cashless economy to the general public in the context of Bangladesh.

H₁: There are significant prospects for Mobile Financial Services (MFS) through a cashless economy to the general public in the context of Bangladesh.

7. Result and Discussion:

7.1. Reliability test:

Reliability testing in SPSS assesses the consistency and stability of data. Common methods include Cronbach's Alpha for assessing internal consistency and test-retest analysis for temporal stability. These tests help ensure that the data and research instruments are reliable and can be trusted for accurate analysis and interpretation (LJ Cronbach, 1947).

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.874	.851	33

High Cronbach's alpha values indeed suggest that the responses provided by participants to a set of questions are consistent and that the items in the scale or questionnaire are closely related. The reliability which is higher than 0.9 is regarded as excellent, higher than 0.8 is fine, higher than 0.7 is adequate, higher than 0.6 is doubtful, and lower than 0.5 is substandard (Lin L, Huang Z, Othman B, Luo Y 2020).

8. Hypothesis Testing:

Impact of Financial transaction to Become Cashless Economy:

The shift to a cashless economy through increased digital financial transactions brings efficiency, transparency, and financial inclusion. It reduces costs, enhances tax compliance, and offers security and convenience. The shift towards a

cashless economy, driven by increased financial transactions through digital means, can have several significant impacts:

8.1.Economic Growth:

A cashless economy can stimulate economic growth by increasing the velocity of money circulation, boosting consumer spending, and attracting investments in the financial technology sector. The primary focus of this research is to substantiate the notion that Mobile Financial Services (MFS) are experiencing significant growth in Bangladesh, potentially leading to the country's transition into a cashless economy.

H₀: There is a significant relationship between Economic Growth and easier transactions through MFS

H₁: There is no significant relationship between Economic Growth and easier transaction through MFS

Total N	106
Kendall's W	.015
Test Statistic	1.588
Degrees of Freedom	1
Asymptotic Sig. (2-sided test)	.208

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distributions of The economic growth of the country has increased due to the effect of cashless economy in the country and in cashless economy, transactions can be done in an easier way; is it a reason for financial growth to increase? are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.208	Retain the null hypothesis.
2	The distributions of The economic growth of the country has increased due to the effect of cashless economy in the country and in cashless economy, transactions can be done in an easier way; is it a reason for financial growth to increase? are the same.	Related-Samples Kendall's Coefficient of Concordance	.208	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Table 2: Hypothesis test result of Friedman's Analysis of Variance

That means we can conclude that mobile banking is rapidly increasing and we can safely assume that Mobile Financial Services (MFS) are experiencing

significant growth to become a cashless economy. So, we can accept the Null Hypothesis.

8.2.Required less technological knowledge and prospects of growth:

Requiring less technological knowledge can broaden the prospects of growth in Mobile Financial Services (MFS). Simplified user interfaces and accessible training can empower a wider demographic, including those with limited tech skills. This simplicity makes it more feasible to create an inclusive economy through MFS, ensuring that a broader range of people can participate.

H₀: There is a significant relationship between requiring less technological knowledge and the growth of MFS

H₁: There is no significant relationship between requiring less technological knowledge and the growth of MFS

Total N	106
Test Statistic	2.000
Degrees of Freedom	1
Asymptotic Sig. (2-sided test)	.157

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distributions of It does not require excellent technological knowledge and The economic growth of the country has increased due to the effect of cashless economy in the country are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.157	Retain the null hypothesis.
2	The distributions of It does not require excellent technological knowledge and The economic growth of the country has increased due to the effect of cashless economy in the country are the same.	Related-Samples Kendall's Coefficient of Concordance	.157	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Table 3: Hypothesis test result of Friedman’s Analysis of Variance

This suggests that we can draw the conclusion that the adoption of mobile financial services is on a swift rise. It's reasonable to infer that Mobile Financial Services (MFS) are indeed undergoing substantial growth, largely because they demand less advanced technological knowledge. So, we accept the Null Hypothesis.

8.3.Transaction cost of MFS and economic growth:

Managing physical cash involves expenses for printing, transporting, and securing money. A cashless economy can reduce these costs. The lower transaction costs associated with Mobile Financial Services (MFS) can stimulate economic growth.

H₀: There is a significant relationship between the lower Transaction cost of MFS and economic growth.

H₁: There is no significant relationship between the lower Transaction cost of MFS and economic growth.

Total N	106
Test Statistic	1.110
Degrees of Freedom	1
Asymptotic Sig. (2-sided test)	.292

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of It reduces transaction cost and The economic growth of the country has increased due to the effect of cashless economy in the country are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.292	Retain the null hypothesis.
2	The distributions of It reduces transaction cost and The economic growth of the country has increased due to the effect of cashless economy in the country are the same.	Related-Samples Kendall's Coefficient of Concordance	.292	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Table 4: Hypothesis test result of Friedman's Analysis of Variance

This indicates that we can reasonably conclude that the uptake of mobile financial services is rapidly increasing. It's a valid inference that Mobile Financial Services (MFS) are experiencing significant growth, primarily due to their lower transaction costs compared to traditional banking systems. So, we accept the Null Hypothesis.

8.4. The efficiency of opening MFS account and transactions:

Digital transactions are often faster and more efficient than traditional cash-based methods, reducing transaction times and enhancing overall economic efficiency.

H₀: There is a significant relationship between the less time to open MFS accounts and the increase in the number of transactions.

H₁: There is no significant relationship between the less time to open MFS accounts and the increase in the number of transactions.

Total N	106
Test Statistic	2.951
Degrees of Freedom	1
Asymptotic Sig. (2-sided test)	.086

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of It takes few minutes to open and make transactions and Any time Any transaction are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.086	Retain the null hypothesis.
2	The distributions of It takes few minutes to open and make transactions and Any time Any transaction are the same.	Related-Samples Kendall's Coefficient of Concordance	.086	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Table 5: Hypothesis test result of Friedman's Analysis of Variance

These findings support a reasonable conclusion that the simplicity of creating accounts plays a pivotal role in driving the rapid expansion of Mobile Financial Services (MFS). It's a valid deduction that MFS is indeed undergoing substantial growth, primarily because of its user-friendly account registration processes compared to traditional banking systems. Consequently, we accept the Null Hypothesis.

8.5. Financial Inclusion through MFS to ensure a cashless economy:

Cashless options can extend financial services to underserved populations, as they don't require traditional bank accounts. Mobile financial services, for example, can provide access to banking for the unbanked.

H₀: There is a significant relationship between the financial transactions through MFS accounts and becoming a cashless economy.

H₁: There is no significant relationship between the financial transactions through MFS accounts and becoming a cashless economy.

Total N	106
Test Statistic	.671
Degrees of Freedom	1
Asymptotic Sig. (2-sided test)	.413

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of significant impact of a cashless economy on the number of financial transactions statistically to enhance the country's economic condition and Due to the MFS transactions marginalized people will be included in the financial transactions and economic growth will be ensured. are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.413	Retain the null hypothesis.
2	The distributions of significant impact of a cashless economy on the number of financial transactions statistically to enhance the country's economic condition and Due to the MFS transactions marginalized people will be included in the financial transactions and economic growth will be ensured. are the same.	Related-Samples Kendall's Coefficient of Concordance	.413	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Table 6: Hypothesis test result of Friedman's Analysis of Variance

In Bangladesh, achieving financial inclusion through Mobile Financial Services (MFS) is pivotal for transitioning to a cashless economy. MFS empowers the unbanked and underbanked, offering them access to digital financial solutions. This result reasonably affirms the conclusion that the surge in financial transactions is attributable to the widespread acceptance and popularity of Mobile Financial Services (MFS), driving the nation toward a cashless economy. Hence, we validate the Null Hypothesis.

9. Practical Contributions:

The introduction of Mobile Financial Services (MFS) in Bangladesh has been crucial in propelling the nation towards a cashless economy. Providers like bKash and Rocket have significantly transformed financial transaction processes within the country.

This article demonstrates that MFS has broadened access to financial services for previously unbanked or underbanked populations, particularly in rural areas, empowering more people to engage with the formal economy.

MFS provides a convenient and secure method for sending and receiving money, paying bills, and making purchases via mobile phones, reducing reliance on physical cash and its associated risks. Additionally, the growth of e-commerce platforms is closely tied to MFS, enabling easy online transactions that drive the digital economy, benefiting both consumers and businesses by expanding their market reach.

The Government of Bangladesh has acknowledged the potential of MFS, integrating it into various governance aspects, such as subsidy distribution, government payments, and tax collection. This integration promotes transparency, minimizes leakage in social welfare programs, and encourages the adoption of digital payments among citizens.

Overall, the practical contributions of MFS in Bangladesh have not only reduced the reliance on physical cash but have also spurred economic growth, financial inclusion, and improved access to financial services. These developments are crucial steps towards a more cashless economy, with benefits for individuals, businesses, and the country's overall financial stability. The convenience, accessibility, and security offered by MFS have paved the way for a digital financial revolution in Bangladesh, and the ongoing expansion of these services holds great promise for the nation's financial future.

10. Implications for future research:

The rapid expansion of Mobile Financial Services (MFS) in Bangladesh and their role in steering the country towards a cashless economy have several key implications for future research. These insights are crucial for policymakers, researchers, and businesses aiming to comprehend, support, and optimize this transition.

Future research should investigate the adoption and usage patterns of MFS in Bangladesh, examining who uses these services, the frequency of use, and the types of transactions conducted. Such studies can help tailor services and incentives for specific user groups and identify adoption barriers among certain demographics.

Additionally, research should explore the long-term effects of MFS on financial inclusion in Bangladesh. Key questions include whether MFS has genuinely reached the unbanked and underbanked populations and if it has improved their financial well-being. Investigating the role of MFS in enhancing women's financial inclusion and empowerment is also vital, as it can help bridge gender-based financial disparities.

The shift to a cashless economy carries significant economic and social implications. Researchers should analyze how MFS influences economic growth, job creation, and poverty reduction. They should also examine the social impacts, such as changes in social behavior, trust, and community dynamics resulting from decreased reliance on physical cash.

Bangladesh's regulatory and policy frameworks for MFS may need continuous adjustments. Future research can assess the effectiveness of these frameworks and suggest improvements to ensure a secure and inclusive financial ecosystem.

11. Limitation of the study:

Like in any typical research endeavor, this study is not exempt from limitations. However, it's important to note that these limitations can serve as guiding pointers for prospective research initiatives.

To begin with, a limitation arises from the fact that the empirical data were gathered exclusively from two districts, namely Rangpur and Khulna in Bangladesh. However, it is imperative to conduct additional research in various emerging districts of Bangladesh to verify and substantiate the findings of this study. Moreover, obtaining reliable and extensive data in Bangladesh poses a considerable challenge, impeding the ability to conduct in-depth research. Numerous transactions within the informal sector remain unregistered, thereby obstructing a comprehensive assessment of the MFS environment.

The regulatory environment in Bangladesh is evolving. Frequent changes in regulations can impact the MFS ecosystem and the findings of research studies. In this study, we collected responses from 106 young minds who are real users of technologies where Conducting surveys or interviews in remote or underprivileged areas can be challenging.

12. Conclusion:

The pursuit of a cashless economy in Bangladesh through Mobile Financial Services (MFS) holds great promise and significant potential. The practical contributions of MFS, including financial inclusion, convenience, and reduced reliance on physical cash, have already begun reshaping the country's financial landscape. As smartphone penetration continues to rise and government support remains steadfast, the journey towards a cashless economy gains momentum.

However, amidst this progress, challenges persist. Promoting digital literacy, addressing security concerns, and refining regulatory frameworks are ongoing imperatives. Yet, Bangladesh is firmly on the path of transformation, and the ongoing expansion and innovation within the MFS sector, coupled with intensified financial education and improved infrastructure, positions the country to realize its ambition of achieving a cashless economy (Sahay et al., 2020).

This article effectively demonstrates the substantial economic growth resulting from the adoption of mobile financial services. It analyzes various factors,

including the efficiency of digital transactions compared to traditional cash-based methods, which often result in faster transaction times and improved overall economic efficiency. Moreover, the reduced transaction costs associated with mobile financial services can serve as a catalyst for economic growth. Additionally, the simplicity of transactions through mobile financial services, requiring less technological expertise, further contributes to their positive impact on economic development.

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Determinant Factors of the Contractual Sharecropping Method in the North-Western Part of Bangladesh

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Abstract

Contractual sharecropping method is a common practice among the farmers in the north-western part of Bangladesh. This study is being done in two upazilas, namely Gangachara and Mithapukur, in Rangpur, a north-western district of Bangladesh. Farmers who practiced the contractual sharecropping method were compared to farmers who didn't practice this method in this paper. Under mixed method approach, the quantitative part this study is based on 95 households that were chosen at random and there are 4 KIIs along with 2 FGDs were performed for the qualitative part. A logistic regression model is used to figure out the determinants of contractual sharecropping method. It is identified that farmers with more land are less likely to be contractual sharecroppers. When per-day working duration increases in the agricultural sector, they are also less likely to be sharecroppers. Compared to these two upazilas, farmers of Gancharara upazila are more likely to be sharecroppers than farmers of Mithapukur upazila. On the other hand, boro rice productivity, along with the experience of the farmer in accordance with their age, has no impact on practicing contractual sharecropping method. A cross-case matrix represents the qualitative result, synthesis the quantitative result. The crisis of profit sharing and considering it a secondary livelihood option are the main reasons to produce an inadequate amount of crops under this method.

Key Words: Contractual sharecropping, agriculture, rural, north-western Bangladesh

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1. Introduction

In the agrarian landscape of Bangladesh, sharecropping remains a prevalent and intricate system of land tenure, particularly in the north-western region. This part is dominated by a fragile agro-ecosystem, where populations largely working in agriculture are highly vulnerable from a climate perspective, and thus rural poverty could be exacerbated due to the negative impacts of climate change on agricultural production and a general increase in food prices and the cost of living. In this vulnerable situation there are different types of sharecropping methods are applied, that cause different level of production in agricultural sector. Sharecropping, as a form of agricultural production arrangement, plays a significant role in shaping rural livelihoods and economic dynamics (Basu, 1994). Amidst the various methods of sharecropping practiced, the contractual sharecropping method stands out as a focal point for examination due to its nuanced contractual arrangements and implications for both landowners and tenants.

Historically it is experienced that several man-made reasons regarding crop sharing challenged agricultural sector of Bangladesh, even some of the revelations including wars (e.g., *Tebhaga Movement*) were held between Jamindar (land owner) and peasant (Rahaman, 2023). This confronts situation still belong between two parties of crop production. This paper embarks on an exploration journey into the realm of sharecropping, aiming to delve deeper into the determinants that influence the adoption and perpetuation of the contractual sharecropping method in the north-western part of Bangladesh. Through a meticulous analysis of existing literature, empirical data, and field observations, this study endeavors to shed light on the multifaceted factors that underpin the prevalence and sustainability of contractual sharecropping arrangements in this region.

The objectives of this study are twofold. Firstly, it seeks to comprehensively examine the running situation of contractual agreements, rights, and obligations among landowners and tenants. Secondly, it aims to discern the determinant factors that drive the adoption and perpetuation of the contractual sharecropping method,

ranging from socio-economic dynamics to land ownership along devotion of farmers.

By unraveling the intricate web of factors that influence the contractual sharecropping method, this research endeavors to contribute to a deeper understanding of agrarian dynamics in Bangladesh and provide insights that could inform policy interventions aimed at enhancing the efficiency and equity of land tenure systems in the region.

In the subsequent sections of this paper, we will delve into the historical evolution of sharecropping, examine the different methods of sharecropping practiced in the north-western part of Bangladesh, and rigorously analyze the determinant factors that shape the contractual sharecropping method, thereby enriching our understanding of this pivotal aspect of rural livelihoods.

2. Objectives

The main objectives of this study are:

- to explore the existing condition of contractual sharecropping method.
- to identify the determinant factors of contractual sharecropping method.

3. Literature Review

3.1 Sharecropping

Sharecropping is a prevalent agricultural practice where a landowner allows a tenant to use the land in exchange for a share of the crops grown (Pramono, 2020). Despite its historical roots and economic inefficiencies, sharecropping persists due to factors like high transaction costs, risk aversion, and institutional uncertainties (Roy & G.V, 2018). In regions like Sambirejo village in Ngawi and Khulna District in Bangladesh, sharecropping agreements are often informal, with profit-sharing ratios determined based on planting seasons rather than capital contributions (Lozano Guerrero & Bello Fierro, 2019; Mukhamedova & Pomfret, 2019). Studies show that sharecroppers may be less efficient compared to landowners, with differences in productivity and motivation influenced by factors like land rent and input costs (M. Ahmed & Billah, 2018).

3.2 Contractual Sharecropping

Contractual sharecropping involves agreements between landowners and tenants where the tenant cultivates the land in exchange for a share of the resulting harvest or profits. Traditional sharecropping contracts, like the Minangkabau paduo and patigo contracts, have been analyzed for their compliance with Sharia law and economic efficiency (Ridwan & Vania, 2023). The choice between sharecropping and fixed-rent contracts is influenced by factors like access to credit and risk exposure, with credit programs in Bangladesh showing a shift towards fixed rent contracts with increased credit access (Stabler, 2020). In post-conflict Colombia, sharecropping is seen as a viable option for land access and distribution to prevent violence, based on historical and legal analyses (Ding & Zhou, 2021). These insights highlight the complexities and considerations involved in the selection and modification of sharecropping contracts.

3.3 History of Contractual Sharecropping

Contractual sharecropping has a rich historical background across different regions. In Brazil, during the transition from slavery, sharecropping contracts were offered to European laborers to secure a stable labor supply through credit-labor interlinkage, facilitating Brazil's integration into the global labor market (de Souza, 2019). Sharecropping agreements have been viewed as a workable approach to land distribution and access in Colombia during post-conflict times, with the goal of averting violence and advancing fair land ownership. Sub-Saharan Africa showcases variations in sharecropping arrangements, influenced by natural risks, transaction costs, and court interventions to address unequal bargaining power between tenants and landowners (Lozano Guerrero & Bello Fierro, 2019). Contrary to classical economists' beliefs, sharecropping inefficiencies exist, especially in European vineyards, where historical contracts evolved to address compensation issues but faced challenges with capital-intensive viticulture (Boadu, 2016).

3.4 Contractual Sharecropping in Bangladesh Perspective

Contractual sharecropping in Bangladesh involves complex socio-economic factors influencing land leasing decisions. Landlords in Bangladesh hold significant power in informal tenancy markets, often choosing between sharecropping and fixed rent contracts based on their attributes (S. Ahmed & Ahmed, 2011). Technological advancements and institutional innovations in land and labor contracts have been

observed in irrigated agriculture areas, indicating a shift towards more profitable arrangements (Zamil & Cadilhon, 2009). The 1984 Land Reform Act influenced the expansion of high-yielding variety (HYV) rice farming through fixed land rent regulations, but over time, tenants' returns decreased due to rising input prices (Akteruzzaman et al., 1997). This highlights the need for fairer distribution of returns between landowners and tenants, suggesting adjustments to land rent percentages to protect land-poor tenants (Zaman, 1973).

3.5 Deriving Factors

Determinant factors shape the dynamics and design of sharecropping contracts across diverse agricultural settings. Religiosity, transparency, and production factors exert significant influence, particularly evident in East Java, where these elements play crucial roles in contractual agreements (Boadu, 2016; Arief et al., 2022). Additionally, the size of farms offered by landowners, capable of supporting sharecroppers' families full-time and allowing for diversified production, minimizes risk and impacts contract formation. Harvest division complexities, preferences for payment methods, and supervision levels further shape these agreements, with supervised tenants generally exhibiting higher productivity (Carmona & Simpson, 2012).

Courts are adapting customary contracts to modern conditions, recognizing the power differentials between tenants and landowners and addressing unequal bargaining power. In French wine production, factors such as farm size, harvest division complexities, and landowner payment preferences are determinant in contractual choice, influenced by vertical coordination (Simpson, 2012). Moreover, landlord supervision is pivotal, impacting productivity levels, with monitoring frequency and cost influencing supervision intensity and incentive structures.

Empirical data from China highlights additional determinants, such as the tenant's age (with a negative effect), social security, soil fertility, and the number of plots (with positive effects). In surface water management, factors like leader and manager abilities, land design, canal systems, and opportunity costs influence contractual forms chosen in village settings. Sharecropping contract choices also reflect considerations of risk-sharing and moral hazard, as evidenced in rural Bangladesh, where contracts serve not only for risk-sharing but also address moral hazard concerns (Jacoby & Mansuri, 2009; Wang et al., 2016).

Overall, the intricate interplay of these factors underscores the complexity of sharecropping arrangements and contractual choices in agricultural contexts worldwide.

4. Methodology

Two upazilas are randomly selected from Rangpur district among eight upazilas, namely Gangachara and Mithapukur. Gangachara and Mithapukur are located on the northern and southern sides of Rangpur Sadar upazila, respectively. Both upazilas are agriculture-prone areas, with 76.04% of people involved in agriculture in Gangachara and 69.47% in Mithapukur. Extreme weather is a feature of both upazilas. Population density (Gangachara: 1105/square-km, Mithapukur: 985/square-km), literacy rate (Gangachara: 43.2%, Mithapukur: 46%), etc., are similar in nature for these two upazilas (Banglapedia, 2024a; Banglapedia, 2024b).

Primary data were collected under mixed-method approach consists of qualitative and quantitative data. This data was collected from 1st march to 7th march in 2023. This time was selected to avoid bias observation regarding agriculture just before or after the harvesting period. We randomly talked to 95 households (52 from Gangachara and 43 households from Mithapukur) to conduct our quantitative data. In addition to quantitative data, 2 FGDs and 4 KIIs were also used to gather qualitative data. Data collectors interviewed two types of farm households: those who practiced contractual sharecropping and those who didn't. A structured questionnaire was prepared for quantitative data, and a checklist was organized for qualitative data. Variables are described in table 1.

Table 1: Description of the variables

Name of the variables	Continuous/binary	Description of the variables
Practicing contractual sharecropping method (sc*)	Binary	1 = yes 0 = no
Age of the farmer (age)	Continuous	In terms of year
Amount of own cultivated land (o_land)	Continuous	Total amount of cultivated land of a household in terms of decimals

Per day working hour of a farmer (w_dur)	Continuous	Per day working duration in terms of hour
The upazila of a farmer (up)	Binary	1 = Gangachara 0 = Mithapukur
Production of boro rice (boro_prod)	Continuous	Amount of boro rice production in terms of ton (1000 kg)

*Dependent variable

Due to the binary nature of dependent variable a logistic regression model is used to figure out the role of independent variables on dependent variable.

$$L_i = \ln\left(\frac{P_i}{1 - P_i}\right)$$

$$= \beta_1 + \beta_2 \text{ age} + \beta_3 \text{ o_land} + \beta_4 \text{ w_dur} + \beta_5 \text{ up}$$

$$+ \beta_6 \text{ boro_prod} + u_i$$

$$P_i =$$

1, if a household practice contractual sharecropping method

$P_i = 0$, if a household did not practice contractual sharecropping method

To analyze qualitative data cross-case matrix has been built to understand the validity of quantitative analysis. We have answered the first objective of this study by qualitative data and second one by quantitative data.

5. Result and Discussion:

The data provides insights into the characteristics of households' heads and their engagement in contractual sharecropping in the studied region. On average, the household heads are approximately 45.45 years old, with a standard deviation of 13.195, indicating some variability in age within the sample. In terms of land ownership, households own an average of 77.33 decimals of land, with a relatively high standard deviation of 90.286, suggesting considerable diversity in land ownership among the households surveyed. The average working duration per day among the household heads is 8.74 hours, with a standard deviation of 2.09, indicating relatively consistent working hours across the sample. Regarding agricultural production, the average boro production is 2.22 tons, with a standard deviation of 4.400, indicating significant variability in production levels among the households.

Regarding the geographical distribution of the sample, the majority of households (54.74%, or 52 out of 95) are from Gangachara Upazila, while the remaining households are from Mithapukur Upazila. Finally, in terms of agricultural practices, nearly half of the surveyed households (49.47%, or 47 out of 95) practice the contractual sharecropping method. This suggests that contractual sharecropping is a prevalent agricultural arrangement in the region, with implications for understanding the dynamics of agricultural labor and land use among households in the north-western part of Bangladesh.

Table 2: Result of logistic regression model

Variables	Determinant factors
age	-0.00857 (0.0185)
o_land	-0.0150*** (0.00462)
w_dur	-0.211* (0.126)
up	0.846* (0.479)
boro_prod	0.000729 (0.0000702)
Constant	2.603* (1.501)
Pseudo R-square	0.2011
Prob > chai-square	0.0001

N. B.: Standard deviations are in parenthesis; ***, **, and * represent 1%, 5%, and 10% level of significance respectively.

The overall statistical significance of the logit model (Table 2) is supported by a small p-value, indicating that the regression model effectively explains the variation in the adoption of contractual sharecropping among farmers in the north-western region of Bangladesh. The analysis investigates the determinant factors influencing the adoption of contractual sharecropping methods among farmers in the region. The dependent variable, "Practicing contractual sharecropping method," is assessed against several independent variables. Firstly, the ownership of cultivated land emerges as a significant factor, indicating a negative relationship with the likelihood of engaging in contractual sharecropping. Farmers with more land holdings are less inclined to participate in such arrangements. A similar result has been observed by Simpson (2012). Additionally, the duration of work per day exhibits a negative association with contractual sharecropping, albeit with less certainty, suggesting that

farmers dedicating more time to their own land are less likely to opt for contractual arrangements. That is why contractual sharecropping as well as sharecropping is considered an inefficient method of production by earlier researchers (e.g. Colman and Young, (1989)). Conversely, farmers of Gangachara practice this method of cultivation more than the farmers of Mithapukur, implying that regional factors play a role in shaping this agricultural practice (as stated by Basu (1994)). However, neither the age of the farmer nor the production level of boro rice significantly influences the decision to engage in contractual sharecropping. That means agricultural experience has no role in the contractual sharecropping method in our studied area. Though boro rice production is considered the main crop of this area, it is not a playmaker for decision-making regarding the studied method.

Table 3: A cross-case matrix

	Gangachara	Mithapukur
Gangachara	Communication: Poor Land owner support: Inadequate Natural resources: Not bad Farm size: Too small	
Mithapukur	Communication: MP > GA Land owner support: MP = GA Natural resources: MP = GA Farm size: MP > GA	Communication: not so poor Land owner support: Inadequate Natural resources: Not bad Farm size: Small
N.B.: GA and MP denote Gangachara Upazila, and Mithapukur Upazila respectively. '>' and '=' sign shows the better off, and similar position respectively.		

A cross-case matrix (Table 3), based on qualitative data, reflects a similar situation to the quantitative data. The principal diagonal of the matrix (1×1 and 2×2) shows the relative issues (e.g., communication from the Sadar Upazila, input support from the landowner, etc.) of contractual sharecropping in both upazilas, and (2×1) shows the comparison between these two Upazilas. Farmers reported that their own engagement leads to contractual sharecropping, bypassing other methods. However, landowners aim to keep themselves in a risk-free zone due to natural and economic crises. Only a share of profit is their requisition. Moreover, people from other professions who do not own land, such as small businessmen, carpenters, etc., practice this method as their secondary livelihood option and try to meet their family's food demands instead of focusing on profit-making. Due to this secondary

option, they have less attention compared to full-time farmers. Under the sustainable rural livelihood framework, this type of approach is considered the second option in village life, whereas extensification or intensification is primary (Scoone, 1998).

A case:

Mr. Jaynal Hossain, a thirty-nine years old farmer studied to only class eight, lives in Gangachara Upazila. He owns a very few numbers of lands (0.2 acreage) and practices contractual sharecropping method for sixteen years. His current amount of land tenancy is 0.66 acreage. Land owners do not want to participate to bear input cost as well as production cost. It is a demotivate force for him to share only the profit. That is why he has no positive intension to work more on the land of others.

The analysis of contractual sharecropping among farmers in the north-western region of Bangladesh reveals nuanced insights from both quantitative and qualitative perspectives. On a qualitative note, the primary drivers behind the adoption of contractual sharecropping emerge as farmers themselves, motivated by the need to mitigate risks and secure land access. In contrast, landowners prioritize risk mitigation and profit-sharing, while individuals from non-agricultural backgrounds utilize contractual sharecropping as a supplementary livelihood strategy to fulfill family food requirements.

6. Conclusion

This study provides a detailed examination of contractual sharecropping in the studied area of Bangladesh, uncovering specific determinants, prevalence rates, and implications for rural livelihoods. Through quantitative analysis, it is revealed that land ownership negatively correlates with the adoption of contractual sharecropping, emphasizing the importance of land tenure in shaping agricultural arrangements. Furthermore, the duration of daily work emerges as a significant factor influencing farmers' decisions, highlighting the interplay between labor allocation and agricultural practices. Regional disparities are evident, with Gangachara exhibiting a higher prevalence of contractual sharecropping compared to Mithapukur, underscoring the influence of local context on agricultural systems. Notably, neither the age of the farmer nor the production level of boro rice significantly influences the adoption of contractual sharecropping, indicating the complexity of decision-making in agricultural production. Qualitative insights reaffirm the pivotal role of farmers as primary drivers, motivated by risk mitigation and land access, while landowners prioritize risk management and profit-sharing. Additionally, individuals

from non-agricultural backgrounds utilize contractual sharecropping as a supplementary livelihood strategy, reflecting the diverse socio-economic landscape of the region. In light of these findings, policymakers are urged to address barriers such as access to loans, irrigation, and inputs to enhance the efficiency and equity of land tenure systems, promoting sustainable agricultural development and rural well-being in Bangladesh's north-western region.

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Transformation in Children's Daily Routine, Attitudinal Traits and Behavioral Patterns during Covid-19: A Psycho-Social Study at Patgram Upazila in Lalmonirhat District

Muhammad Illias¹

Abstract

This study elucidates how COVID 19 affected the children's daily routines and how parental behavior was strategically altered. The continuing Novel Corona Virus COVID-19 pandemic has had a devastating detrimental impact on Bangladesh's rural children's quality of life. They were thought to be one of the most defenseless populations. Although, happily, kids have so far mostly escaped the direct health implications of COVID-19, the crisis is having a significant impact on their welfare. The socioeconomic effects and, in some situations, mitigating actions that could unintentionally cause more harm than good have an influence on all children, regardless of age or country. However, this study looks at a rural child's everyday life, changing pattern of behavior, attitude and psychological health both before and following COVID-19. Numerous youngsters in rural regions, particularly in villages, are dealing with a number of issues brought on by the COVID-19 epidemic. This is a worldwide concern, and some children will be affected for the rest of their lives. Additionally, the COVID-19 pandemic's spread, the partial lockdown, the severity of the disease, the healthcare system's poor governance, the lack of medical facilities, public ignorance, and the dissemination of false information in the media have all contributed to people's feelings of fear and anxiety. Both qualitative and quantitative approaches of data gathering and analysis are being used in this specific study. The main goal was to learn how children's routines changed throughout COVID 19 and to see how parents handled these changes. 33.33 percent of the study's respondents were between the ages of 15 and 17, while 45 percent of respondents were male and 55 percent were famous. Furthermore, the majority of responders (46.66%) had secondary educational status. Of the total respondents, 56.66 percent reside in extended families, compared to 43.33 percent who do so in nuclear families. According to the study, there are significant differences in pre- and post-COVID-19 routines, parenting, and mental health.

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INTRODUCTION

The unique Corona virus that causes Corona virus disease 2019 (COVID-19) is an infectious illness. On March 11, 2020, WHO issued a pandemic declaration. These viruses were initially discovered in Wuhan, Hubei, and China. For low-income employees, the loss of their employment and means of support was a significant economic blow. Within the first two months of the disease's start in Bangladesh, Rahman et al. (2020) observed a 62-75% loss in income and a 28% decline in consumer expenditures. This was especially disastrous for households in regions like northern Bangladesh who relied heavily on remittances and migrant income. We selected Patgram upazila in northern Bangladesh's Lalmonirhat area for our investigation. Schools in Bangladesh were shut down for more than two years. The influence of this new circumstance on parents is significant. They must adjust to this situation while putting aside their own emotional and financial challenges. Children's social interactions, home life, and extracurricular and extracurricular activities have all suffered greatly. Children have been cut off from all of their social and emotional interactions, as well as their educational, employment, and sporting opportunities. Parents were suddenly required to supervise their children at home from school 24 hours a day, while also starting to smart-work from home and continuing to fulfill their children's academic obligations. Many parents also dealt with the grief and suffering caused by sick or deceased family, pay decreases, and in some cases job loss. The absence of play areas and opportunities for social interaction has real effects on children's day-to-day lives. When other references and educational figures suddenly disappeared, parents were left as the children's only source of guidance. This article discusses how COVID 19 affects kids and how parents are modifying their parenting strategies to keep kids on task and establish new daily routines. This study aims to comprehend the daily activities of children during COVID 19.

OBJECTIVE OF THE STUDY

Without targets, no project will be able to be done. For the same reason, a researcher must require study objectives. This study's main goal is to determine how much COVID 19 has altered Bangladeshi children's daily routines and the new parenting techniques that have emerged as a result. On the path to achieving this fundamental goal, it is anticipated that a number of challenges would also become apparent. They are also a focus of this study's examination. The objectives of this study are pointed out in the following way:

1. to identify the daily routine of child before covid-19
2. to know what's the daily routine of a child during covid-19
3. to explore how children maintained their learning, physical activity, and screen time routines during the period of covid-19 pandemic

RESEARCH QUESTION

1. What are the effects on children daily routine during Covid-19?
2. Were there any changes in the child's mental state during covid19?
3. What was the parenting style like in rural areas of Bangladesh during covid-19?

RATIONALE OF THE STUDY

COVID-19 increases the likelihood that children will experience maltreatment, domestic violence, and poor nutrition, and lockdown procedures lessen the chances that kids will engage in extracurricular activities, less or no interaction with caring adults at school and in the community. These problems overlap to varied degrees with financial poverty and substandard housing, with the unifying factor being that children from poorer homes are more vulnerable. Their daily schedule, study habits, emotions, social interactions, peer affiliations, mental and physical well-being, mood, and many other aspects are no longer the same as they were before the epidemic. Children who spent more time with multimedia content may have had unfavorable and more significant alterations in their behavior, as seen by their increased anxiety, fear, sensitivity, and uneasiness during COVID-19. Such findings support earlier research, which has shown that prolonged exposure to screens (such as watching television and movies) in children results in behavioral changes that show up as social problems, thinking problems, aggressive behavior, as well as social withdrawal and social isolation (in the case of video games). These kids also have less time for all other everyday activities the more time they spend in front of devices. Such routine childhood activities have a direct impact on lifestyle choices made later in teenage development. The Bangladeshi government did make efforts to lessen this situation's harmful effects, although they had limited success. In order to lower the risk associated with child development and everyday care, parents are seen to be the only one with the authority to take action. It is crucial for social science researchers to concentrate on research that can provide outcomes in light of this expanding concern. Outcomes that help policymakers plan successfully. Additionally, academicians will benefit much from this type of study in terms of scholarship. We also need to be aware of the coping mechanisms employed by parents in this new normal situation. How effectively they are able to maintain the mental health of youngsters in the midst of this tragic unexpected circumstance. Children in urban areas may have more advantages than those in rural areas. In general, most people hold to this presumption. However, the results of this study will paint a picture of the condition in rural regions. Considering all of the importance of this subject, I consider this specific study to be pertinent and current.

STATEMENT OF THE PROBLEM

The ILO anticipated that more than 85% of Bangladesh's informal workers are severely vulnerable, affecting the low-income, marginalized individuals who work for themselves or as day laborers (Mohiuddin, 2020). Due to difficulties in finding employment, this issue mostly impacts urban employment, which contributes to

poverty, reverse migration, and inequality. Bangladesh is currently experiencing an unparalleled economic and social catastrophe because of the Novel Corona Virus COVID-19 epidemic. Additionally, it has had a terrible influence on Bangladesh's rural population's ability to support them. The prolonged epidemic has cost many people in the informal economy their jobs and money. Rural residents are experiencing higher rates of unemployment and poverty. The COVID-19 pandemic-related partial lockdown in Bangladesh enhanced community transmission, exacerbated the healthcare situation, and raised the cost on the economy. Due to the loss of lives and livelihoods, it has also led to emotional and socioeconomic instability among rural residents in rural society. On the other side, the epidemic has temporarily had some beneficial effects on the ecosystem. Pollution has slowed down while the area was under lockdown. In many parts of the world, the water and air quality had improved. The study's objective is to determine how a child's daily routine affected COVID-19, to learn about people's knowledge and opinions of COVID-19 in the study area, as well as any issues they may have encountered during the epidemic. Through a survey and questionnaire, informal interviews were conducted in the chosen research region. COVID-19 epidemic has significantly impacted the child's social and psychological development. This study has brought attention to the effects on psychological health of the most vulnerable populations, especially rural children who are more prone to post-traumatic stress disorder, anxiety, and depression.

LIMITATIONS OF THE STUDY

- Because this is such an important matter, a startlingly large proportion of respondents showed reluctance to participate in the data gathering process.
- As the current study was conducted in only one village out of many others in Patgram upazila, it raises questions about how accurately it represents the current situation of rural children in terms of validity and dependability.
- This initiative may have been more effective with greater funding

LITERATURE REVIEW

Dana Alonzo, et al. using data from Guatemala, looked at how the pandemic affected the mental health of parents in high-risk, low-income neighborhoods. Parental stress is a significant issue in high-risk neighborhoods that has the potential to worsen psychological discomfort and child abuse. Increased community capacity and the creation of a network rooted in the community that can act as a first line of support for parents and kids can result from training community healthcare workers to identify and treat parental stress. Interventions that increase parents' access to informal and formal support networks and inform them of available services could also help with better diagnosing and treating mental health problems while preventing escalation in "school from home" situations with complex emergencies under special circumstances.

Dillon Thomas Browne *et al.* (2021) published an article on "Refugee children and families during the COVID-19 crisis: a resilience framework for mental health." In order to construct a developmental resilience paradigm that builds on the innate qualities of refugee children and families, this research analyzes elements that challenged and promoted resilience in refugee children and families during the COVID-19 crisis. Programs and policies that serve refugees are advised to preserve concerns of trauma, family systems, cultural sensitivity, and numerous levels of analysis, from individual to societal, and from preventative to responsive interventions. The process of building resilience in children and families should also be supported by interventions and policies that facilitate access to resources.

Michelle Achterberg *et al.* (2021) worked on "Perceived stress as mediator for longitudinal effects of the COVID-19 lockdown on well-being of parents and children". As a result of the COVID-19 shutdown, children in families that have a history of familial over-reactivity run the risk of developing bad coping mechanisms and experiencing higher levels of stress than usual. Additionally, parents and kids who had previously had comparatively worse mental health also had lower mental health during the COVID-19 circumstance. These findings emphasize the significance of controlling externally represented stress levels in families and encourage good coping mechanisms and resilience processes. They do provide valuable insights for family assistance programmers and for identifying which families may require additional assistance during the pandemic and afterwards.

Brooks, *et al.* (2020) have observed that, in addition to the upheaval of daily life, children who are removed from the school environment are at risk for poor mental and physical health. These were discovered to be significant stresses for the majority of children. Uncertainty about the illness itself, coupled with a lack of interpersonal interaction in the home and a culture of familial hostility, raises stress levels in the kid population.

Khan *et al.* (2020) find out- Educational institutions in Bangladesh were forced to close as a part of the effort to stop the spread of COVID-19 in its early months. As a result, students lost the sense of stability and stimulation that was provided by that community, as well as the chance to spend time with friends and receive the social support needed for good mental health (WHO 2020). On March 18, 2020, when there were just eight instances in Bangladesh that had been recorded, the government shuttered all educational institutions for the balance of the month, till further notice. For the protection of its tenants, public university dorms where spatial distance could not be maintained have stayed closed. Overall, it has been established that the pandemic's disruption of routine daily activities causes tension and anxiety, and college students are not exempt from these effects.

Mamun *et al.* worked on "The COVID-19 pandemic and serious psychological consequences in Bangladesh: A population-based nationwide study". Lockdown

measures taken during the COVID-19 epidemic in Bangladesh, like in other nations throughout the world, were abrupt and unexpected and had the potential to have significant psychological repercussions. The current study looked at the COVID-19's psychological effects in Bangladesh during the lockdown. In relation to COVID-19, the prevalence rates for depression and suicidal thoughts were 33% and 5%, respectively. Being young, female, smoking, having concomitant illnesses, scoring highly on the Fear COVID-19 Scale, and experiencing sleeplessness symptoms were all common risk factors for suicide thoughts and depression. In contrast to districts without any occurrences of COVID-19, GIS-based maps of Bangladesh's capital city and the districts nearby, as well as coastal areas, showed significant levels of depression and suicidal thoughts. The widespread psychological effects of COVID-19 in Bangladesh highlight the need for carefully placed psychological support measures and increased access to mental health services, particularly for women and younger people.

THEORETICAL FRAMEWORK

Bowlby's Attachment Theory

There is a great deal of research on the social development of children. John Bowlby proposed one of the earliest theories of social development. Bowlby believed that early relationships with caregivers play a major role in child development and continue to influence social relationships throughout life. Bowlby's attachment theory suggested that children are born with an innate need to form attachments. Such attachments aid in survival by ensuring that the child receives care and protection. Not only that, but these attachments are characterized by clear behavioral and motivational patterns. In other words, both children and caregivers engage in behaviors designed to ensure proximity. Children make an effort to be near and secure with their caretakers, who in turn offer a safe refuge and a stable foundation for exploration. Bowlby's initial research has been built upon by researchers, who contend that many attachment trajectories exist. A secure attachment style is more likely to emerge in children who get trustworthy care and support, whereas an ambivalent, avoidant, or disordered form may.

Vygotsky's Socio-Cultural Theory

Lev Vygotsky, a different psychologist, put out a fundamental learning theory that has since grown to be highly important, particularly in the realm of education. Vygotsky shared Piaget's view that young children learn best via active engagement and practical application. In accordance with his sociocultural thesis, the development of higher-order cognitive abilities was the responsibility of parents, caregivers, peers, and the culture at large. According to Vygotsky, learning is a fundamentally social activity. Learning is assimilated into a person's view of the world via interaction with others. The zone of proximal development, which is the space between what a person can achieve with assistance and what they can do on their own, was another idea presented by this theory of developmental psychology. Individuals are able to gradually learn and broaden their knowledge through the assistance of others who are more knowledgeable.

Diana Baumrind's Parenting Styles

A kid's future success in romantic, peer, and parental relationships will likely be influenced by the parenting style that was utilized to raise that child. Clinical and developmental psychologist Diana Baumrind created the parenting philosophies of authoritative, totalitarian, and tolerant. Later, the detached/negligent style was applied by Maccoby and Martin. It is helpful to assess a caregiver's support and demands in order to ascertain which style is being employed and how to apply it successfully. A parent's level of warmth, sympathy, and compassion for their kid is referred to as their support. Authoritarian parenting style is a term that describes how much a parent manages their child's conduct. Preschoolers showed fundamentally diverse sorts of conduct, according to Baumrind. Each type of conduct was closely tied to a certain parenting style. According to Baumrind's idea, parenting practices and children's conduct are closely related. The development and results of children might vary depending on the parenting style used. Baumrind first distinguished between authoritative parenting, authoritarian parenting, and permissive parenting based on considerable observation, interviews, and analysis. While Maccoby and Martin (1983) used two different frameworks (which is cited in Abdul Gafor, K., & Kurukkan, A. 2014. Construction and Validation of Scale of Parenting Style. *Online Submission*, 2(4), 315-323) to enhance these three parenting-styles frameworks, Diana Baumrind is most recognized for her work on classifying parenting methods. The four types of parenting styles are:

Authoritative

Authoritarian (or Disciplinary)

Permissive (or Indulgent)

Neglectful (or Uninvolved)

Contemporary Cognitive-Behavioral Models and Mental Health

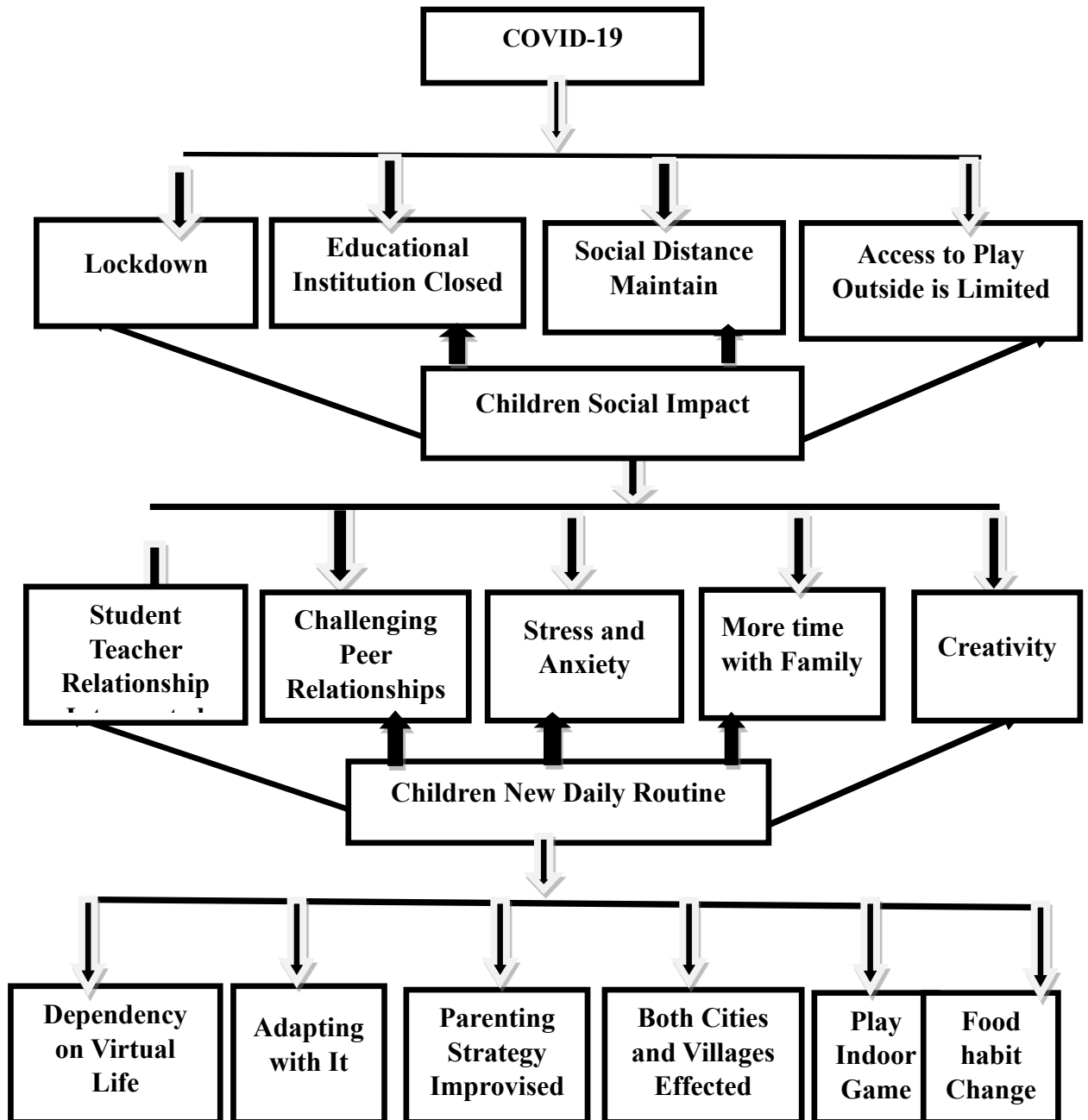
The current cognitive-behavioral models (Taylor and Asmundson, 2004; Asmundson et al., 2010) investigate the critical role of traits, triggering events, cognition, and behaviors in the development and maintenance of health anxiety and have the potential to evaluate mental illnesses during the pandemic period. According to Jungmann and Witthöft (2020), adaptive emotions serve as a barrier between viral worry and excessive internet information inquiry during the epidemic while unique clinical depression controls the link between the two. Role conflicts are examined in the "Role Tension" paradigm of mental health problems. It contends that people who play various social roles might become stressed out and suffers from poor mental health as a result of role conflicts. The more general behavioral antibody hypothesis (McKay et al., 2020) examines the particular route of illness anxiety and contends that the behavioral immune system includes tendencies toward and susceptibility to disgust as well as emotional responses.

Bandura's Social Learning Theory

Albert Bandura, a scientist, is the source of social learning theory. According to Bandura, the conditioning and reinforcement process cannot fully account for all of cognitive behavior. How, for instance, does the conditioning process explain taught

actions that have not received classical conditioning or operant conditioning reinforcement? Observation and modeling are other ways in which behaviors may be taught. Children learn new skills and gain new knowledge through imitating the behaviors of others, such as parents and classmates. According to Bandera's thesis, observation is crucial to learning, but it need not include viewing a live model in order to be effective. As an alternative, in addition to seeing others, people can also learn through hearing vocal instructions on how to carry out a behavior.

CONCEPTUAL FRAMEWORK



RESEARCH METHODOLOGY

Methodology is the systematic way to complete a research study. Before planning for any research, the researcher must determine the process of data collection, data processing techniques, sampling techniques, reason for using particular method should be defined clearly. All these activities are methodological in sociological and scientific sense. Researcher should have clear idea about he is going to do and how. In this research we have mostly used survey technique to collect majority of the data. But it was not sufficient to explore the realities about the issue. So survey method was associated with case study method. While selecting study area a particular sampling procedure needs to be followed. In this study the area was selected purposively so that it can meet all the criteria required to undertake in the research. So, Patgram upazila in Lalmonirhat district was the study locale. I think most of the area there is rural in nature and I can easily find rural children there. This is why I have chosen this area.

SAMPLING

Sample selection is also a significant task in a research. It was not possible to collect data from a large number of respondents during that unprecedented period. So I have selected 60 families as my sample. As I have worked on effect on children's daily routine during COVID 19, convenient sampling is better here. I have selected 60 families as my respondents through this technique. Family is the unit of analysis for this particular study.

SOURCES OF DATA

A mixed approach of Qualitative and Quantitative methodology has been used in this research. Data has been collected from sources which are given below:

Primary sources of data

Secondary sources of data

Primary sources of data: Primary data have been collected from the research field.

The methods are used for collecting primary data are-

Questionnaire

Face to face interview

Case Study

Secondary sources: Secondary data which was supplied by some books, journals, newspapers, websites, institutions, organizations, NGOS and other governmental agencies. Data was collected from these sources for better understanding and analyzing the problems.

PROCESSING THE DATA

After collecting the raw data from the field, it was edited, coded, classified and cleaned.

ETHICAL CONSIDERATION

Age (years)	No of respondents	Percentage
5-7(years)	10	16.66%
7-10(years)	14	23.33%
10-15(years)	16	26.66%
15-17(years)	20	33.33%
Total	60	100

An ethical guide was followed in this research. The confusing issue and harmful activities did not occur. Each participant was interviewed with their consent. The Respondents granted the interview willingly and comfortably. There was no kind of pressure or force on them and the entire respondent was unknown to the researcher. Therefore, the entire data collection procedure was unbiased. Participant information was not used for any other purpose without this research. Complete confidentiality was maintained.

RESULTS AND FINDINGS

Daily routine, attitudes, and behavior pattern of the children

The daily routine of children has been affected a lot due to COVID. The children who were school - going maintained a routine that is their time of sleep, time of study, time of leisure and so on. In the time of COVID, the school and college of students were closed. Children were in the state of confinement at home. They got lot of time to be at home. At that time their routine changed. Their time spending on study was declining. They were bored, so they used social media more than ever at the time of corona pandemic. The children were not allowed to contact with their friends and it made them feel lonely. Parents had also passed difficult time during corona. There are some parents who were job holder, both father and mother and in the pre COVID period they used to be outside home but during corona they had to spend much of their time at home. At this the children got to spend much time with their parents and at the same time there were negative effects too.

Table 1– Outdoor physical Activities (physical exercise, playing outdoor games)

Duration (hours per day)	Pre COVID		During COVID	
	No of respondents	percentage	No of respondents	percentage
0-1	12	5%	100	41.66%
1-2	100	41.66%	48	20%
2-3	80	33.33%	56	23.33%
3<	48	20%	40	16.33%
	Total=240	100%	Total =240	100%

[Source: field survey, October 2021]

In the above table we can see that the percentage of outdoor daily activities of children at pre COVID period and during COVID has huge differences. If we look at the table above, in the pre COVID period the percentage is only 5% who were involved in outdoor activities for 0-1 hour, while during COVID the percentage became 41.66% of outdoor activities for 0-1 hour.

In the pre COVID period percentage of children involves in outdoor activities for 1-2 hours is 41.66% but its percentage decreased during COVID period which is only 20 percent. During COVID 19, the percentage of children involving in outdoor activities more than 3 hours is negligible which is only 16.66%. So during COVID period children were not involved in outdoor activities as in pre COVID period.

Spending time on study:

Spending time on study had decreased among the children who were school going during corona. As schools were being closed, so they lost their flow of study. They were losing their concentration in study due to boredom and loneliness. All kind of tuition and coaching were closed, and it leads to children to be less interested in study.

Table 2. Spending time on study:

Duration in hours	Pre COVID duration		During COVID period	
	No of respondents	percentage	No of respondents	percentage
0-4	60	25	140	58
4-8	80	33.33	52	21.66
8-11	52	21.66	36	15
11<	48	20	12	5
	Total=240	100	Total=240	100

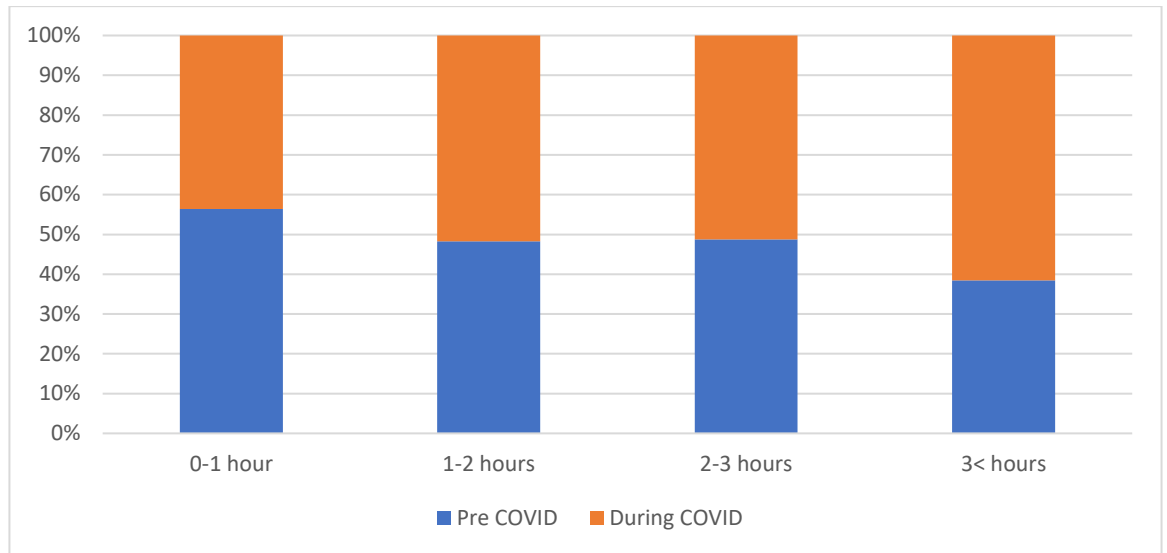
The above table shows that during corona the percentage of spending time in study had lessened. The percentage of studying 0-4 hours during corona was 58 percent, which in pre COVID period was 25 percent. During corona the percentage of studying 4-8 hours by children was 21.66 percent, but in pre COVID the percentage was 33.33 percent. Time spending in study for more than 11 hours among children was 5 percent during COVID

Time spent on social media

When the pandemic hit strongly, the younger people along with children became dependent on social medial. The children who are 5 to 10 years old, they were mostly involved in watching cartoon and playing games in phone. The children, who had social media accounts, were dependent on it as they were confined at home. So during pandemic the time spent on social media was high than pre COVID period.

In this study we found that the number of children spending time on social media for 0-1 hour in the pre COVID 19 period is 41.66 percent, where the percentage is 33.33 percent during corona pandemic. The percentage got high in the time period (1-3) hours of using social media during pandemic which is 30 percent and in pre COVID 19 it was 28 percent. The percentage of using social media for more than 3 hours is 30 percent among the children of pre COVID 19 period which increased to 36.66 percent.

Figure 01: Assisting parents in the household chores



Before corona pandemic, children used to go to school and they used to get less time to spend with their parents. They assisted their parents after doing study. During corona pandemic, all the schools and colleges remain closed. Parents and children got more time to spend together. In the above table we can see that the percentage of assisting parents for (0-1) hour before corona is 36.66 percent, where during corona the percentage became 28.33 percent. For (1-2) hours of assisting parents, the percentage for pre corona period is 23.33 percent, where during COVID the percentage become 25 percent. As we can see, the more the duration of time, the less is the percentage in pre COVID 19 period and more during COVID period. More than 3 hours the children assisted their parents before corona is 5 percent. Whereas is 13.33 percent during corona

Sleeping time

When respondents were asked about their sleeping time they said that corona has changed their sleeping habits. They had a specific routine in their life. They used to sleep properly as they were involved in physical activities. They were more active in outdoor games and activities and used to get tired easily. Due to tiredness they fell asleep quickly and can have sound sleep. But due to corona most of the time they stay at home. They are not involved in any kind of outdoor activities and so their sleeping schedule has changed.

Table 3: Food habit (regular food)

Times per day	Pre COVID 19		During COVID 19	
	No of respondents	percentage	No of respondents	percentage
0-2	60	25	68	28.33
2-4	120	50	136	56.66
4-6	56	18.33	36	15
	Total 240	100	Total=240	100

In the series of daily routine, food habit of children are also included. In the time of corona it is seen that most of the time, children stay at home. At this the numbers of eating foods were comparatively more than regular days. Again, as they were lonely and bored, they keep eating to avoid boredom. Parents said, how many times their children are taking food are depending on their mood. There are some time when their children are sleep deprived, at this time their times of eating food decreases. Again when they feel bore, they eat more than normal. From the above table, we can see that the number of respondents eating foods for (0-2) times in pre COVID period is 60 out of 240 respondents. The percentage of eating foods for 2-4 times is 56.66 percent during corona. In the pre COVID period it is 50 percent.

Behavioral changes and causes of depression

COVID-19 has instilled a level of fear and anxiety in us all. As it has isolated us physically, we have felt isolated mentally. We have all felt feelings of depression as we missed friends, family and loved ones. Yet for many of us, these feelings are just a small glimpse into what it is like to be living with anxiety, depression or other mental health challenges. For many, these issues were a daily struggle before COVID-19 and they will be afterwards--perhaps made worse by the pandemic. The costs of COVID-19 lockdown and school closures on children's health, well-being and learning have been devastating. Everyone has been affected by the pandemic, but for some children and adolescents, lockdowns and school closures have meant being subjected to violence, abuse and neglect at home. For others, increased time online, particularly unsupervised time for younger children, may have heightened

the risk of being exposed to harmful content, cyber bullying and online sexual abuse and exploitation.

In the time of COVID 19, several behavioral changes have occurred in parents and children. When parents were asked about their children's; psychological state, the parents said that they are not behaving normally. Parents are noticing the changes and trying to maintain the mental stability of children

Some type of behavioral condition:

Aggression:

In the time of COVID, children had to be at home. At this time, they sometimes got scolded by their parents for not behaving normally. Due to this, children behave more aggressively and become arrogant.

Loneliness:

Social distancing is one of the safety measures of corona pandemic. Children have forgotten to talk and behave socially due to this pandemic. So they face loneliness. They keep themselves away from others and enjoy being alone. They love to spend more time screening than with people.

Depression:

Depression is common for most of the people. Feeling of depression comes from various reasons. A child may also face depression. Parents have to notice carefully about child's mental health. They may not recognize but parents have to talk with their children politely and freely so that they can share how they feel.

Table 4: Depression level of children:

Level of depression	Frequency	Percentage
High	120	50
Low	68	28.33
Moderate	52	21.66
Total	240	100

From the above table it is seen that the 50 percent respondents feel high level of depression. It is among children who face this high level depression among 240 respondents. The percentage of low level of depression is 28.33 percent and the moderate level of depression is seen among 52 respondents which is 21.66 percent.

Table 5: Causes of Depression:

Reasons behind depression	No of respondents	Percentage
Unable to go to school	88	36.66
Limited access to go outside	40	16.66
Less opportunity to interact with friends	32	13.33
Uncertain about future	80	33.33
	Total =240	100

The above table represents the causes of depression that children face during corona pandemic. It is found that out of 240 respondents, 88 respondents were depressed due to unable to go to school which is (36.66) percent. Another major reason of depression for most of the respondents are seen due to uncertain about future which is (33.33) percent. The percentage of not interacting with friends is (13.33) percent. And limited access to go outside is 16.66 percent

PRESENTATION OF CASE STUDY

Case study: 01

Jahin is a student of class 10. She is SSC candidate. Due to corona her study has been slow down. She was taking preparations for board exam in her life first time. She was quite excited and scared. But corona has created massacre situation. For corona pandemic, the exams are uncertain and she could not concentrate in study properly. She was asked how she is taking preparations in corona and she replied,

“I’ve lost my flow of study. The exam dates are not given yet, so I along with my friend pass our time by gossiping. I want to reopen schools quickly and we want to get certain lives.”

The parents of Jahin are also worried about their daughter’s future. They think that due to this huge gap of study, the academic results of children will not be praiseworthy. They said that,

“Health is important part of every human being. But we have to admit that due to closure of schools, children’s are suffering more than anything.”

Case study: 02

Retu is a student of college. She was a regular student in school. She was attentive and careful about her study. Her father is a businessman and mother is a housewife. They live in the city area of Rangpur.

During corona pandemic, her father's business was not going well. He was upset and anxious. He got involved with dishonest people to do profit in business. He had a small business which was at risk due to pandemic. Retu's mother was not supporting his activities. So she tried to stop him. But retu's mother became the victim of domestic violence. Retu was in mental trouble after experiencing all these incidents. Retu said,

My whole family was in trouble. My little brother and sister also got affected by the behavior of our father. We really did not know where to go. My father gave divorce to my mother and our family scattered, she said by crying.

DISCUSSION ON THE MAJOR FINDINGS OF THE STUDY

COVID 19 had spread all over the world since January 2020. When several suspicious cases started coming up in Bangladesh, the government announced that all educational institutions should be closed. All participants expressed that at first, they were unprepared and shocked by this abrupt announcement of closure, but later they understood the urgency of the decision in the COVID 19 crisis. Children daily routine are change due to the effect of COVID 19. Children of village areas face this pandemic in a different manner. They were in risk of being among its biggest victims. While they have thankfully been largely spared from the direct health effects of COVID-19, the crisis is having a profound effect on their wellbeing. All children, of all ages, and in all countries, are being affected, in particular by the socio-economic impacts and, in some cases, by mitigation measures that may inadvertently do more harm than good. This is a universal crisis and for some children the impacts are lifelong. Moreover, the harmful effects of this pandemic will not be distributed equally. They are expected to be most damaging for children in the poorest countries, and in the poorest neighborhoods, and for those reasons they are already in disadvantaged or vulnerable situations. The Novel Corona Virus COVID-19 pandemic has created an unprecedented crisis in Bangladesh. Also, it has created tremendous negative impacts on the livelihood of the rural children in Bangladesh. Many children couldn't go to school due to the ongoing pandemic since the educational institution was being closed. Unemployment and poverty among the parents of children in rural areas increased significantly. The partial lockdown in Bangladesh due to the COVID-19 pandemic increased community transmission and worsened the healthcare crisis, mental disorder, depression of a Child. Basically, in rural society, it has created psychosocial and socio-cultural insecurity among rural children due to the loss of lives and livelihood.

Before COVID 19, the percentages of outdoor physical activities, time spent on study, assisting parents in household, spending time on social media, staying in the house for indoor games, sleeping time are respectably 36.66% for 0-1hours, 38.33% for 1.3-2.3 hours, 41.67% for 1-2 hours, 45% for 1-2 hours, 46.67% for 0-1 hours, 51.67% for 1-3 hours and 66.66% children's have no knowledge about online class. Total respondents of the study are 240. According to the parents, it has become the new normal daily routine of their child. But the pandemic changed all routine of

child because of stress, lockdown, school closing, illness, home quarantine, social distancing etc. Before Covid-19 most of the daily hours the children were involved with outdoor physical activities whereas after Covid-19 most of the daily hours the children were involved with indoor physical activities. Children used to spend time on studying is in the lowest percentage, most of children's have high knowledge about online (38.34%) , 33.33% children used to help their parents in household chores for 2-3 hours, most of the children's food habit also changes, internet connection level, participation in online class was also different than what it was before pandemic.

Stress was the most mentioned mental health problem by the respondent. They were found under a lot of pressure, not only thinking about COVID - 19 situations but also for their academic education. Along with the fear of being infected with COVID - 19, most of the respondent failed anxiety for the factors like being scattered, less motivated, unable to adapt new academic habits in this situation. Some of the respondents were frustrated thinking about their future. They felt anxiety and disappointment for not being able to complete their last year of graduation timely. The pandemic situation increases their stresses of getting jobs and being established. Due to the absence of school settings, teachers, and peer groups, children have been idle at home with their infinite vacation during the pandemic. To keep themselves busy, young people are dependent on the media and internet. Online classes permit them to use various media to obtain news, which then becomes their habitual way to stay connected with the wider society and to learn about culture and society through movies, cartoons, video games, and other sources of information. The internet provides them with a way to stay connected with their friends and peers. These sources become alternative agents of socialization in the absence of formal schools. Moreover, students do not have enough work to pass the time. Therefore, their parents allow them to use the internet for an unlimited time. This situation may make them vulnerable to being virtually abused by known or unknown sources.

CONCLUSION

Bangladesh is one of the worst affected countries in COVID 19 pandemic. The adverse impact due to this pandemic has spilled over from the health care sector to the socio - economic and education sector of this country. Children were considered as target group for this study. Authentic knowledge, attitude, and practices are required to control the pandemics like COVID - 19 outbreaks. However, children can play crucial role here due to their educational connectivity and controlling adaptability for their family member and the community. They can apply the authentic knowledge, attitude, and practices to prevent their own infection. With their accessibility to information and better understanding capability toward COVID - 19, they can also act as vital hub to assist their family members and the community. Considering these, the present study was conducted to evaluate the adverse COVID 19 impact on the rural kids, specially school going students. It also measured the recent COVID 19 knowledge, attitude, and practices among these young participants. Children were found concerned and worried about the impact of COVID 19 on this present study. However, this study covers daily routine, parenting

style, psychological well being of rural children before and during COVID19. Many children in the rural areas were facing various problems that were created due to COVID-19 pandemic. Also, the spread of the COVID-19 pandemic, the partial lockdown, the disease intensity, weak governance in the healthcare system, insufficient medical facilities, unawareness, and the sharing of misinformation in the mass media has led to people experiencing fear and anxiety. In this very study, most of the respondent's age was between 10-15 years (26.66%), whereas, 45% of the respondents were male and 55% of respondents were female. Moreover, most of the respondents' educational status is secondary. 43.33% of the total respondents live in the nuclear family, and 56.66% of the respondents live in the extended family. The study shows that there are a lot of differences between the routine, parenting, and mental well being before and during covid-19.

RECOMMENDATIONS

For the well- being of children and maintaining their routine some recommendations are given below:

To know children's demand:

Parents should keep their eyes open regarding what their children are wanting from them. Parents have to decide how their children will grow. The child may ask for increasing duration in outdoor games, at this the parents have to handle it nicely so that the child don't get angry.

Taking care of mental health:

Parents should think about child's mental health. Parents have to talk with them to know about their inner feelings. Otherwise, they will be more aggressive and feel lonely.

Create friendly environment

The environment of home should be friendly. Parents have to spend more time with children. The moments that will be shared with their children should make them interesting not monotonous. Parents can play new games in every weekend or cook something special together. These will strength the bond between parents and children.

Family interactions

Interactions between family members should be ensured. At this the child will not feel lonely. When the child will get someone to talk within family, they will not seek anyone from outside.

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Exploring Non-Political Perspectives: The Influence on Santal Women as a Minority Perspective

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Abstract

The objective of the study is to identify the factors contributing to the apolitical views of Santal women as an ethnic minority perspective. The study focuses on discrimination, different cultural and physical traits, conservative mentality, financial insolvency, lack of time and patriarchal society that make Santal women apolitical. Although traditional society has transformed into modern society due to consciousness, the universal right to education, and the empowerment of women, Santal women are still apolitical. It is examined in the study that their participation in voting is high and they also participate in election campaign although 95 percent of women are apolitical while they all go to vote uninfluenced by the citizen rights and awareness. Rather, they go to vote influenced by the festive atmosphere. The analysis also reveals that political participation of Santal women is not effective but rather symbolic. The findings of the study show that as a minority ethnic group Santal women feel insecurity and inequality about participating in politics and women were discriminated against compared to mainstream Bengalis.

Key words: Santal, Apolitical Stratum, Political Participation, Political Unawareness.

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Introduction

Santals are one of the oldest ethnic groups in South Asia (Akman, 2021). In Bangladesh, a number of ethnic groups belong, such as Chakma, Marma, Rakhain, Murang, Khasi, Garo, Oraon, Munda etc. (Hossain, 2008). Santals live in different districts of Bangladesh, such as Naogaon, Bogra, Rangpur, Dinajpur, Thakurgaon and Panchagarh. The Santals of Bangladesh have very little education or public resources (Cavallono & Rahman, 2009). Santals are minority in society and thus are not represented in national politics (Shamsuddoha & Jahan, 2016). Ethnic perspectives on minority understanding voting and political engagement require specific racial, religious or cultural traits. Minorities have a unique way of political participation in politics that emerges from socialization within the group as well as from interactions with other groups and discrimination (Bird et al. 2011). The political dimensions of ethnic minorities' actions are further complicated by the fact that they lack sufficient access to suitable political channels, either de jure or de facto (Rath, 1983). Santal women are unaware of various political activities and citizen responsibilities and duties. Even though they have full participation in the elections, they are ignorant about the zeal issue of the election is the selection of a competent and qualified government. They are only aware of their fundamental rights and can assess the role of the state and government in fulfilling all these rights. Santals people of Amarpur village located in Noagaon district lead a very ordinary life. They are to face many challenges. In fact, Santals are indifferent to socio-economic and political life. They are always unaware of politics, even they do not participate any political party. The level of participation in their election campaigns in local and general elections is also low. But they all go to vote. The head of the family has an effect on the other members of the family when it comes to voting. Because the

Santals believe in the patriarchal family system. Like other minority groups, Santals have their own identity such as history, language, religion, culture and customs. United Nations (UN) statement of the mid-1990s that women comprising 50 percent of the world's population own just 1 percent of its property generated considerable research and policy interest in property and land rights, particularly in rural, agrarian societies (Rao, 2005). Several scholars have attempted to understand households and intra-household relations, the differential access to and control over resources and the causes and processes of women's subordination (Dwyer & Bruce, 1988). The apolitical background of Santal women is due to male dominance and political unconsciousness as they are known as a patrilineal ethnic group. The status of Santal women is economically and politically vulnerable as they are apolitical because of time and financial constraints. Also, Santal women have low self-reliance and internal strength.

Conceptual Framework

Apolitical Stratum

In all polyarchies, it seems, a sizable number of citizens are apathetic about politics and relatively inactive; in short, apolitical people are less likely to get involved in politics if they place a low value on the benefits to be gained from political involvement relative to the rewards expected from other kinds of human activity (Dahl, 1970). If a person thinks that his political knowledge is low and he does not understand politics well, he stays away from politics. An individual is less likely to become involved in politics if he thinks that what he does won't matter because he can't significantly change the outcome anyway. Besides, thinking about financial loss and insecurity makes people apolitical.

Political Socialization

Political socialization describes the process by which citizens crystallize political identities, values, and behavior that remain relatively persistent throughout their lives (Neundorf and Smets 2017). The process by which people acquire their specific political orientations as well as their perceptions, feelings, and assessments of their political environment is known as political socialization (Wong & Tseng, 2008). The process of political socialization is essentially the installation of a society's political culture in its members and their generational transference. Therefore, agents of socialization are persons, organizations, or groups that have an impact on people's attitudes, behaviors, or other orientations as well as their self-concepts. Political socialization uses institutions like the family, the educational system, peer groups, the media, political institutions, community organizations, and religious organizations to spread predetermined thought and behavior patterns, laws, and norms as well as customs and folkways (Adekanmbi et al. 2020). Nonetheless, certain institutional settings and individual experiences may also contribute to the political indoctrination of adults. Some people may acquire a specific incentive to engage in politics as a result of receiving diverse political socialization. Political socialization happens at every stage of life and is not a one-way process (from parents to children). This perspective holds that experiences of political socialization can happen to individuals at various stages of life and in various settings, especially in representative institutions (Jaime-Castillo et al. 2021). Glasberg & Shannon (2011) defined political socialization as the general process by which members of society learn what is expected of them and what they can expect from the world around them: they realize their rights, privileges, responsibilities, and obligations. With the disclaimer that there is dispute in this

field of study over what constitutes "political," I will define political socialization as the social process during the whole life-cycle of a subject's subjective internalization of an objective political reality. According to this concept, the study of political socialization is especially pertinent given the profound social and political transformations that modern nations are experiencing. Growing social and geographic mobility affects political socialization processes directly since it changes both the transmission mechanisms and the objective truth being conveyed (Haegel, 2020).

Political Participation

Three categories of political participation are civic engagement, online political participation, and offline political participation. Citizens' actions intended to influence political outcomes and government action have historically been characterized as offline political engagement. Offline political involvement has been defined by most research as voting, working for a political campaign, giving money to candidates, contacting elected officials, signing petitions and participating in demonstrations (Chae et al. 2018). Political participation was assessed using an eight-item scale. The eight items were: "I call in to express my political opinion on radio or TV programs", "I write and express my political opinion to newspapers and magazines," "I write and express my political opinion to politicians," "I participate in opinion votes on TV programmes," "I attend campaign rallies," "I write and express my political opinion to friends," and "I vote in every election" (Song-In Wang, 2007). Political participation has been defined as those voluntary activities in which members of a society directly or indirectly participate in the formation of public policy. These activities include voting, seeking information, discussion and proselytizing, attending meetings, contributing financially, and communicating with

representatives (Chowdhury, 2012). A change in the strategies employed by individuals who attempt to sway political decisions has frequently had an impact on the study of political participation. People today may be more aware of the most significant political pressure mechanisms and more capable of participating in the political process as a result of the general increase in both the population's educational attainment and political awareness. People with higher levels of life satisfaction have higher voter turnout and other forms of political participation and the strength of this association is comparable to that of education. Furthermore, we discover that the correlation between political participation and life happiness is limited to "non-conflictual" kinds of engagement and does not hold true for the choice to participate in political protest. That is to say, a higher level of life contentment may encourage people to get involved in politics, but it is also possible that a higher level of life satisfaction may encourage people to get involved in politics. In their investigation on whether voting increases participants' pleasure and "procedural utility" (Flavin & Keane, 2012).

Research Methodology

Case Selection

The purpose of the study was to investigate why Santal women as a minority group are apolitical. The study investigated the targets, forms and repertoires of political activity used by ethnic minority groups especially Santal women in order to answer this question. The study worked with a variety of groups, selected based on a broad definition of political participation that encompassed varying degrees of involvement in campaign, community, informal and formal politics. According to last census of Bangladesh in 2011, the number of ethnic minority people in Noagaon

district is 116736 out of 1586141 (BBS, 2015). Ethnic community like Santal, Oraon and Munda belong to this district. A number of Santals live in Noagaon District. So, the Amarpur Village under Dhamuirhat upazila of Noagaon district has been selected for research area. 100 Santal women voters were selected as respondents in order to rationalize the research.

Data collection and Data Analysis

Data have been collected from Santal people of Amarpur Village under Dhamuirhat upazila of Noagaon district. In the study, quantitative research method have been followed. Probability sampling method is used for this research. It is not possible to study all members of the population due to involving tremendous amounts of time and resources. Also, Information has been collected through interview method by asking direct questions, Structural, open-ended and close-ended questions to evaluate the apolitical situation of Santal women. As a result, the respondents have certain answer. Similarly, they have answered as their own choice which make the research successful. On the other hand, the secondary data have been gathered from books, journals, newspaper reports. Arranging the random information from the research area, the data have been analyzed through various program of computer. In this article, I investigate the gap of political apathy of minority people like Santal and argue that the various factors that are affecting the apolitical behavior such as discrimination, subordinate mentality, difference between cultural and physical traits, socialization process etc. I draw examining through one hundred interviews with women of similar socio-economic and political backgrounds, I demonstrate factors of being apolitical strongly shape minority citizens' perceptions of politics.

Literature Review

There are some previous research papers related to the topic that provide a theoretical explanation for the study. The research has been given a new form by analyzing the data obtained through the earlier research and field survey. Karen et al. (2011) focuses on ethnic diversity, politicization of ethnicity, social and economic integration related multi-cultural policy, political participation, destructive and substantive representation and the fair inclusion of representative democracy of ethnic minorities. They investigate whether there are differences in political behavior between the majority population and ethnic minorities. Here, normative theory is explained to understand voting, campaign strategy, and minority representation. They reveal various reasons for ensuring proper participation in political life in the political institutions of minority people (Karen et al. 2011). Chaudhary (2015) has investigated that in conventional Santal ancestral networks. Santal women have no political functions by any means. They are not permitted to hold office at the gatherings. They are not permitted to direct in any services, regardless of whether during childbirth, passing or marriage or in different events or celebrations. Santal women are contributing emphatically monetary interests. They gather natural products, tubers, consumable roots, and other household necessities (Chaudhary, 2015). Haider (2022) discussed the socio-economic and cultural background of Santals. He also elaborated on the illiteracy, unawareness, absence of peaceful residence, and lack of institutional support for Santal women. He focuses on the reasons behind the vulnerable situation in the Santal community (Haider 2022). Carrin (2022) discusses the concept of indigeneity and indigenous people. He elaborated on the Santal community since the 19th century and observed that due to displacement and discrimination, they have suffered lot politically and culturally.

He also discusses the customs, culture, and land system of the Santals and get an idea of some taboos about women, like they cannot do heavy work, they cannot be chief, and their ritual life is also different in that they cannot watch the killing of the sacrificial animals and do not eat the backs and necks of the sacrificing animal. He sees traditional gender inequality as basically due to inequality in property rights and political participation (Carrin, 2022). Islam (2020) discussed women's empowerment having political awareness and claimed that political awareness is the key to democracy and good governance. The reasons of women are not involved in politics due to socio-cultural force, diversity of religious faiths and complex political and economic force. He also argued that voting, party activity, party membership, contesting the election and political communication are indicators of political participation (Islam, 2020). Tolia-Kelly (2019) described political awareness on the basis of Gramsci's hegemony and radical and critical intellectuals of society. The author explained that political awareness faces challenges in terms of inequalities, patriarchy, colonialism, neoliberalism, imperialism and cultural prejudice. Here, he focuses on two issues like subordination and praxis. The praxis starts with a sense of political awareness beyond the understanding of individual requirements and struggles (Tolia-Kelly, 2019). Tone Bleie (2005) presented an overview of the evolving framework for aboriginal's human rights, which serves as a foundation for analysing government initiatives pertaining to ethnic minorities. This changing environment is influenced by the policies and strategies primarily employed by national and local NGOs to address the human rights and livelihood requirements of aboriginals.

Table 1: Relationship Between the Apolitical Strata of Santal Women and the Minority Perspective

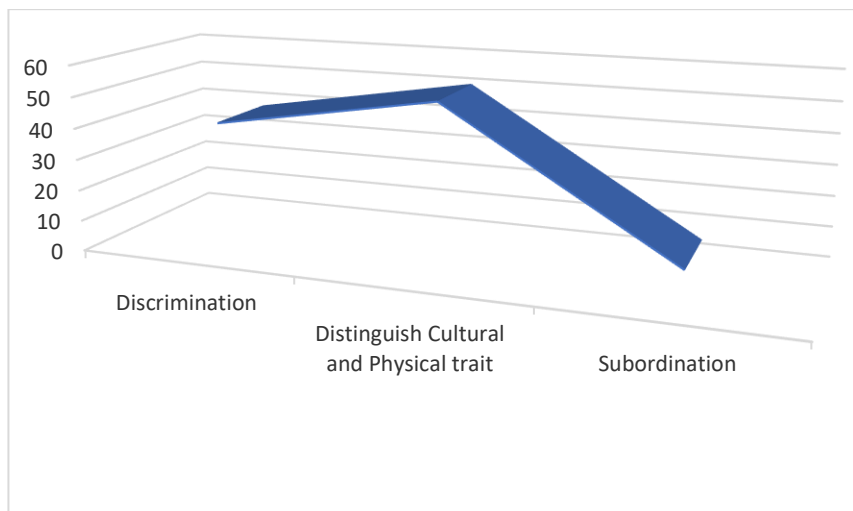
Category	Strongly Agree	Strongly Disagree	Total
Apolitical Strata	1.17 (35)	1.43 (18)	2.6 (53)
Minority Concept	1.32 (20)	1.61 (27)	2.93 (47)
Total	2.49 (55)	3.04 (45)	5.53 (100)

Note. The table is based on the data of the survey using chi square test, values in parentheses are in percentages. table value 2, df=1, P<0.05.

Let it take the hypothesis that the minority perspective of Santal women does not influence their apolitical stratum. On the basis of this hypothesis, the calculated value (5.53) of chi-square is higher than this table value, and hence the result of the experiment does not support the hypothesis (Table 1). it can be, thus, concluded that Santal women belong to the apolitical strata because of their minority perspective. Sociologist Louis Wirth (1945) defined a minority group as “any group of people who, because of their physical or cultural characteristics, are singled out from the others in the society in which they live for differential and unequal treatment, and who therefore regard themselves as objects of collective discrimination” (Tonja et al., 2021). Respondents were asked: do you think minority thinking is the reason for staying away from politics? The responses are taken by strongly agreed and strongly disagreed. Over 95 percent of minority interviewees cast ballots and engage in other political activities is crucial. Some of the interviewees who cast ballots stated that they had no interest in politics, despite the fact that this study links political interest

to political engagement. It is not possible to effectively prevent minority discrimination and promote political participation based on rights unless the minority is actively involved in the political decision-making processes that oversee the protection of minority rights. Therefore, the protection of other minority rights procedures may be significantly undermined in the absence of participation. This suggests that the group as a whole is beginning to feel this way (Bieber, 2003).

Figure 1: Opinion of Santal Women as a Minority Perspective

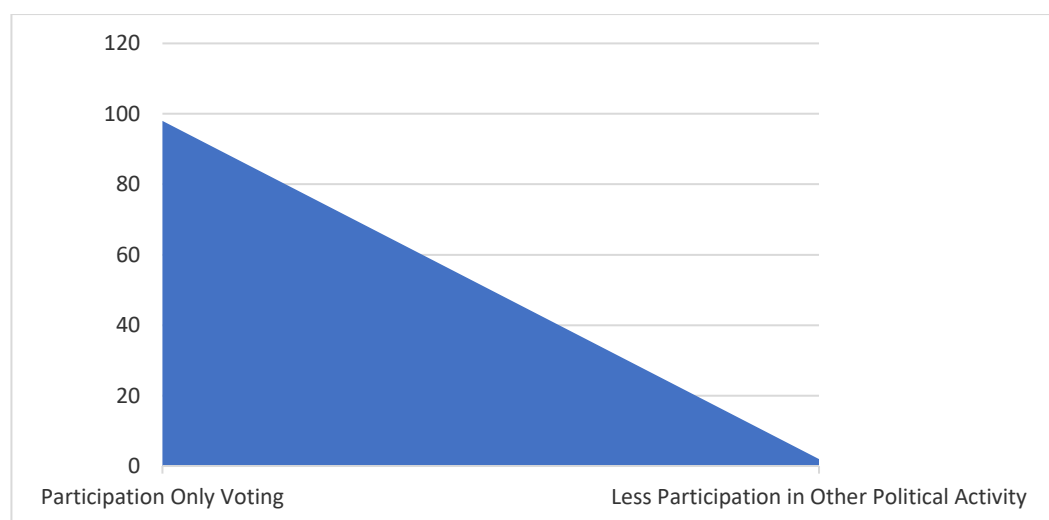


Source: The author analyzed the responses of the respondents

The Santals consider themselves a minority as they are less in number than the mainstream Bengalis. In sociological contexts, the terms “minority” and “subordinate group” can be used interchangeably to refer to groups that face discrimination, while "dominant group" is frequently used to refer to the majority group that holds sway over power and privilege in a given society. It is hypothesised that societal discrimination damages minorities' perception of themselves as “an integral part of the larger society,” which in turn makes them “believe that they are

incapable of taking meaningful action” (Oskooii, 2018). The defining feature of a minority or subordinate group is their lack of power. Figure 1 presents that 50 percent respondents said that Santal were discriminated against due to their physical and cultural differences. Cultural identity threats and economic well-being considerations are intertwined. The threat to one's cultural identity and financial security are the two areas where discriminant validity is becoming more acute. Bengalis have more influence, power, property, prestige, and position than Santals. 40% respondents said they get fewer facilities than the bengalis provided by the Union Parishad. Bengalis do not consider them neighbors and maintain social distance with them. They also have confusion about national and personal identity. Moreover, in women's empowerment, they are lagging behind than mainstream women because of which they consider themselves subordinate (10 percent respondents). For childmarriage and childbearing at a young age, supporting the family and household Santal, women stay away from politics.

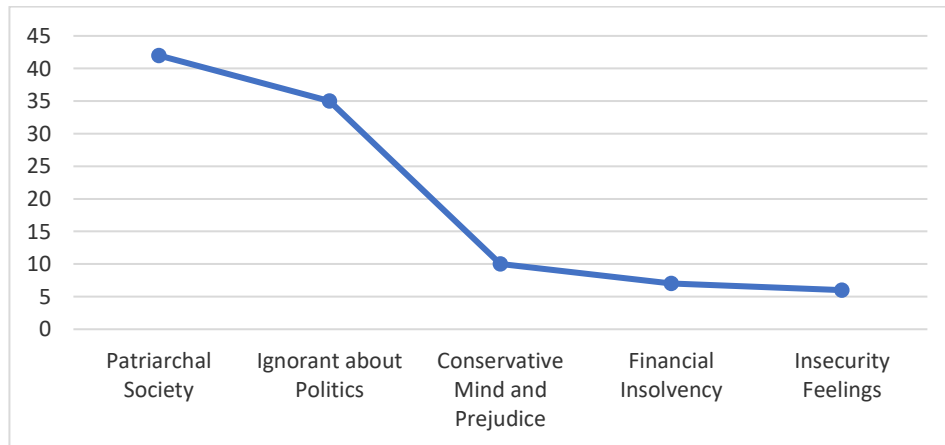
Figure 2: Symbolic or Effective Political Participation of Santal Women



Source: The author has analyzed the answers of the respondents

Studies have shown during the election campaign, women are conscious of the election. That is, women are encouraged to participate in yard meetings, watch election processions, and discuss election-related issues in their spare time. Members of ethnic minorities can engage in politics in a number of ways, such as by creating a political party, voting, running for office locally, participating in protests, or engaging in political discourse on social media and online forums (Carlisle & Patton, 2013; Marien, Hooghe, & Quintelier, 2010). But it is noteworthy that Santal women do not participate in any other political activity apart from elections. Figure 2 displays that 98% Santal women think political participation means only voting. It means that they do not participate in politics due to their awareness and sense of responsibility. They never discuss the current governmental system, the ruling political party, or the positive and negative functions of government which hardly indicates to effective political participation rather it refers to symbolic political participation. Only 2% respondents think that political participation is needed to establish and strengthen democracy. Santal women said that if we compete as representatives in the local government election, the local Bengalis will not vote for us. That is why, as an ethnic people, we lag behind in elections and politics. Low ingroup interests and low societal interests suggest marginalisation which suggests minority members want to avoid group-based politics rather than represent any political objectives or interests. For marginalised communities to have a better social standing, political engagement is essential (Pande, 2003; Petrussevska, 2009).

Figure 3: Factors Affecting the Political Stratum of Santal Women

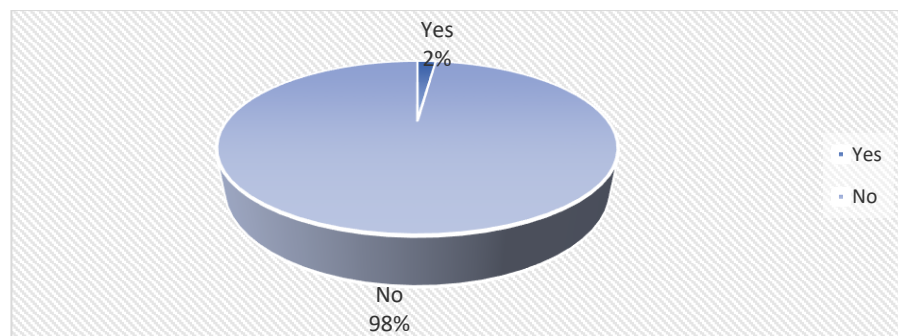


Source: The author analyzed the answers of respondents

Figure 3 illustrates that 42% respondents said, as Santal society is patriarchal, women are not independent, and the socio-political and economic attitude towards women very negative. Santal women remain inferior complexity because they cannot develop themselves. The political life of Santal women is influenced by the men of the family. Research have shown that 95% of Santal women vote on the advice of the head of the family. The women vote for the candidate preferred by the husband and father. Respondents (35 percent) said that women are not participating in politics. It refers that they are ignorant of politics and do not understand politics well. Respondents state that the main focus of politics is the exercise of power. Santal women have no interest in power and feel that they do not have the talent, qualifications and time required to be in power. Moreover, women are lagging behind due to a lack of courage in leadership. Santal women say that involvement in politics is time-consuming because the interests of the group and reciprocity need to be protected. Santal women prefer to devote more time to family rather than involvement of politics. The Santals of Bangladesh are not economically prosperous.

So, women are directly involved in the mode of production. Women are not economically self-sufficient, the importance of individual freedom decreases, so the needs of the family become the needs of women. Respondents express that if we work to improve economic solvency, the family will improve but will not benefit from political work. Also, women do not think of getting involved in politics because of the responsibilities of family and child rearing. 7 percent of the respondents think economic hardship is the reason for not engaging in politics. Santal women think women should not work outside the home because of their traditional mentality, history and culture. Due to a lack of proper education, many prejudices are prevalent among them. Lacking strength and courage, women prefer to hide themselves from everything. For this reasons, dependency works in everything for women. Studies have shown that 10% women uphold the prevailing prejudices in society. Women are indifferent about changing their status, they consider their social status as luck. Women avoid participating in politics because of insecurity (6% respondents). Santal women feel that there is no favorable environment to get involved in politics. Women are apolitical because they have no organizational skills. Women always treat themselves subordinate.

Figure 4: Political Socialization of Santal Women



Source: The author analyzed the responses of the respondents

Figure 4 displays that the socialization process usually starts at birth. Santal families do not spend money on the education of their daughters as they lack of economic independence. As a result, children are not socialized through educational institutions and peers. Remaining family conservative-minded women are encouraged to stay home and to do housework. Respondents enunciate that they understand politics only as voting, and Santal women never discuss various political issues or the government whereas a society educates newcomers about its culture in order to continue existing. A society vanishes if its way of life is not passed down to future generations. For a civilization to thrive, the things that make its culture unique must be instilled in new members. Children in the must acquire cultural values associated with democracy through political socialization. This includes learning how to use tangible items like voting machines and the customs around voting. They could pick up on these skills by observing their parents or guardians cast ballots or, in certain cases, by participating in student government elections using actual machines.

Conclusion

The study implies that Santal women are apolitical due to a lack of political knowledge, patriarchy, being conservative-minded, insecurity, and a lack of financial solvency. Santal women play an apolitical role for two reasons such as, firstly, they think that politics is not a good thing and involving politics is not for them, secondly, they become apolitical because of the exploitation and subordination mentality of the majority Bengalis. It is merely focused that Santal women have very little political knowledge because they have not been politically socialized. The research data show that political parties have no contact with Santal women. Hence,

they cannot participate in political activities like meetings where political issues are discussed constantly. Santal women do not get nominations from parties as elections are held on party symbols. As a result, their reluctance toward political participation increases. Therefore, their political participation is symbolic. Respondents said that politics does not attract them and that they have no desire to get involved in politics due to a lack of political socialization. Many women are never interested in discussing political parties, government, leadership, and elections. They only discuss voting during elections. For that, a culture should be developed to exclude the political participation of Santal women. Women should be given the responsibility of work which will make them confident. Women need to take an active role in policymaking and society needs to get out of the mindset that women can play subordinates. Then women play a role in decision-making. The state should consciously assess the diversity of women in Santal society. Women need strong willpower and a favorable work environment to succeed 'Our fate' concept.

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Assessing the Sustainability of Union Digital Centers (UDCs) in Northern Region of Bangladesh: A Study on Nilphamari District

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Abstract

This study aims to reveal the scenario of the sustainable status of Union Digital Center (UDC) in the Nilphamari district of Rangpur division. Both quantitative and qualitative methods have been used in the study following the Five Capital Model as conceptual framework. The total sample size is 360 comprising service providers, service receivers and managerial staff of the UDCs covering through survey method, observation method and in-depth interviews. The results show that UDC has already become a significant phenomenon for rural people for positive social impact. It significantly impacts the socio-economic environment in the study area by serving as a medium for ICT-based service exchange. However, other prospects like economic, natural, manufactured and human are not gained as per the expectation level. That's why; the sustainability of the centers is still far away. Proper human resource management, ICT accessibility, monetary allocation and MEAL could be integrated for establishing and strengthening the sustainability of the centers.

Keywords: *ICT, sustainability, Union Digital Center (UDC), service receiver, service provider etc.*

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Introduction:

Information and Communication Technologies (ICTs) have already become a significant phenomenon for socio-economic development in the world (UNESCO, 2004). It allows people to search for authentic information and communicate with others ensuring guaranteed benefits and 24 hours 7 days services (Bosamia, 2013). It has made the world a global village. It is now considered a driving force of sustainable growth all over the world (Farhadi, Ismail & Fooladi, 2012). Besides, it is now mitigating the digital divide and empowering the underprivileged community effectively through open accessibility, low cost and quality services. As ICT is the main driving force in today's world and development without covering rural community is questionable, the Government of the People's Republic of Bangladesh undertook a project to alter Bangladesh into a 'Digital Bangladesh' by the year 2021 to provide government services at the doorsteps of the rural grassroots people (Rahman, Islam & Ali, 2020). For this purpose, from November 11, 2009, Union Information and Service Centers (UISCs) currently known as Union Digital Centers (UDCs) were inaugurated in all unions across the country to provide information and convey government services to all citizens and ultimately to fulfill the desire of 'Digital Bangladesh'. These service centers were established by the Local Government Division of the Government with the help of the Access to Information (A2I) program, which is directly operated and controlled by the Prime Minister's office (Islam & Islam, 2018).

On the whole, the UDCs are serving successfully by delivering services to citizens' doorsteps and performing as a breakthrough towards achieving the goals of 'Digital and Smart Bangladesh'. The UDCs have enabled rural people access to needed information and essential services in rapid, cost effective and simple ways. Simply these are playing important roles in bridging the digital divide and giving the benefits of ICTs within the capacities of rural communities. As the final source of information and service delivery station, the UDCs' performance as a facilitator contrivance for ensuring sustainable development would be unparalleled (Rahman, 2016). Thus, identifying the factors affecting its sustainability is essential for the long-term sustainability and effective functioning of UDCs. This is what this research endeavors to do.

Statement of the Problem:

UDC is a place where all sorts of online government and commercial services are available for the grassroots people. It is based on ICT and the wider use of ICT in service delivery has improved the quality of service delivery and its access to the grassroots level. It also minimizes the gap arising from the digital divide. UDC reduces the distance between the people and the government by providing e-services to the public. Additionally, it is crucial to the establishment of the e-government framework, which would eventually accelerate excellent governance in Bangladesh. Thus, UDC was a strong and important initiative to implement Digital Bangladesh and which could confirm Smart Bangladesh Vision 2041. The centers provide more than 100 services to marginal people through ICT-based mechanisms at a very low cost ensuring a development-friendly environment. It has become a center of e-service delivery of various GO-NGOs across the country (Mahmud, 2022). The centers are operating through private-public partnerships with the help of UNDP. So, UDCs have enough potential to transform Bangladesh into a ‘Digital and further Smart Bangladesh’. But till now UDCs have been supported by the A2I project of the Government and so the question arises what will be the future of UDCs on completion of project duration? That is why this research intends to find out whether UDCs have roots to sustain in the long run. As understanding the sustainability of the UDCs is the significant focus, this study has tried to identify the potential of sustainability of the centers in the area considering social acceptance, financial viability, manufactured quality, natural structure and human resources.

Objectives of the Study:

The overall objective of the study is to find out the sustainable status of the UDC in the research area. Other specific objectives are as follows:

1. To evaluate the current operational status and functionality of the UDCs in the study area.
2. To identify the influential factors of sustainability of the centers in the long run.
3. To provide recommendations and policy implications for improving the sustainability and effectiveness of the centers in the respective areas of Bangladesh.

Research Methodology:

Both qualitative and quantitative methods have been followed in this research. Quantitative study like survey has allowed for taking information from service receivers and service providers and a qualitative approach has been taken to utilize the opportunities for discussions with managerial staff like ADC (ICT), UNO, AC (ICT) and UP Chairman capturing the insightful views of the respondents compatible with the purpose of the study. The researchers have selected the Nilphamri district under Rangpur division as the study area. The researchers have selected 30 UDCs purposively of the area due to the proximity, significance and effectiveness assessment considering the monthly performance report of a2i. The duration of data collection is May-September 2023. The total sample is 360. Among the respondents, 300 service receivers, 30 service providers and 30 managerial staff were selected using simple random sampling and purposive sampling respectively (10 service receivers, 1 service provider and 1 managerial staff from each center). Service receivers have been covered under the questionnaire survey; managerial staff and service providers have been covered under both questionnaire surveys with interviews and three in-depth interviews have been conducted with purposively selected responders for a qualitative picture of the issue.

Moreover, content analysis and participatory observation methods have also been used to watch the overall facts. The combination of the stated methods is intended to be used in this research to take advantage of their respective strengths and overcome the limitations of others. It also helps to reduce the bias of any single method. The combination of these methods is expected to be a reliable tool for the research because combined method enables us to explore, unravel and understand problems, issues and relationships (Aminuzzaman, 1991). Data has been processed and analyzed statistically with the tools of MS Excel 2007.

Literature Review:

Bangladesh is an overpopulous country and they are mostly concentrated in rural settings and urban slum areas, making it a developing nation. Union Digital Centers (UDCs) have been set up across the nation to provide access to both public and private e-services. It has gained popularity in effective service delivery at moderate quality, but service functionality is very low. It needs to ensure the provision of creative services for the improvement of the centers (Ovi et al., 2023). UDC is

considered as One Stop Shop (OSS) in Bangladesh. It has established to bridge between the community and government through ICT mechanism. However, it has not been able to make significant progress and innovations in e-service delivery due to manpower shortage, poor connection of electricity-internet and shortage of budget. Application-based services with proper power arrangement should be ensured (Bhuiyan & Abrar, 2023). It inspires the establishment of digitalized governance which plays a vital role in increasing entrepreneurship, economic development and quality of living. It creates employment opportunities, e-literacy and certainty, but increases the risk of data security and hacking (Amin, Rahman & Badhan, 2022). It provides quicker and smoother services to the community people at a limited cost. Females get various services from the centers, though they use less ICT than the male. It charges less (75%), saves time (72.5%) and makes life easier (77.5%) for them. Service quality assurance and capacity enhancement are required to ensure for gender based participation and engagement (Saha, 2022). UDC is considered the most potential to empower rural communities. However, poor people are taking limited services from the UDC and the marginalized people are far behind from the empowerment due to lack of proper engagement at the centers. An effective strategy should be implemented to empower the whole society (Hosen, Nur & Khatun, 2022). The center has tried to ensure e-service delivery to rural people at a minimum cost. People mostly visit the center for birth registration and citizenship certificates and they are mostly satisfied with the services. But service diversity, commitment and network should be ensured for more improvement (Hasan & Tipu, 2022). It tries to reduce social inequality among community people through easy accessibility, empowerment, quality service delivery and a cost-effective system. However, lack of awareness, conflict of job responsibilities with UP secretariats and weak networks are the main barriers to effective e-service delivery (Abedin et al., 2021). The centers are decorated with community-based modern services. It has become a channel for ensuring the decentralization of service delivery, strengthening LGI and empowering the community. It has been working to bridge the gap between rural and urban people and mitigate the digital divide across the country (Khadiza & Ullah, 2020). Information, delivery system and services of the centers affect citizen satisfaction and citizen participation is significant for ensuring the stability of the centers (Biswas & Roy, 2020). It provides information for commercial and government services to the rural people at a minimum cost. Lack of equipment and

manpower, slow internet speed and load shedding are the main obstacles to the sustainability of the center (Khatun, 2020). The social and financial success of UDC mainly relies on the contribution of various stakeholders like government, private groups, society etc. However, the private entrepreneur plays a critical role in establishing the sustainability of the respective center (Faroqi, Siddiquee & Ullah, 2018). The sustainability of UDC is a multi-dimensional cause-effect issue. Entrepreneur qualifications like professionalism and technical skill, Infrastructure like electricity and internet, Location like accessibility and availability of needed services and government intervention like governmental support and political will play crucial effect on the sustainability issue. It will be only possible when all factors ensure equal cooperation and participation (Manun & Begum 2018). People find very little interest in the Union Digital Center at Gaibandha, Narail and Chapainawabganj due to a lack of updated information, new service, poor internet & infrastructure and poor skills of entrepreneurs compared with the respective private centers. A huge improvement in the issues is essential for the reestablishment and sustainability of UDC (Nowrin, 2018). UDCs are working on mitigating the digital divide among marginal people in Bangladesh grounding on PPP aspects. However, the sustainability of UDC undergoes a critical process concluding several stakeholders. We need to restructure the organizational pattern between a2i and DCA, implement a single networked internet-based system, design the revenue-sharing model between the agency and DCA and enlarge social awareness for engaging woman entrepreneurs to ensure sustainability for UDC in Bangladesh (Sarker, 2017). Union Digital Center is accelerating Digital and further Smart Bangladesh's reflection on community people ensuring various services through PPP. However, the sustainability of the center is in danger except the government budget which is a crucial issue. It depends on innovation, mass contribution, proper maintenance and entrepreneurship. Community engagement, participation and acceptance are essential for the purpose (Sarker & Kim, 2017). To ensure the access of rural people to all government-non-government services through information and communication technologies, the government established UDC across the country. But the purpose is going to be threatened due to scarcity of skills manpower, management and opportunity. That's why; sustainability has become an inclusion of social and financial terms. The selection of the right entrepreneur, availability of modern service and proper delivery system are the prerequisites for ensuring the

sustainability of UDC in the country (TIB, 2017). UDC significantly contributes to mitigating the digital divide among rural people through the digital transmission of various services. However, it is going to lose its appeal due to the scarcity of service, infrastructure and other facilities nowadays. Authority needs to form new rules and regulations to ensure sustainable UDC all over the country (Faroqi & Siddiquee, 2017). Tele-center-based e-governance has been established to link the illiterate and poor rural people with the government. Service availability, accessibility, profitability and guarantee are influential factors for the sustainability of the centers. The satisfaction level of the service providers is only 20-30% (Reza, 2016). Most of the UDC entrepreneurs are earning very minimum profits and starting to think about their permanent future. Monthly income largely depends on the level of equipment and service provided by the government along with the entrepreneur. It also depends on the acceptance and participation of community people. To ensure the financial sustainability of UDC, all the factors associated with the platform must work jointly with complete diligence (Faroqi, 2015).

So, there are several types of research on UDC issues regarding services, qualities, and the e-governance role of it. However, there are a few numbers of studies that emphasize on sustainability of UDC. Nevertheless, most of the research is based on the southern and western parts of Bangladesh. There is no research on the sustainability issue of UDC focusing on the northern part of Bangladesh. That's why; researchers conducted the study focusing on the limitations of the issues.

Significance of the Study:

The government of Bangladesh has established the UDCs in rural areas and still is working diligently for the betterment of the community through this initiative and trying to service delivery at a very minimum cost. The centers are empowering rural people through ICT and bridging the urban-rural people across the country (Hosen, Nur & Khatun, 2022). Digital booths have garnered significant attention from researchers, prompting a substantial amount of research from multiple perspectives. However, the sustainability of the centers is still neglected and very few researches are available which focus partially on it. This research aims to assess the sustainability status with a focus on the socio-economic aspects of northern Bangladesh. The findings of this study will be valuable for academics, scholars, researchers, stakeholders, and policymakers.

Theoretical Framework:

There are various capital models on sustainability to measure the status of indicator namely the Three Capital Model (Radulescu et al., 2015), the Four Capital Model (Ekins, Dresner & Dahlstrom, 1992) and the Five Capital Model (Porritt, 2005) etc. This study has followed *the Five Capital Model of sustainability* as a theoretical framework considering the socio-economic perspective of Bangladesh. It was developed by Jonathan Porritt in 2003, co-founder of an NGO in England namely 'The Forum for the Future'. This model indicated five capitals namely financial capital, social capital, manufactured capital, natural capital and human capital etc. In this study, financial capital means income or profit in returns of investment, social capital means community acceptance & social indication, natural capital means working environment & infrastructures, human capital means skilled manpower & capabilities and manufactured capital means quality service and delivery system (Goodwin, 2003). It identified that sustainability can be established and strengthened through the effective presence of the capital of any organization. The equilibrium among the capitals is a prerequisite for maintaining sustainability in any society. Any priority to a special capital may affect others negatively. The capitals are closely interrelated to each other. So, the sustainability of any organization is not possible without maintaining a balanced effort among the different capitals (Mamun & Begum, 2018).

Data Analysis:

Demographic Information

The demographic characteristics of the respondents will help us to understand the overall features of the study sample. A frequency distribution of the respondents has been presented below:

Table 1: Demographic information of the respondents

Variables	Characteristics (Frequency & Percentage)			
	Categories	Service Receiver	Service Provider	Managerial Staff
Gender	Male	199 (66.33)	26 (86.67)	29 (96.67)
	Female	101 (33.67)	4 (13.33)	1 (3.33)
Age	10-20	36 (12)		
	21-30	131 (43.67)	8 (26.67)	
	31-40	78 (26)	20 (66.66)	4 (13.33)
	41-50	49 (16.33)	2 (6.67)	24 (80)
	51+	6 (2)		2 (6.67)
Profession	Students	104 (34.67)		
	Job holders	62 (20.67)	30 (100)	7 (23.33)
	Businessman	79 (26.33)		22 (73.33)
	Unemployed	39 (13)		

	Housewife	6 (2)		
	Farmer	10 (3.33)		1 (3.33)
Education	Illiterate	5 (1.67)		
	Class 8	69 (23)		2 (6.67)
	SSC	67 (22.33)		7 (23.33)
	HSC	72 (24)	7 (23.33)	7 (23.33)
	Honor's	50 (16.67)	14 (46.67)	10 (33.33)
	Masters	37 (12.33)	9 (30)	4 (13.33)
	Monthly income	0	39 (13)	
1-10,000		132 (44)	14 (46.67)	2 (6.67)
11,000-20000		69 (23)	9 (30)	4 (13.33)
21000-30000		60 (20)	7 (23.33)	8 (26.67)
30,000+				16 (53.33)
Service experience	7 days	86 (28.67)		
	1 month	32 (10.67)		
	3 months	55 (18.33)		
	6 months	44 (14.67)		
	1 year	83 (27.67)	30 (100)	30 (100)

In this study, the total number of participants was 300 from the service receiver's aspects. Among them, more than half, 199 (66.33%) of the participants were male, and the other 101 (33.67%) were female. The finding shows that the participants were aged between 10 to 50+ years. The majority 131 (43.67%) of the respondents were aged between 21 to 30 years, and 78 (26%) were 31 to 40 years. The other 36 (12%) were 10 to 20 years, 49 (16.31%) were 41 to 50 years and 6 (2%) were more than 50 years. As per occupational status, 104 (34.67%) are students, 62 (20.67%) participants are job holders, 79 (26.33%) are businessmen, 39 (13%) are unemployed, 6 (2%) are housewife and another 10 (3.33%) are farmer. In education, 37 (12.33%) have completed a master's Degree, 50 (16.67%) have completed honors, 72 (24%) respondents have completed HSC, 67 (22.33%) have completed SSC, 69 (23%) have completed class 8 and 5 (1.67%) are illiterate. In terms of income, 39 (13%) respondents' monthly income is zero, 132 (44%) beneficiary's monthly income is 1-10,000 TK, 69 (23%)'s monthly income is 11,000-20,000 TK, 60 (20%)'s monthly income is 21000-30,000 TK. In terms of service experience, 86 (28.67%) participants have 7 days of experience, 32 (10.67%) have months of experience, 55 (18.33%) have three months of experience, 44 (14.67%) have six months of experience and 83(27.67%) have one year experience.

From the service provider's aspect, the sample was 30. Among them, 26 (86.67%) were male and 4 (13.33%) were female. The majority 20 (66.66%) of their age were

31-40 years, 8 (26.67%) were 21-30 years and 2 (6.67%) were 41-50 years. As per occupational status, 30 (100%) participants are job holders. In education, 9 (30%) have completed a Master's Degree, 14 (46.67%) have completed honors and 7 (23.33%) were completed HSC. In terms of income, 14 (46.67 %) SPs have monthly incomes of 1-10000 TK, 9 (16.67%)' monthly incomes are 11000-20000 TK and 7 (23.33 %) SPs have monthly incomes of 21000-30000 TK. In terms of Experience in providing UDC service, 30 (100%) participants have more than one year of experience.

From the Managerial staff aspects, 29 (96.67%) respondents were male and 1(3.33%) was female. Among the managers of UDCs 4 (13.33%) were between the 31-40 year age groups, 24 (80%) were between 41-50 years and 2 (6.67%) were 50+ years old. Professionally, 7 (23.33%) respondents were job holders, 22 (73.33%) were businessmen and 1(3.33%) was farmer. Among them, 2 (6.67%) had completed class VIII, 7 (23.33%) passed SSC, 7 (23.33%) passed HSC, 10 (33.33%) completed Honor's degree and 4 (13.33%) completed Master's degree. In monthly income, 2 (6.67%) were in the range of 1-10000, 4 (13.33%) were in the range of 1100-20000, 8 (26.67%) were in the range of 21000-30000 and 16 (53.33%) were in the range 31000- 40000 TK. All of them had more than 1 year of experience in the centers.

Receiving UDC Service

How frequently the respondents receive the service of UDC in the study area was asked of the sample people. The response has been presented through a frequency distribution table below.

Table 2: Receiving UDC Service (SR)

Variable	Characteristics (Frequency & Percentage)	
	Yes	No
Regularly take the services of UDC	222 (74)	78 (26)
Necessary services related to IT from this center	190 (63.33)	110 (36.67)
Easy to get service from this service center	165 (55)	135 (45)

Table-2 shows that 222 (74%) participants were regular and 78 (26%) participants were irregular service receivers of UDC. Among them, 190 (63.33%) participants were getting the necessary ICT services while 110 (36.67%) were not getting the necessary ICT services. Moreover, 165 (55%) seemed easily get service and 135 (45%) had difficulty.

Service Diversity of UDC and Satisfaction Level of SR:

The service diversity of UDC and the satisfaction level of SR consider five measurement scales namely highly satisfied, satisfied, undecided, dissatisfied and totally dissatisfied. These measurements are categorized into two major and one minor indicators i.e. positive level- highly satisfied & satisfied, negative level- dissatisfied and totally dissatisfied and undecided respectively for data analysis.

Table 3: Service Diversity of UDC and Satisfaction Level of SR

Variables	Characteristics (Frequency & Percentage)					
	Quite Satisfied	Satisfied	undecided	Dissatisfied	Quite Dissatisfied	Ra Or
UDC's versatile services	51 (17)	141 (47)	18 (6)	89 (29.67)	1 (0.33)	10
SP's Behavior	70 (23.33)	151(50.33)	10 (3.33)	65 (21.67)	4 (1.33)	11
Service Costing	28 (9.33)	82 (27.33)	43(14.33)	127(42.33)	20 (6.67)	8
Internet Speed	6 (2)	62 (20.67)	45 (15)	123 (41)	64 (21.33)	72
Electricity Connection	25 (8.33)	223 (74.33)	3 (1)	42 (14)	7 (2.33)	11
IT Device Availability	13 (4.33)	97 (32.33)	63 (21)	124(41.33)	3 (1)	89
Infrastructure	20 (6.67)	200 (66.67)	14 (4.67)	62 (20.67)	4 (1.33)	10
SP's Working Speed	18 (6)	106 (35.33)	24 (8)	143(47.67)	9 (3)	88
UDC Present Condition	27 (9)	134 (44.67)	30 (10)	104(34.67)	5 (1.67)	97
Govt. Role in UDC	57 (19)	178 (59.33)	28 (9.33)	27 (9)	10 (3.33)	11
Role in Smart Bangladesh	24 (8)	122 (40.67)	97 (32.33)	49 (16.33)	8 (2.67)	10
Service Quality	39 (13)	126 (42)	44 (14.67)	85 (28.33)	6 (2)	10
Continuous Development	29 (9.67)	105 (35)	90 (30)	73 (24.33)	3 (1)	98

Table 3 shows the measurement of the satisfaction levels were mostly positive in center's versatile services (17% & 47%), SP's behaviour (23.33% & 50.33%), electricity connection (8.33% & 74.33%), infrastructure (6.67% & 66.67%), existing condition (9% & 44.67%), government role (19% & 59.33%), role in Digital Bangladesh (8 % & 40.67%), service quality (13 % & 42) and continuous development (9.67% & 35%); while they were in negative level in service costing (42.33% & 6.67%), internet speed (41% & 21%), IT device availability (41% & 1%), SP's working speed (47.67% & 3%) etc. According to the rank order, respondents have the highest satisfaction with the government's role in the center such as service provider's behavior, electricity connection, UDC infrastructure and service diversity while the lowest satisfaction is with internet speed, service costing, service provider's working speed, IT device availability, present condition and continuous development respectively.

Related Knowledge of SR:

The related knowledge of SR consider five measurement scales namely very good, good, medium, low and none. These are categorized into two main (Strong level- very good & good and low level- low and void) and one minor indicator-medium.

Table 4: Related Knowledge of SR

Variables	Characteristics (Frequency & Percentage)				
	Very Good	Good	Medium	Low	None
IT knowledge	29 (9.67)	72 (24)	74 (24.67)	41 (13.67)	84 (28)
Political participation	42 (14)	66 (22)	48 (16)	36 (12)	108 (36)
Usefulness of service	70 (23.33)	180 (60)	38 (12.67)	9 (3)	3 (1)
Sustainable supervision	LGI 72 (24)	Govt. 47 (15.67)	DC 52 (17.33)	UNO 92 (30.67)	NGO 37 (12.33)

Table 4 shows the levels were mostly lower in IT knowledge (13.67% & 28%) and political participation (12 % 36%); while the level was strong in the usefulness of the services (23.33% & 60%). Importantly, 92 of the respondents thought of effective supervision of UNO, 72 of LGIs, 52 of DC, 47 of government and 37 of NGO for sustainable UDC.

Skills of Service Provider:

The skills of SP consider five measurement scales namely very good, good, medium, low and none. These are categorized in two main (Strong level- very good & good and low level- low and none) and one minor indicators-medium.

Table 5: Skills of Service Provider

Variables	Characteristics (Frequency & Percentage)				
	Very Good	Good	Medium	Low	None
IT skills	15 (50)		15 (50)		
Training	1 (3.33)	24 (80)	2 (6.67)	3 (10)	
Daily service	6 (20)	2 (6.67)	4 (13.33)	18 (60)	
Political participation	1 (3.33)	18 (60)		4 (13.33)	7 (23.33)
IT knowledge	6 (20)	21 (70)	3 (10)		
Service diversity	2 (6.67)	13 (43.33)	15 (50)		

Table 5 shows the levels were highly strong in training (3.33% & 80%), political participation (3.33% 60%) and IT knowledge (20% & 70%); lowest in daily services (60%) and strong-medium in IT skills (50% & 50%), service diversity (6.67%, 43.33% & 50%).

Satisfaction Status of UDC focusing SP Aspects:

The satisfaction status of UDC focusing SP's aspects was calculated considering five measurement scales namely highly satisfied, satisfied, undecided, dissatisfied and totally dissatisfied. These are categorized in two main (Positive level- quite

satisfied & satisfied and Negative level- dissatisfied and quite dissatisfied) and one minor indicators-undecided.

Table 6: Satisfaction Status of UDC focusing SP Aspects

Variables	Characteristics (Frequency & Percentage)					
	Highly Satisfied	Satisfied	undecided	Dissatisfied	Totally Dissatisfied	Rank Order
Daily Income		8 (26.67)	1 (3.33)	19 (63.33)	2 (6.67)	76
Financial assistance for emergency needs		7 (23.33)		19 (63.33)	4 (13.33)	70
Internet speed		9 (30)		20 (66.67)	1 (3.33)	77
Electricity connection & supply	5 (16.67)	17 (56.67)		7 (23.33)	1 (3.33)	108
Work environment	10 (33.33)	15 (50)		5 (16.67)		120
Monthly income		11(36.67)	4 (13.33)	15 (50)		86
Political will in operation		11 (36.67)	6 (20)	12 (40)	1 (3.33)	87
Legal provisions in operation	3 (10)	8 (26.67)	7 (23.33)	12 (40)		92
Social acceptance	5 (16.67)	9 (30)	2 (6.67)	11 (36.67)	3 (10)	92
Relationship with LGI	4 (13.33)	12 (40)	2 (6.67)	11 (36.67)	1 (3.33)	97
Service receiver's behave	7 (23.33)	20 (66.67)		3(10)		81

Table 6 shows the satisfaction levels were mostly positive in electricity connection and supply (16.67% & 56.67%), work environment (33.33% & 50%), relationship with LGIs (13.33% & 40%), SR's behavior (23.33% & 66.67%); while the negative level was in daily income (63.33% & 6.67%), financial assistance during emergency needs (63.33% & 13.33%), internet speed (66.67% & 3.33%), monthly income (50%), positive political willingness (40% & 3.33%), legal provision (40%) and social acceptance (36.67% & 10%) etc. According to the rank order, respondents expressed their highest satisfaction for the working environment, electricity connection and supply, relation with LGI, Legal provision and social acceptance while expressed lowest satisfaction for financial assistance for emergency needs, monthly income, internet speed and service receiver's behavior respectively.

Attitude towards UDC of MS:

The attitude towards UDC of MS was measured focusing five measurement scales namely very good, good, medium, low and void. These are categorized into two main (Strong level- very good & good and low level- low and void) and one minor indicator-medium.

Table 7: Attitude towards UDC of MS

Variables	Characteristics (Frequency & Percentage)				
	Very Good	Good	Medium	Low	None
Regular visit to UDC	30 (100)				

Observation to UDC	16 (53.33)	13 (43.33)	1 (3.33)		
IT knowledge	1 (3.33)	7 (23.33)	15 (50)	4 (13.33)	3 (10)
Coordination skills	10 (33.33)	19 (63.33)	1 (3.33)		
Political participation	13 (43.33)	15 (50)		1 (3.33)	1 (3.33)

Table 7 shows the levels were mostly strong in regular visits (100%), observation (53.33% 43.33%), coordination skill (33.33% 50%) and political participation (43.33% & 50%); but mixed up mainly with strong-medium in IT knowledge (3.33%, 23.33% & 50%).

Satisfaction towards UDC of MS:

The satisfaction level towards UDC of MS considering five measurement scales namely quite satisfied, satisfied, undecided, dissatisfied and quite dissatisfied. These are categorized in two main (Positive level- quite satisfied & satisfied and Negative level- dissatisfied and quite dissatisfied) and one minor indicators-undecided for effective data analysis.

Table 8: Satisfaction towards UDC of MS

Variables	Characteristics (Frequency & Percentage)					Rank Order
	Highly Satisfied	Satisfied	undecided	Dissatisfied	Totally Dis satisfied	
Overall performance of UDC	16 (53.33)	12 (40)	1 (3.33)	1 (3.33)		133
Professionalism of SP	11 (36.67)	14(46.67)	4 (13.33)	1 (3.33)		125
Service receiving rate of receivers	12 (40)	18 (60)				132
Skills/efficiency of SP	11 (36.67)	14(46.67)	3 (10)	2 (6.67)		124
Public-private partnership	1 (3.33)	20(66.67)	6 (20)	3 (10)		109
Electricity connection-supply	6 (20)	21 (70)	1 (3.33)	2 (6.67)		121
Internet speed		13(43.33)	4 (13.33)	13 (43.33)		90
Political will and Legal system	2 (40)	15 (50)	1 (3.33)	2 (6.67)		77
Your role in UDC	15 (50)	15 (50)				135
Socio-economic reality	4 (13.33)	23(76.67)	2 (6.67)	1 (1.33)		120
Work environment	12 (40)	16(53.33)	1 (3.33)	1 (3.33)		129
Government role	13 (43.33)	13(43.33)	1 (3.33)	3 (10)		126
Financial management system		21 (70)		9 (30)		102
Financial assistance during emergency	11 (36.67)	8 (26.67)	1 (3.33)	10 (33.33)		110

Table 8 shows the satisfaction levels were mostly positive in the overall performance of the centers (53.33% & 40%), SP professionalism (36.67% & 46.67%), service receiving rate (40% & 60%), skills of SP (36.67% & 46.67%), partnership pattern (3.33% & 66.67%), electricity connection and supply (20% & 70%), political will and legal system (40% & 50%), personal role (50% & 50%), socio-economic reality (13.33% & 76.67%), work environment (40% & 53.33%), government role (43.33% & 43.33%), financial management system (70%) and financial assistance during an emergency (36.67% & 26.67%); but mixed up mainly with positive-medium-

negative in internet speed (43.33%, 13.33% & 43.33%). According to the rank order of the managerial staffs' satisfaction level, the MS are mostly satisfied with their role in UDC, the overall performance of UDC, service receiving rate and the working environment while they express less satisfaction to political will, internet speed, financial management, emergency financial assistance and PPP respectively.

Sustainability of UDC:

The sustainability of UDC was measured through service diversity, budgetary allotment, service quality, privatization, and foreign aid through NGOs etc.

Table 9: Sustainability of UDC

Variable	Characteristics	Frequency	Percentage
How can UDC be sustainable?	Service diversity	108	30
	Budgetary allotment	77	21.33
	Service quality	108	30
	Privatization	43	12
	Foreign aid through NGO	24	6.67

The result shows in Table 9 that a substantial portion of respondents, 108 (30%) endorsed the idea of sustainability through diversification of service, 77 (21.33%) emphasized the importance of budgetary increase, 108 (30%) highlighted the significance of service quality, 43 (12%) favored for privatization and 24 (6.67%) expressed support by foreign aid through NGO as the prerequisite to the sustainability of UDCs.

In-depth interview 1

Samira khatun, 28 years old, works as teacher of a government primary school at study area. She has been receiving various services from the UDC since 2012. She has known about it from her teacher. She has taken help from the center in education, recreation, job searching etc. She has received various results and job information from the centers. Even now the center has become a part and parcel of her daily life. She feels safe and informed using the center. She has got various operational training on social media sites, internet browsing and computer applications. Other girls from her community visit and take services from it. It has become an important center for the socio-economic development of the area. She expressed moderate satisfaction while asking the service she gets from the center. She said ‘I have got the birth registration certificate, result and mark sheet, passport application and land-related services from the center. I inspire others to visit the center to get various services at

a low cost. People regularly visit the center and are satisfied with the centers. But load shedding and poor internet connection disturbs regularly.’ She emphasized the government involvement in the UDCs permanently.

In-depth interview 2

Aminul Islam, 32 years old, has been working as a service provider at a UDC of Nilphamari since 2010. He has vast experience in the process of establishing and strengthening the center as a one-stop door service for the people of diverse background. The center as well as SP has got popularity in society. It has solved the unemployment problem of the SP and approached a partnership with the government. But various preconditions like electricity, internet, income, partnership patterns and other mechanisms are not in satisfaction level according to him. He has been suffering from the insecurity of job placement and the future of the center. Improvement of service quality with diversity, proper advertisement, budgetary allocation and effective supervision could contribute in ensuring sustainability of the center in society after the completion of the project of government. He said, ‘The government has implemented the UDC under the a2i project through PPP mechanism. It has become an excellent center for establishing and strengthening communication among community people, LGI and the government digitally. We’re working hard to serve the people with ICT mechanisms. Community people are satisfied with the mechanism. But we don’t get much salary and benefits from the job. Even, electricity, internet and device are not in moderate condition. It’s now become a concerning issue. The government should include budgetary allocation for us and identification should be ensured.’

In-depth interview 3

Nur Mohammad, 46 years old, is a member of a union parishad of the research area. He has been carrying out the supervision role of UDC for 2.5 years. He considers the center as a store house of various GO-NGO services with digital mechanisms. He assured that it has decreased the gap between the privileged and underprivileged people by ensuring equal accessibility for all. He regularly visits the center and watches users’ happiness in taking services. He always tries to provide sufficient support to the SP with the consultation of officials. However, he is concerned about the existence of UDC in the long run. Inadequate distance coverage, lack of modern ICT mechanisms, budgetary allocation and insufficient emergency support are the main obstacles to the prospects. A new policy with proper socio-economic effort is

essential for the betterment of the centers. Addressing the usefulness of the center, he added, ‘The UDC is serving the community with various services through ICT mechanism at a very low cost. It has decreased the gap between people and representatives. It has also decreased the workload and suffering for us. However, the procedure needs to be modified for the betterment of the centers. Proper arrangement of modern equipment, partnership, decentralization and budgetary allocation should be ensured for the betterment of the centers.’

Discussion:

Union Digital Center (UDC) has become an integral part of community development. A recent report shows that there are 4554 UDCs across the country and provided 150 public-private services to the people. The entrepreneurs of the centers have earned \$32.95 million. Almost 2.1 million online registrations of prospective migrant workers have been completed, 4 million citizens are involved in M-Banking, 0.29 million citizens are enrolled in life insurance, 367 million services are provided and 75 million birth registrations are completed through the UDCs (a2i, 2022). Faroqi indicated that the financial sustainability of the UDC depends on the various capitals. Monthly income is a big factor in this aspect. But it is a composed result of the interrelated indicators like entrepreneurs skills, ICT mechanism, social acceptance, partner’s contribution and service delivery frequency etc. Most of the entrepreneurs don’t have an effective attachment (participation, contribution and monitoring etc.) to the mechanism and it affects their overall performances. Financial visibility has become a major concern for the future of the center due to its backwardness (Faroqi, 2015). This study shows the financial instability of the centers. It indicates that most of the visitors (55.67%) age is below 30 years, 47.67% are student and unemployed, 71% are HSC or below educational qualified and 57% earns less than 10,000 taka per month. That’s why, only 36.66% of respondents are satisfied with the service costing of the centers. But Most of the service provider (76.67%) earns less than taka 20,000 per month, only 26.67% are satisfied with their daily income, only 36.67% are satisfied with their monthly income and only 23.33% are satisfied with the emergency fund mechanism. Most of the indicators of financial aspects remark a negative status of the centers. Sarker & Kim stated that social status is crucial for the sustainable UDC in the local area. UDC has already established and strengthened rural ICT based connective society.

But rural people are not satisfied with the service cost as they think it is cost free or government service. Moreover, female entrepreneurs are neglected to work day long at the centers for socio-economic constraints (Sarker & Kim, 2017). Mamun & Begum found that social viability is significant for the aspects. Almost 50% people highly and 35% people moderately accept the UDC. But 85% service providers seek other job due to the uncertainty and pure stability of the centers (Mamun & Begum, 2018). This study reveals that UDC has already grasped the community attention through various easy and useful services. Most of the responders (74%) regularly visits the centers and satisfies (90%) with the service providers intervention. It has become a center of hope and aspirations to 83.33% responders. They are also satisfied with the government role (78.33%) and LGI relation (53.33%) with the centers. So, it has become a major tool for the fulfillment of Digital Bangladesh for the rural people. Mamun identified that human capital is prominently significant for ensuring sustainability to the UDC in local area for a long run. Various qualities like education, skills, trainings, IT knowledge, experience and professionalism are the main aspects of an effective center. It computes the overall service delivery and service receivers satisfaction. Mass people are found a little reluctant with the lacking of service providers in some areas (Mamun, 2018). This study indicates some unique issues of the UDCs focusing human capital. The UDC personnel especially service providers are educated, experienced, skilled, trained and IT knowledgeable. Most of the responders (73.66%) are satisfied with the SP behavior and electricity connection (82.66%). But the ratio of satisfaction in internet speed, IT machine and SP work speed are respectively 22.67%, 36.66% and 41.33%. Though the outrage of the center has multi-dimension, the inner has various shortages.

Islam & Rahman found that though UDC plays pioneer role in removing digital divide among the countrymen, it has a little future prospects. LGI personnel try to influence the activities of the centers from the socio-economic perspective. The centers are losing entity and objectivity due to lack of the accountability (Islam & Rahman, 2020). Sarker stated that UDC follows numerous policies focusing private-public partnership pattern of e-service delivery to empower community people through ICT mechanism. But effective management of the centers is still in dilemma because of the lack of basic rules and regulations (Sarker, 2017). The result of the study shows that most of the people (73.34%) are satisfied with the UDC structures,

while 53.67% are satisfied with the exiting status. Moreover, most of the service providers (83.33%) are satisfied with the work environment, 44.67% are with the continuous development of the centers. Hoque found that community people positively consider UDC as a major tool for establishing and strengthening e-governance in Bangladesh. It also signs to remove digital divide and sustains good governance (Hoque, 2020). Biswas & Roy added that service delivery system and service quality affects community satisfaction significantly (Biswas & Roy, 2020). This study finds that UDC is working continuously through community satisfaction. Most of the people (64%) are satisfied with the diversity of services, while 63.33% people are getting essential ICT service from the centers and 55% are fully impressed. Even though, most of the LGI (93.33%) are satisfied with overall performance, visited (96.66%) the centers regularly and considered as a strong administrative addition (90%) for socio-economic reality. So, it is clear that overall sustainability of the UDCs is in a moderate status. Though social sustainability is moderate, others likely financial, natural, manufactured and human etc. are not in a satisfactory level due to the socio-economic backwardness, lack of professionalism, lack of ICT machinery, lack of monetary support and absence of MEAL mechanism. Service diversity, professionalism, modern technology, effective partnership and community engagement should be ensured to strengthen the sustainability of the UDCs in the study area.

Limitations of the Study:

The research has focused and is based on only 30 UDCs of the district. Due to budget, time and resource constraints, it was not possible to cover other Districts in Bangladesh. A total of 360 respondents were considered for a survey and a limited number of respondents were considered for in-depth interviews. Shortage of necessary literature such as relevant books, journals and written documents in various libraries and educational institutions regarding this issue was another limitation of this research. Moreover, few respondents did not want to answer the whole question eagerly, because they were busy with professional and routine work.

Conclusion:

ICT services to the common peoples by UDCs are playing the key role for inclusive development. UDC initiatives, by using ICTs, attempt to reduce cost, optimize

efficiency and effectiveness, make government more accountable and transparent, reduce the scope for corruption, and so forth. UDC essentially helps to reduce the gaps by increasing the capacity for both the government and other stakeholders by facilitating strong communication among them with the help of ICT. Various studies show that UDCs are playing a significant role in establishing and strengthening a network between government and rural people through ICT-based service delivery. It's also reducing the gap between rich and poor sharing a common platform for all and mitigating the digital divide across the country. It has already become a center of hopes and aspirations for the people. Having huge potentiality to serve common people how long it will be sustained is the main concern in this study.

The result of the study shows that UDC has gained immense popularity among rural people for its usefulness. It seems as a prerequisite for the sustainable socio-economic development of a society. People visit the centers regularly for various services on social, financial, political, economic and cultural aspects. The center has already got a social identity as a positive indicator of development for the rural people. However, the sustainability of the center depends on various socio-economic indicators focusing *Five Capital Model*. The center has earned the highest social capital highly but other capitals like manufactured, natural, financial and human gained moderately. That's why the sustainability of the centers is still far away considering the existing environment. It will be possible to improve service delivery, service quality, skilled manpower and participatory partnership under government supervision. It'll be more fruitful and effective if we can ensure the sustainability of the center.

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Citizens' Perception on Service Quality: A Study in Rangpur City Corporation (RpCC)

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Abstract

Background and Problem Statements: Citizens' satisfaction with public services is a growing concern for urban governments. Rangpur City Corporation (RCC) in Bangladesh provide a range of services, from licenses to utility supplies. However, the perceived quality of these services is critical to the livability and quality of life in the city.

Objectives: This study investigates the citizen perceptions of service quality provided by the Rangpur City Corporation.

Method: The study employs a cross-sectional design with a mixed-method approach. A questionnaire survey using a 5-point Likert scale was administered to 528 residents across 33 wards. Secondary data were collected from various sources. Quantitative data were analyzed using SPSS software.

Summary of Key Findings: Findings indicate moderate to low satisfaction with the city corporation's services. Online services and cost-effectiveness received the highest positive perceptions, while accountability and freedom from corruption ranked lowest. In terms of utility services, drinking water and city lighting were viewed favorably, whereas traffic, public transport, and waste disposal were seen as areas needing improvement. The infrastructure and security services were also scrutinized, showing dissatisfaction with consumer rights protection and law-and-order, while digital service delivery was seen positively. While educational services were regarded well, the handling of environmental issues and health services, particularly in response to the Coronavirus, had varied levels of satisfaction.

Contributions and Implications: This study underscores the need for Rangpur City Corporation to focus on improving accountability, transparency, efficiency, and citizen engagement. Enhancing traffic management, public transportation, waste disposal, and environmental protection should be prioritized. Such improvements are vital to meet the growing demands of the urban population and to ensure a higher quality of life in Rangpur City.

Keywords: Rangpur City Corporation, Citizens' Satisfaction, Public Services, Urban Governance, Service Quality.

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Introduction

In Indian sub-continent, the urban local governments have been in existence for centuries. Bangladesh inherited urban local government systems from British and Pakistani rule and had undergone various reforms over time, shaping the urban local government systems similar in many ways to that of India and Pakistan as these three countries share same history (Panday, 2017). Bangladesh has urban local government institutions made up of 328 municipalities and 12 city corporations. (LGED, 2019; (Muzzini & Aparicio, 2013). Rangpur City Corporation, located in the northern areas of Bangladesh, established in 2012 is one of the fastest growing City with approximately 800000 people, encompassing around 205 square kilometers of areas, and running under an elected Mayor, with another 33 elected councilors from each of the wards (Taher & Asad, 2017; RPCC, 2022). However, City Corporations are responsible for providing public services including the development of infrastructural facilities, different utilities, and other services to the urban people (Mujeri & Singh, 1997). At present, 56% of world populations lives in urban areas and by 2050 more than 66% of world populations will live in urban areas as estimated (World Bank, 2023; Hara et al., 2016).

Providing public services and ensuring people's satisfaction are among the major challenges of urban government, particularly for Rangpur City Corporation. This is a result of the urban population's increasing demand for essential public services, which is causing a growing sense of frustration with each passing day (Hasan et al., 2021). The Rangpur City Corporation provide a wide range of public services including providing licenses and certificates, providing building design, supplying water, maintaining cleanliness, health and hospital services, security services, street lighting and many more (RPCC, 2022). However, the quality of

these services is needed to be measured as low-quality services and citizen perceptions towards them are significantly related to the issue of livability in any city and consequently affect the quality of life to an extent in the long run (Afroj et al., 2021). This measurement must include what are the citizens' views on the service quality issue as their opinions towards such urban public services and their experience of well-being are often overlooked, even though their voices are crucial to address psychological aspect of life quality as well as subjective well-being of the society (Ameen & Mourshed, 2019; Das, 2008). Moreover, it is crucial to acknowledge the public's awareness and the genuine intention of service providers to improve their reputation by ensuring the quality of the services they offer (Vázquez, Gutiérrez & García, 2005). Considering this rationale, this paper aims to analyze the citizen perceptions regarding the quality of services provided by the Rangpur City Corporation.

Objectives of the Study

Overall Objective:

This study aims to analyze the perception of the citizen regarding the quality of services provided by the Rangpur City Corporation.

Specific Objectives:

Based on the overall objective, some specific objectives are drawn. These are:

- To analyze the attitude of the citizens towards the utility of services provided by Rangpur City Corporation.
- To evaluate the perception of citizen regarding the infrastructure and security development of Rangpur City Corporation.
- To assess the quality of specific services such as environment, health and education services of Rangpur City Corporation.

- To suggest ways of improving the quality of services of Rangpur City Corporation.

Literature Review

Citizen's satisfaction refers to the degree of positive attitude of the citizens regarding particular service and it is portrayed by the perception of the citizens. Similarly, satisfaction level of the citizens indicates the service quality of the urban governance (Alkrajji & Ameen, 2022). Therefore, Citizens' perception on the quality of services provided by the urban governments is considered as an important factor in terms of evaluating both government performance and citizen satisfaction and loyalty (Lanin & Hermanto, 2019). A book published by OECD (2012) stressed that perception surveys can measure and demonstrate improvements of public service quality over time. Another OECD (2013) document stated that perception data is widely utilized by government organizations to assess citizens' experiences and gather their opinions on the services they receive. This information helps public managers identify key factors affecting satisfaction, monitor the effects of reforms, understand their customer base, and gauge overall government performance. Currently, tools and mechanisms to measure and improve service quality based on citizen feedback are being applied, such as Canada's "common measurement tool" and Italy and France's "quality barometers," including continuous feedback panels for major life events in the French government.

There are several studies that have been conducted on the issues citizens' perceptions about the quality of services provided by the urban governments of different countries around the world. For instance, a study finds that 22 countries of Americas, 21 Latin countries and the United States of America, have average

citizens' satisfaction with urban services is 50.13 out of 100 possible points, where Brazil, Dominican Republic and Ecuador have the highest degree of satisfaction with municipal services in the region with 58.2, 56.9, and 52.3 points, while Belize, Haiti and Jamaica have lowest degree of satisfaction with 39.6, 39.5 and 37.0 points respectively. As for the United States of America, the citizens' satisfaction score is 53.6 (Montalvo, 2009). Clifton et al. (2022) emphasized the importance of considering citizen attitudes and perceptions in evaluating public policies and service provision, offering insights for public services and evaluation of government policy and public services, after analyzing the relevant papers covering diverse public service contexts of different countries including Countries of European Union, Hong Kong, Australia, and Chile. A study conducted in Guayaquil City of Ecuador revealed that the policies exercised by the urban government officials influences the citizens' perceptions and their level of satisfaction and loyalty. The study also found that several urban services related to security, environment, public lighting and sport services are needed to be improved for positive citizen perceptions (Rico et al., 2022).

Chen et al., (2010) studied two Chinese Cities namely Phoenix and Xiamen and finds both cities need improving its social public services including eldercare, poor and homeless supports, and housing. However, Phoenix faces heightened challenges in public safety and public transportation, while Xiamen grapples with the necessity of addressing government reform issues, including enhancing government practices, and curbing corruption (Chen et al., 2010). Studying Hong Kong smart city development in 2021, Lai and Cole (2022) find that citizens' trust in the public authorities, related to the public acceptability, is of key importance in

ensuring an effective public policy, the embrace of technologies, and thus successful smart city development.

In Malaysia, majority local government employees and citizens have positive perceptions on the quality of public services provided by the both urban and rural local governments, agreeing that local government services are customer-oriented and effective. However, this study finds some areas of services needed to be improved such as parking area management and drainage system maintenance. In addition, though employees of local governments are fully satisfied with the quality-of-service management, while citizens have high levels of satisfaction, not full satisfaction, indicating that there are some areas of improvement in service quality management by Malaysian local governments to boost their satisfaction level (Manaf et al., 2023).

As for Bangladesh, Mahmud (2021), studying all 12 city corporations, found that citizen satisfaction on quality of services provided by the City Corporations is low, indicating negative citizen perceptions toward service quality. Rahman (2022) finds poor level of citizen satisfaction with the services mentioned in Citizen Charter and provided by Mymensingh City Corporation. Most of the respondents did not receive services in accordance with the Citizen Charter. Moreover, his study finds significant influence of Time, Cost and Visits (TCV) with poor citizen satisfaction level. A CPD (Centre for Policy Dialogue) study found that urban local government institutions, both City Corporations and Municipalities, suffered from lack of financial resources, autonomy, skilled labor, citizens' participation, accountability mechanisms and quality of services. To overcome these challenges, ULGIs needed to improve their institutional and administrative capacities, enhance their own-source revenue generation, ensure

citizens' involvement and voice, and strengthen their accountability and transparency (Bhattacharya et al., 2016).

A study conducted on Dhaka North City Corporation (DNCC) finds that citizens are moderately satisfied (63.3%) with urban public services aggregately. However, Ward 3, Ward 4 and Ward 31 are in an unprivileged state in terms of municipal services, though the locational characteristics are uniform among the study areas. The facilities of public toilet, parking, and disaster management activities of DNCC are not satisfactory (Afroj et al., 2021). As for Dhaka South City Corporation (DSCC), the service quality is not satisfactory and needed to be improved (Islam et al., 2019). In Rajshahi City Corporation, citizens have higher levels level positive perceptions and citizen satisfaction for street lighting, road network, waste management system and water supply respectively, but they are dissatisfied with the unchanged condition of Katcha Bazar, recreation and community centers (Faridatul and Jahan, 2014). The citizens living in Sylhet City Corporation area are dissatisfied with most of the public services, especially with mosquito prevention and waste management, leading them to avail paid private waste management service (Ahmed, 2011).

The review of existing literature on urban public service quality indicates that multiple studies have explored the public services provided by urban local governments in different countries. Similarly, in Bangladesh, a few studies have delved into the public services and the way citizens perceive their quality within various city corporations. However, it is noteworthy that Rangpur City Corporation has not been a subject of research when it comes to citizen perceptions of public service quality, this gap has been addressed in this study.

Methodology

Research Design and Method:

This research was conducted by following cross sectional study design as it is better suited for conducting social research within a limited time (Setia, 2016). Researchers applied a mixed method approach, a combination of both quantitative and qualitative methods, in this study (Creswell, 1999).

Study Area:

The study has been carried out in Rangpur City Corporation with 33 wards, having nearly 800000 people (RPCC, 2022). These 800000 City Dwellers are the population of this study.

Sample and Sampling Technique:

From the population, a total of 528 city dwellers were selected by using purposive sampling technique, a proper method to collect data on emerging issues and relatively new topics (Acharya et al., 2013; Sekaran and Bougie, 2016). Note that, the researcher ensures the equal distribution of samples for all 33 wards of Rangpur City Corporation. In addition, the researcher prioritized the people who have long experience of living in the city.

Data Collection Technique and Tools:

For primary data collection, 16 respondents from each of the 33 wards comprising a total of 528 people of the sample were surveyed with a close-ended questionnaire, prepared by using 5-point Likert scale. Questionnaire surveys are widely applied in social science research nowadays (Croasmun and Ostrom, 2011). This sample size is appropriate for the study, as according to Nunally (1978), 400-

500 samples are appropriate, if one wants to select the best variables from as many as 10 possible ones. For this research, secondary data were collected from reliable sources such as articles from peer-reviewed journals, books, reports and different government and non-government documents.

Data Analysis Tools:

To analyze the quantitative data, Social Science Statistical Package (SPSS) version 28 was used in this study. To check consistency and normality of the questions under each variable, a reliability test has been performed, where Cronbach's alpha point is above 0.7 (Nunnally, 1978). The researcher ran descriptive analysis for summarizing the demographic information of the respondents and perception score of each factor of service quality using 5-point Likert scale, where 1 means the most negative perception and 5 means the highest positive perception regarding service quality provided by Rangpur City Corporation. The secondary data were gathered, coded, and analyzed on the basis of study variables and keywords.

Ethical Consideration:

Both written and verbal consent from all participants in the study were obtained to allay any ethical issues. They were assured that their data would be kept private and used only for research purposes.

Findings and Analysis

Demographic Variation of the respondents

In this study, the demographic profile of the participants is predominately male (68.6%) with a lesser representation of females (31.4%). A significant

proportion of the respondents are within the 26-35 age bracket (28.2%), followed by those aged 36-45 (26.1%).

Table 1: Demographic Information of the Respondents

		<i>Frequency</i>	<i>Percent</i>
<i>Gender</i>	Male	362	68.6
	Female	166	31.4
<i>Age</i>	15-25	86	16.3
	26-35	149	28.2
	36-45	138	26.1
	46-55	113	21.4
	Above 55	42	8
<i>Occupation</i>	Agriculture	63	11.9
	Employee	158	29.9
	Business	140	26.5
	Student	98	18.6
	Others	69	13.1
<i>Educational Qualification</i>	Primary	39	7.4
	Lower Secondary	50	9.5
	Secondary	83	15.7
	Higher Secondary	141	26.7
	Graduate/Postgraduate	215	40.7
<i>Duration of Residence</i>	2-5	49	9.3
	6-9	16	3
	10-13	76	14.4
	Above 13	387	73.3

Participants engaged in employment constitute the largest occupational group (29.9%), with business owners also representing a substantial segment (26.5%). Regarding educational attainment, the majority hold graduate or postgraduate qualifications (40.7%), indicating a highly educated sample. In terms of the duration of residence, an overwhelming majority (73.3%) have been living in their current location for over 13 years, suggesting a population with stable residential patterns. These demographics provide a contextual backdrop for the study, allowing for a nuanced understanding of the research findings in relation to gender, age, occupational engagement, educational levels, and stability of residence within the community.

Perception of Citizen towards service quality

Table 2: Perception of Citizen toward Service Quality of Rangpur City Corporation (N=528)

Citizens' Response	Minimum	Maximum	Mean	Std. Deviation
Citizen services provided by city-corporation are good and quality	1	5	3.08	1.178
Corporation provided online and digital services are satisfactory	1	5	3.23	1.104
Corporation providing citizen service at a low cost	1	5	3.16	1.100
City-corporation provides citizen services in a short time	1	5	2.87	1.120
There is no need to go through bureaucratic complication to get citizen services	1	5	2.55	1.220
Rangpur City Corporation is corruption free	1	5	2.21	1.128
Citizens have an opportunity to participate in the decision-making process of the city-corporation	1	5	2.58	1.140
City-corporation informs the citizen about its future activities	1	5	2.58	1.138
City-corporation properly maintains citizen's charters	1	5	2.84	1.063
City-corporation keep itself regularly accountable to the citizens for its activities	1	5	2.15	1.035

From the data, it can be inferred that the citizens' satisfaction with the city corporation's services is moderate to low across various parameters. The highest mean score, 3.23, corresponds to the citizens' perception of the provision of online and digital services, which suggests a moderately positive response, indicating that such services are likely considered accessible and up to a satisfactory standard. The second highest mean, 3.16, is related to the city corporation providing services at a low cost, which suggests that citizens somewhat agree that the services are cost-effective.

Conversely, the lowest mean score is 2.15, which relates to the city corporation keeping itself regularly accountable to the citizens for its activities. This indicates a tendency towards disagreement, implying a significant concern about the corporation's accountability. Similarly, the perception that the Rangpur City Corporation is corruption-free has a low mean score of 2.21, highlighting concerns about corruption. The citizens' response on the corporation providing services in a short time (mean = 2.87) and the statement about there being no need to go through bureaucratic complication to get services (mean = 2.55) are below the neutral point, indicating dissatisfaction with the efficiency and complexity of service delivery. In terms of citizen involvement, the scores are moderately low (mean = 2.58 for both the opportunity to participate in decision-making and being informed about future activities), which suggests that citizens feel only somewhat included in the governance processes.

The standard deviation values are relatively consistent, ranging from 1.035 to 1.228, with the lowest deviation associated with the maintenance of citizen's charters and the highest with the need to go through bureaucratic processes. These values indicate that there is a moderate spread in opinions among the respondents, but not a significant variance, suggesting that the citizens of Rangpur City have relatively homogenous views regarding these aspects of city corporation services.

Overall, the data portrays a city corporation that is making strides in certain areas, such as digital services and cost management, but is perceived as needing improvement in accountability, transparency, efficiency, and engagement with its citizens.

Perception of Citizen toward utility of service

Table 3: Perception of Citizen toward Utility of Service of Rangpur City Corporation (N=528)

Citizens' Response	Minimum	Maximum	Mean	Std. Deviation
The traffic system (Traffic jam) of the city is developed and people friendly	1	5	2.95	1.168
Public transport system of the city is advanced and people friendly	1	5	2.84	1.185
Urban communication system (Roads) is developed and standardized	1	5	3.09	1.192
Urban waste and garbage disposal system is developed and people friendly	1	5	2.66	1.187
There is no shortage of iodine free drinking water in the city	1	5	3.41	1.198
There is adequate lighting in the city at night	1	5	3.68	1.000

The table illustrates the perceptions of citizens towards the utility services provided by the Rangpur City Corporation including the traffic system, public transport, urban communication (roads), waste disposal, drinking water supply, and city lighting. Citizens appear to have a slightly negative perception of the traffic and public transport systems, with mean scores of 2.95 and 2.84, respectively, indicating that respondents are, on average, leaning towards disagreement on these services being developed and people friendly. These scores reflect a sentiment of dissatisfaction with the city's efforts in managing traffic congestion and the public transport system's efficiency and user-friendliness. The urban communication system, or the condition of roads, has received a moderately higher mean score of 3.09. This score is just above the neutral midpoint, suggesting that citizens have a marginally positive view of the road infrastructure, yet there is room for improvement. Regarding urban waste and garbage disposal, the mean score of 2.66 indicates a tendency towards a negative perception, showing that the waste

management services might not be seen as sufficiently developed or satisfactory for the residents.

In contrast, the provision of iodine-free drinking water and city lighting at night received the highest mean scores of 3.41 and 3.68, respectively. These scores are above the neutral point and suggest a relatively more positive view from citizens on these services. It implies that the water quality and the adequacy of lighting in the city at night are considered to be more satisfactory than other utility services provided by the city corporation.

The standard deviation values across all items range from 1.000 to 1.198, which shows a moderate level of agreement among the respondents regarding their perceptions, albeit indicating a variance that points to diverse experiences and opinions within the surveyed population.

In sum, this data portrays a perspective from the citizens of Rangpur City that while certain utility services like drinking water and night lighting are viewed somewhat favorably, significant improvements are desired in the domains of traffic management, public transportation, and waste disposal services. These insights could be valuable for urban planners and city officials aiming to enhance the quality of municipal services.

Perception of Citizen toward infrastructure and security development

Table 4: Perception of Citizen toward Infrastructure and Security Development of Rangpur City Corporation (N=528)

Citizens' Response	Minimum	Maximum	Mean	Std. Deviation
The corporation role in protecting consumer right's (Food adulteration, Market) is satisfactory	1	5	2.81	1.158
The law-and-order system of the city is improved and safe.	1	5	3.26	1.161
Most of the citizen services are available in online and digitally	1	5	3.48	1.044
Rangpur city is undergoing planned urbanization	1	5	2.81	2.117
There are enough playgrounds in your Ward	1	5	2.60	1.353
There is enough public toilet in the city	1	5	2.07	1.099

Table 4 presents an overview of citizens' perceptions regarding infrastructure and security developments by the Rangpur City Corporation. The citizens of Rangpur City Corporation report a general dissatisfaction with the corporation's role in protecting consumer rights, with a mean response of 2.81 and a standard deviation of 1.158, which indicates a tendency towards disagreement that food adulteration and market regulations are being effectively managed. Similarly, citizens seem to perceive the law-and-order situation as only marginally improved and safe, as suggested by a mean score of 3.26. The standard deviation here is slightly higher at 1.161, suggesting a slightly broader range of opinions on this issue among the respondents.

On a more positive note, the mean score of 3.48 for the availability of most citizen services online and digitally indicates a neutral to slightly positive agreement, suggesting a moderate level of satisfaction with the digital infrastructure. However, there appears to be a significant concern about the

urbanization process, as indicated by a mean of 2.81, which aligns closely with dissatisfaction. The notably high standard deviation of 2.117 for this item (and an error in the maximum value, which should likely be '5' instead of '42') signals a high degree of variance in citizens' perceptions, which could point to uneven experiences of urbanization across the city. Access to public amenities such as playgrounds and toilets is perceived as insufficient, with mean scores of 2.60 and 2.07, respectively. These scores denote a tendency towards disagreement on the adequacy of these facilities. The standard deviations for these items are relatively high (1.353 and 1.099), reflecting a spread in the satisfaction levels among the population regarding these amenities.

In summary, while Rangpur City Corporation has made strides in digital service delivery, the findings suggest that significant improvements are needed in consumer rights protection, law and order, and the provision of basic public amenities. The wide variances in responses, particularly concerning urbanization, imply a heterogeneous impact of city corporation policies, indicating that experiences may differ substantially among different citizens or city areas. This data should encourage city planners to delve deeper into the specific areas of concern and work towards more equitable and effective infrastructure and security improvements.

Perception of Citizen toward Environment, Health and Education Service

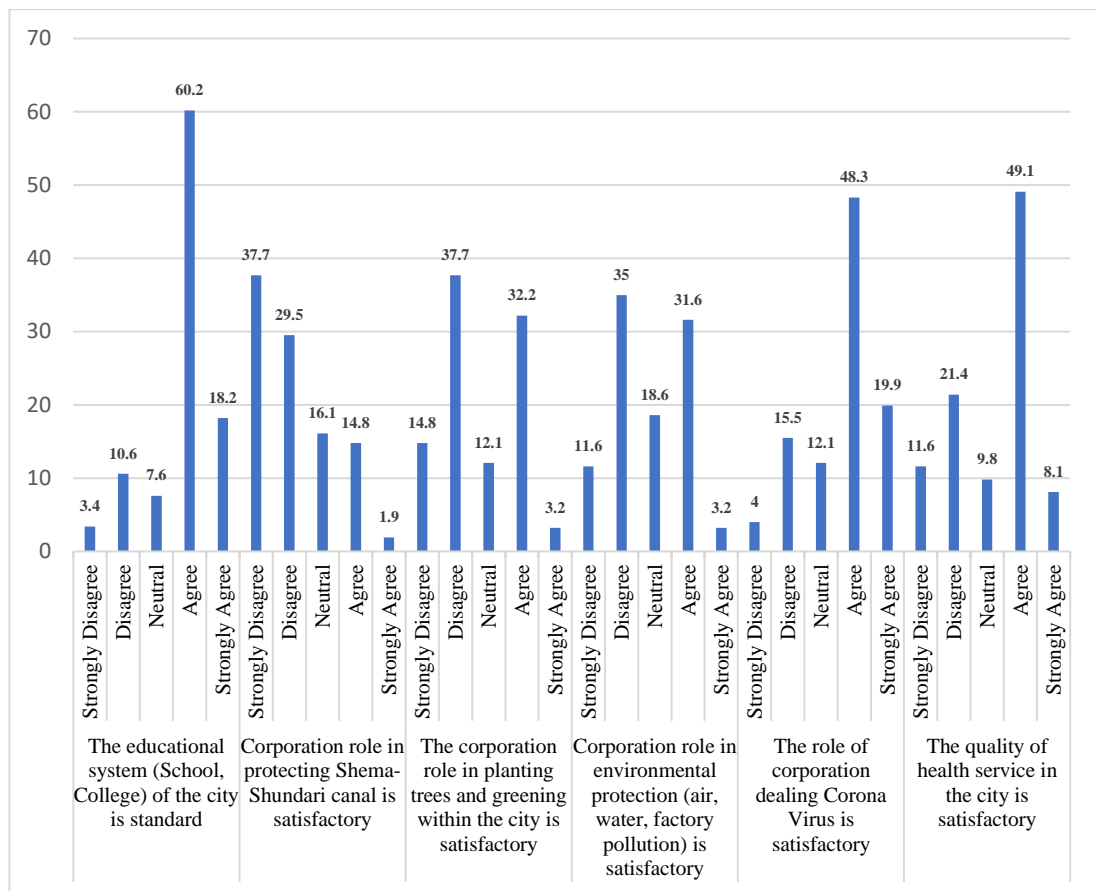


Figure 1: Perception of Citizen toward Environment, Health and Education Service of Rangpur City Corporation (N=528)

The figure elucidates the perspectives of citizens regarding the Rangpur City Corporation's performance in areas of environment, health, and education. A majority of the respondents (60.2%) agree that the educational system in the city is standard, with an additional 18.2% strongly agreeing, indicating a generally positive view of educational standards within the city. However, satisfaction levels drop significantly when assessing the corporation's role in protecting the Shema-Shundari canal, with 37.7% strongly disagreeing and 29.5% disagreeing, reflecting widespread discontent with the efforts in this area. Similarly, the role of the corporation in tree planting and urban greening receives a lukewarm response, with a combined total of 50.5% either disagreeing or strongly disagreeing with the statement about the corporation's satisfactory performance. Environmental

protection seems to be another critical area of concern, with a high percentage of respondents (46.6%) not convinced of the corporation's satisfactory performance regarding air, water, and factory pollution management.

Regarding health, citizens' perception of the corporation's handling of the Coronavirus shows a plurality of agreement at 48.3%, potentially indicating a generally favorable view of the city's pandemic response, although 19.5% of the population still strongly disagrees with this sentiment. Lastly, the quality of health service receives mixed reviews with only 8.1% strongly agreeing it is satisfactory, whereas a substantial proportion of respondents (31.5%) express dissatisfaction to some degree.

Overall, while the citizens show a level of confidence in the educational infrastructure, there is clear room for improvement in environmental stewardship, public health services, and the management of city amenities. These insights should inform the Rangpur City Corporation's strategic priorities, highlighting the need for enhanced focus on environmental and health services to meet the expectations of its residents.

Conclusion and Recommendations

The study presents a dichotomy of satisfaction in educational sectors against a backdrop of notable concerns in areas of environmental stewardship, public health, and urban infrastructure. Citizens exhibit a reassuring confidence in the educational system but face dissatisfaction with environmental management, particularly with the preservation of water bodies and urban greening initiatives. These environmental concerns extend to the corporation's role in managing

pollution, which, along with the discontent surrounding waste disposal services, calls for a redoubled effort towards sustainable urban management practices.

The moderate approval of the city's handling of the Coronavirus pandemic, juxtaposed with pockets of significant dissatisfaction, underscores the need for continued improvement in public health responsiveness and service quality. This extends to the health services at large, which require bolstered support to meet the public's expectations. Critical perceptions of governance, characterized by concerns over accountability, transparency, and corruption, suggest a pressing need for the corporation to adopt more robust oversight mechanisms. Such efforts should be aimed at enhancing citizen engagement and trust, fostering a governance culture that values transparency and regular public consultations.

The study also points to pressing issues in urban infrastructure, with traffic management and public transportation being key areas of citizen discontent. This indicates an urgent need for urban planners to revisit and innovate in these areas to cater to the city's population efficiently. The provision of public amenities such as playgrounds and toilets has also fallen short of citizen expectations, necessitating considerable improvements. Given these insights, the following recommendations are synthesized for the Rangpur City Corporation:

- Prioritize the rehabilitation of the Shema-Shundari canal and other water bodies while enforcing stringent environmental regulations to tackle pollution at its source.
- Develop and implement robust urban greening programs to enhance the city's green spaces, directly contributing to the environmental well-being and aesthetic quality of urban life.

- Overhaul the traffic management systems and improve public transportation options, making them more accessible, efficient, and user-friendly.
- Invest in the quality and accessibility of public health services, ensuring that facilities are well-equipped, and staff are well-trained to handle current and future health challenges effectively.
- Foster participatory governance by actively involving citizens in decision-making processes, improving transparency, and establishing channels for public reporting and feedback.
- Expand and refine digital and online services, ensuring they are accessible to all citizens, thereby reducing bureaucratic complications and enhancing service delivery efficiency.
- Implement clear accountability measures, such as regular audits and open forums for discussion, to address issues of corruption and build public trust in the city's governance.

By adopting these recommendations, the Rangpur City Corporation can work towards addressing the current deficits in service delivery and governance, thereby enhancing the overall quality of life for its citizens and steering the city towards a sustainable and inclusive future. In addition, this study also provides a vital scope for the academicians to find insights regarding diverse context of citizens' perception on service quality. It also creates opportunity to understand comparative perspectives and laying the path for future research.

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Behind the Seams: An Insight into Work-Life Balance of Garments Workers in Bangladesh

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Abstract

Background and Problem Statements: *Bangladesh's ready-made garment industry, employing 4.22 million people, has experienced significant growth in job creation, foreign revenue, and GDP contribution. However, garment workers often face high stress levels, making it difficult to balance work and personal life.*

Objectives: *The study aims to explore the multifaceted challenges garment workers in Bangladesh face, which hinder their ability to balance their personal and professional lives.*

Methods: *This study used a cross-sectional qualitative research approach, conducting 20 in-depth interviews with 10 male and 10 female garment workers, using purposive sampling to ensure balanced gender representation, and conducted a thematic analysis on the collected data.*

Summary of Key Findings: *Economic constraints and lack of political rights push the workers further into social isolation and marginalization. Workplace-specific challenges like job insecurity and unsanitary working environments compromise their overall well-being, resulting in worker burnout. The factors relating to workers' distress, including inadequate remuneration, extended working hours, and subpar working conditions also lead to intensified stress, feelings of inferiority, and deteriorated family ties.*

Contributions and Implications: *This study emphasizes the need for reforms to promote work-life balance and enhance workers' well-being, ultimately leading to an ethical, equitable, and prosperous garment industry in Bangladesh.*

Keywords: Garment Workers, Work-Life balance, Dhaka City

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Introduction

The ready-made garment (RMG) industry is one of the most prospective industries in Bangladesh (Hossan et al. 2012). According to estimates, the garment sector in Bangladesh employs around 4.22 million people, with 2.50 million of them being female (Haque et al., 2023). This sector has grown in terms of job creation, foreign revenue, and GDP contribution (Ahamed, 2014). However, the industry's main stakeholders—garment workers—continue to lag behind. Due to the huge work-load at garments, unfavorable workplace environment, insufficient family and personal time, unaffordability to arrange and attend social events due to lower income and lack of time, and the huge stress as well as associated health issues, the workers struggle to balance their work life and personal life (Soomro et al., 2018; Feldman et al, 2002; Perreault & Power, 2021).

The ILO Convention, SDGs, and other international agreements address worker rights and workplace health and safety (Rantanen et al., 2020). Most nations have labor laws, labor dispute courts, and employee rights in their constitutions. However, emerging economies like Bangladesh do not follow these practices (Chowdhury, 2017). In developing nations, a large workforce is exploited for profit and their socio-political existence is hindered (Liu et al., 2019). Bangladesh is not an exception. Bangladesh has different labor practices than developed nations like the US and Europe. Bangladeshi workers face discrimination, work long and irregular hours, and often work without breaks (Afrin, 2014).

There have been many labor movements, demonstrations, civil unrest of garment workers in Dhaka City (Hossan et al., 2012). In particular, after the Rana Plaza accident, there started a new thinking in Bangladesh about garment workers and there are two organizations called 'Alliance' and 'Accords' who are working for the garment sector and for tackling relevant issues (Donaghey & Reinecke, 2018). However, garment workers are still discriminated against, and their long work hours limit their social lives. Upbringing their children, leading happy conjugal life, caring for the elderly, doing their social activities, etc., are being much more difficult (Farhana et al., 2015).

Therefore, it is crucial to identify the main factors that affect garment workers' work-life balance in Dhaka, causing imbalances and affecting their professional and personal well-being. This research aims to examine the current state of work-life balance among garment workers in Bangladesh and attempts to explore the underline factors that influence it.

Literature Review

Work-life balance is about balancing professional and personal responsibilities for parents and non-parents (Uddin et al., 2013). Garment workers struggle to achieve work-life balance due to low income. Smith and McBride (2021) reported that the main professional challenges are long work hours,

commuting, and extra responsibilities. These challenges impact a worker's political, economic, familial, social, and personal life (Ross & Vasantha, 2014; Kanchana & Hamsaveni, 2020). Due to the busy schedule with work and housework, the workers lack time to connect with family and society and cannot engage in political activities or build social capital (Saleem & Abbasi, 2015). They will fall behind politically as they focus solely on earnings. As a result, they have no influence to ensure their rights as well (Beauregard & Henry, 2009).

The family members of the garment workers especially who need special care such as the children and the elderly people get deprived of support and their conjugal life gets hampered due to the severe work pressure (Soomro et al., 2018). Because, if they work all day long, there will be no scope to keep connection with family members. In Bangladesh, balancing professional and personal life is a more challenging task for female garment workers than for male employees (Chowdhury et al., 2015) since they face numerous challenges while maintaining both their jobs and their families. They frequently fail to place adequate and required emphasis on their own health and well-being (Pathak & Gupte, 2016). As a result, they can become mentally depressed and later be addicted to different drugs (Hyman et al., 2017).

The lack of mobility and job advancement frustrates garment workers (Meenakshisundaram & Panchanatham, 2012). The work environment in the garments industry of Bangladesh is vulnerable, unhealthy, unsafe, and risky, which threatens the workers' health (Kabir et al., 2019). The tragedies at Rana Plaza, Tazreen Fashions, and Tampaco Foils Limited have horrified the country (Hasan, et al., 2017). Bangladeshi garment workers get low salaries and inadequate safety procedures (Akter & Banik, 2018). They face health issues like respiratory problems, low back and joint pain, and urinary tract infections due to inadequate hygienic facilities. Women face sexual harassment and danger while commuting to and from factories (Ng et al, 2007). Absar (2001) found that Bangladesh has the lowest labor costs per worker in South Asia. Shirt production costs: Bangladesh - 11 cents, Sri Lanka - 79 cents, India - 26 cents. Lowest unit labor cost is a big benefit for Bangladesh. Workers in Bangladeshi garment manufacturers are expected to work for a whole month without any days off (Perreault and Power, 2021). Absar (2001) argues that low wages and poor living conditions contribute to labor unrest in Bangladesh's RMG industry.

The average income of each RMG worker per month is found to be Tk. 11,402 (BGMEA, 2020), the money earned is spent rapidly in diverse ways such as

house rent, transport fees, medical and other essential expenses. Thus, their savings will not grow, and they will not get the opportunity for cultural development, vacation celebration, and recreation. Which ultimately hampers their economic development due to medical expenses for illness and depression. The work environment of the garments in Bangladesh is so nasty, chaotic, and noisy. The adverse impacts of the worst work environment, and machine noise etc. and can cause labor unrest eventually. (Choudhury & Rahman, 2017) Lastly, the current policy of the garments in Bangladesh is going against the main theme of the legal mandate of ensuring safe and healthy work environment and protecting the rights of the garment workers by the various international conventions on labor rights (Rubya, 2014).

According to the literature review, there are several pieces of work on the work-life balance and related issues on female garment workers in garment industries in Bangladesh. But there is a gap in research that no work has yet been conducted on overall garment workers in the context of Bangladesh. This study would address that research gap by focusing on the garment workers of Dhaka city.

Conceptual Framework

Previous research has backed up aspects that influence work-life balance. The following approach separates the factors that affect workers' ability to strike a well work-life balance into four distinct categories:

Table 7: Variables of Work-life balance of the garment workers

Variables	Indicators
Personal Variables	Low income, unaffordability, poverty, health problems, depression (Dohrenwend 1981; Phelan et al. 1991; Perreault & Power, 2021).
Familial Variables	Child upbringing, elder care, leading the family, preserving conjugal life, (Balaji, 2014; Macchioni & Prandini, 2019) family role conflict, and stresses of maintenance (Soomro et al., 2018).
Workplace Variables	Very long hours, high workload, unhealthy workplace, and lack of flexibility in the workplace (Akter, & Banik, 2018; Eastman, 1998; Feldman et al, 2002; Ng et al, 2007; Moen & Yu, 2000; Doherty, 2004).
Socio-political Variables	Lack of proper socialization, absence in the political movement, lack of social capital political associations and lack of political influence (Kuchařová, 2009)

Utilizing the findings of previous studies, a conceptual framework has been created to illustrate the critical factors influencing the work-life balance of garment workers, which can be depicted as:

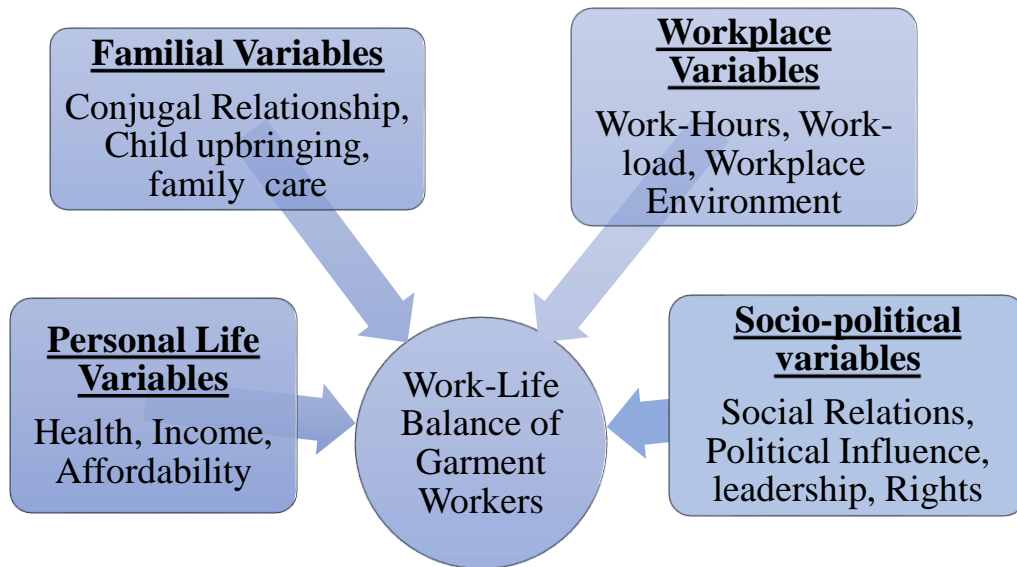


Figure 1: Conceptual framework of the influencing factors of the work-life balance status of the garment workers in Dhaka City.

All the above depicted variables and their indicators collectively impact on the work-life balance of the garment workers. Such as: Human tendencies and economic situational factors like low income, unaffordability, poverty, etc. are considered in the Vulnerability model's framework for identifying stressors that cause health problems like depression (Dohrenwend 1981; Phelan et al. 1991; Perreault & Power, 2021) and have impact on one's ability to perform professionally and effectively in a managerial capacity. Family responsibilities, such as child upbringing, elder care, leading the family, preserving conjugal life etc. impede their advancement and force them to make career compromises which is more prevalent in the context of women garment workers (Balaji, 2014; Macchioni & Prandini, 2019). Such Family duties after excessive workload in the garment industry, role conflict, stresses of maintenance put a strain on garment workers' work-life balance. (Soomro et al., 2018) In garment industries, the workers stay in huge work pressure with daylong work hours. Thus, they do not have enough time for socialization and political movement. They cannot gather social capital and cannot have political influence to ensure their rights. They cannot lead political associations to raise their vocal which begets deprivation in their professional life and hampers soundness of their personal life (Kuchařová, 2009).

Methodology

A cross-sectional qualitative research methodology has been used in this study for exploring the status of the work-life balance among the garment workers

in Dhaka city (Sedgwick, 2014; Mohajan, 2018). This study obtained data from both primary and secondary sources. The study population included the workers of several garments from Dhamrai, Dakhinkhan, Savar and Ashulia of Dhaka city. The garments are Snowtex Outwear Ltd., Nipa Sportswear Ltd, AlMuslim Garments Ltd., and Ananta Garments Ltd. The study has adopted a purposive sampling technique to select 20 garment workers (10 males and 10 female) for in depth interviews (IDIs) (Rai & Thapa, 2015). Hence, the primary data was collected from 20 garment workers. Furthermore, the secondary data was collected from various key international journals, published books, authorized government and Nongovernment reports, National and international newspapers and authentic documents focusing garments industry of Bangladesh ((Ajayi, 2017).

For analyzing and classifying collected data in this study context, thematic analysis was used to decipher the meaning of the qualitative data (Vaismoradi et al., 2013). Using this method, the researchers were able to condense and summarize the accumulated data, which ultimately helped to determine the factors relating to the work-life balance of the garment workers of Dhaka city.

Ethical Considerations

The ethical concerns have been addressed by obtaining both written and verbal consent from all participants in the study. They have been reassured that the information they submitted would be kept confidential and that it would not be used for any other purpose than the research (Arifin, 2018).

Result and Findings

In this study, the research went through a thorough investigation for finding out the empirical evidence of the factors which have direct influences on the work-life balance status of the garment workers in Dhaka city. Such as:

Personal Factors

The income earned by the garment workers is exceptionally low, which is in average income per RMG worker per month is found to be Tk. 11,402 (BGMEA, 2020). With this little amount, leading a decent life is like daydreaming in an expensive city like Dhaka. Due to the incapability to purchase necessary

utensils of daily life, they lead an extremely poor life and stay with an inferiority complex. In this regard a garment worker said,

“We struggle to afford basic necessities with the very low wages. We can hardly consume the standard foods and decent clothes which create inferiority among us to stand with other people of our neighborhoods.” (IDI 02, September 02, 2022)

For working in garments industry, the garment workers face several diseases. From the investigation, it is seen that employees frequently face headaches, hypertension, blood pressure, insomnia, etc. Some other problems include psychological disorder, mental instability, and suicidal tendency among the garment workers. One of the respondents said,

“I frequently suffer from severe headaches, hypertension, and high blood pressure. Sometimes, I want to give up my life due to the constant stress and miseries.” (IDI 07, September 07, 2022)

Garments is a busy industry from the viewpoint of the employee. Based on this study, it is seen that the workers always stay busy to meet their targets. Because if the employees fail to meet the predetermined target, then it will hamper the productivity of the organization and beget the risk for the employment of the workers. For that reason, they are always busy with their target meeting up and never have enough time to get refreshment. According to a respondent,

“We barely get time to even breathe, let alone the recreation and the refreshment. Our main focus is meeting deadlines, which leaves us strictly attached to our work schedule and stressful assignments.” (IDI 09, September 09, 2022)

Familial Factors

Through this investigation, it is seen that most of the employees said they miss the quality family time always. So, from this statement we can say that the

worker does not get enough time to spend quality time with their family or friends. It is also a severely negative side of the garment industry.

“I lack time for my family, which is disheartening. I am unsatisfied with my job because it takes up all my time, leaving me unable to spend quality time with my family.” (IDI 18; October 28, 2022)

The garment workers lead a very industrious life on a daily basis. They have not enough scope to care for their spouse adequately. They can hardly meet the demands of their spouses in efficient ways. Sometimes, being instigated by low mental stability due to huge work-pressure, they use harsh or rude language or intonation towards their partners which is most dangerous for the relationship. For this reason, they are not that happy in their conjugal life too. One of the respondents said,

“I cannot afford to buy things my spouse wants; My partner is upset because I do not provide enough care or money for necessary goods. My unintentionally rude voice makes her quarrelsome, affecting our conjugal happiness.” (IDI 19, October 29, 2022)

The garment workers cannot spend much time with their children due to the over excess pressure of their job. Most of the employees said that they spend only 2-3 hours with their children and only 5 employees spend more than 4 hours with their children. For that reason, their children are nurtured by their servant or parent. In this regard it can be said that it has a great negative impact on the garment industry. In this context, one of the garment workers explained as,

“We cannot give our children enough time. The elderly in our family must take care of themselves and our children because we are unable to help. Hence, our family members suffer the most due to our complex job issues.” (IDI 13, October 13, 2022)

Socio-political Factors

It has been identified that most of the garment workers are reluctant to arrange social or cultural functions. They cannot manage time for socialization as well as the social interaction maintenance. One of the respondents said,

“Arranging or attending social functions is burdensome as I cannot afford it with my low income and limited time. Consequently, I am becoming unsocial for not maintaining good relationships with my relatives and neighbors.” (IDI 01; September 01, 2022)

Garment workers are deprived of their political rights in terms of leading their own political parties which will speak on behalf of them. They cannot afford this leadership quality as they do not have capital, both material and social capital due to the incapability to manage these things being instigated by the low income, inadequate time to invest and lack of sound social relations. According to a respondent,

“We lack the funds to invest in running a political party and organizing events such as assemblies, conferences, and associations. Poverty affects us in every way. We cannot even voice our political rights.” (IDI 03, September 03, 2022)

Professional Life Related Factors

It is seen that most of the respondents of this study blame the extensive time consumption as the main villain in their day-to-day life. According to the collected data, they are stressed with these much longer work hours and the traveling time daily. One of the respondents said,

“Long work hours and continuous workload kill our time and energy, causing boredom and stress. We lack energy to do household chores after work, which affects our personal life.” (IDI 17; October 27, 2022)

The extensive long traveling time due to traffic jams and inadequate vehicles in Dhaka city affects the low-income people in a tremendous way. They are the crucial victims of the worst traffic system of the almost unlivable city Dhaka. The garment workers stay so remote from the area of their workplace, so they have to journey a lot which costs huge time. One of the respondents opined,

“We need to spend a lot of time travelling to work. It is frustrating when there's heavy traffic on the highway and the bus stops moving. Traffic jams waste a lot of our time and leave us with no free time.” (IDI 14; October 15, 2022)

The heavy workload with extensive work hours makes the garment workers mentally wounded on a regular basis. They cannot get rid of this vicious circle of torture of work pressure. As a result, they feel very frustrated with their job status and reinforcement of every critical aspect of the complicated job. One of the respondents illustrates,

“I often feel helpless due to extensive job pressure. I think leaving this job will make me feel freer. Life is too stressful; I want freedom and security.” (IDI 04, September 04, 2022)

Miscellaneous Factors

According to the findings from the interviews, there are so many miscellaneous challenges have been identified such as- improper appraisal & environment, complex extent of supervision & increment, uncooperative Supervisor's behavior, Inefficient administration, over excessive enforced extended enforced working schedule, etc. one of the respondents said,

“My garment appraisal system is discouraging. It has a heavy workload, and we must work overtime for meeting these, but the management never recognize our achievements when we meet outstanding targets.” (IDI 03, September 03, 2022)

While another respondent opined about the work environment as,

“Our garment's internal environment is chaotic and unhygienic. The people are also unclean. The lack of cleanliness in garment factories negatively affects our health, leading to frequent skin and respiratory diseases.” (IDI 04, September 04, 2022)

Another respondent indicated the challenges related to the inefficient administration and complex supervision in the following manner,

“Garment control and regulation are not thorough here. Poor management causes unnecessary procrastination which demotivates us. The excessive uncooperative supervision of our deeds leads to complicated and irritating irregularities, trapping us in offensive accountability issues.” (IDI 05, September 05, 2022)

Discussion

This study provides insight into factors influencing the work-life balance of garment workers in Bangladesh. The results show various challenges faced by workers, including personal, familial, socio-political, professional, and miscellaneous factors. Thulasimani et al., (2010) claims that working hours, work-environment, workload, and job security impact the work-life balance of garment workers. Saleem & Abbasi (2015) found that work schedule, supervisory, coworker and social support, role expectations, numbers of kids, work-hours influence work-life balance of garment workers.

The low income of garment workers is a major obstacle to a decent life as financial constraints affect living standards and cause feelings of inferiority and stress. Morandi (2020) found that garment workers are vulnerable due to low bargaining power, interchangeable work, lack of legal protection, and power abuse by authorities. Workplace stress causes health issues for garment workers, worsening their well-being. Kabir et al. (2022) and Ramos-Galarza & Acosta-Rodas (2019) found that poor working conditions, including inadequate facilities, a negative work environment, and harassment, negatively affect the health and wellbeing of garment workers, especially during night shifts. Pressure to meet targets limits relaxation time and intensifies stress. Ashwin et al., (2020) and Wickramasingha & De Neve (2022) suggest that lowering daily targets for garment workers can reduce stress and enhance mental wellbeing.

Workers struggle to balance work and family life. Gragnano et al. (2020) found that work-family balance influences job satisfaction and promotes a healthy work-life balance. Financial instability and lack of time affect marital relationships and family dynamics. Godinić & Obrenovic (2020) found that economic uncertainty negatively affects workers' psychological well-being and family life through job uncertainty and identity disturbance. Gheaus (2013) claimed that children suffer when parents have demanding jobs and are unable to spend time with them, leading to them being cared for by others.

Socio-political factors like social isolation and limited time and money contribute to workers feeling disconnected. Limited resources hinder their political participation, preventing effective advocacy for their rights. Kuchařová, (2009) argues that Lack of proper socialization, absence in the political movement, lack of social capital political associations and lack of political influence impact the political empowerment of the workers and their right awareness within the society.

Work-related challenges, like appraisal systems, work environments, supervisors, administration, and working schedules, contribute to workers' job dissatisfaction. Challenges demotivate workers, create a hostile work environment, and hinder work-life balance. Garment workers face chronic stress and depression from long hours, commutes, heavy workloads, and time-consuming traveling which impacts mental well-being, causing feelings of helplessness. Akter & Banik (2018) stated that long hours, high workload, unhealthy workplace, and lack of flexibility lead to job dissatisfaction, stress, and affect work-life balance.

Conclusion

The work-life balance status of garment workers in Dhaka city is currently very depressing due to numerous challenges. Low wages, demanding schedules, and unhealthy conditions negatively affect their work-life balance as family relationships suffer, social connections strain, and mental well-being is compromised. These issues require urgent attention from policymakers, industry stakeholders, and labor advocates. Strategies should focus on fair wages, better working environment, and comprehensive support systems to address the impact on workers. Flexible work arrangements and social engagement initiatives can restore work-life balance for garment workers. Addressing these challenges improves worker well-being and contributes to a more humane and equitable garment industry in Dhaka City.

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An Analysis of Two Local Government Elections Based on Party Affiliation in Bangladesh

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Abstract

The then-ruling parties in Bangladesh experimented with and utilized local government more frequently in the past (Sarker & Akber, 2016). Article 59 of the People's Republic of Bangladesh's constitution states, "local government in every administrative unit of the Republic shall be entrusted to bodies composed of persons elected in accordance with law." Sarker & Akber (2016) and Siddique (2005) note that since 1972, local government institutions have only existed continuously at the Union level. 1973 saw the nonpartisan holding of the country's first local government elections. All local government elections were non-partisan from the first day of Bangladesh's independence until the year 2015, despite the fact that there were many candidates with different political ideologies (Karim & Rashid, 2016). The government's decision to hold local elections on party lines without consulting political parties or holding a referendum to measure public opinion (Sarker & Akber, 2016; Nath, 2015) has sparked a debate among politicians, local government experts, and other civil society groups. Politicians, local government experts, and other actors in civil society expressed their worry that the new system of partisan local government polls would undermine the long-standing value system at the local level (Sarker & Akber, 2016; Safi et al., 2015). In the old system, the Union Parishad Chairman and Members were elected based on their family background, tradition, and reputation for social work (Sarker & Akber, 2016).

Keywords:: Local Government, Party Line, Election Violence

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Introduction

In the intricate tapestry of Bangladesh's local government, a notable transformation has taken place over the years, reshaping the relationship between local government and political dynamics. This evolution, marked by shifts from non-partisan to partisan elections, has sparked debates and redefined the contours of local democracy and societal values. Rooted in the country's constitution, Article 59 unequivocally assigns local governance responsibilities to elected bodies within each administrative unit of Bangladesh. However, the practical manifestation of this constitutional provision has undergone significant changes since its inception. The ruling parties in Bangladesh have periodically experimented with and harnessed local government, as highlighted by Sarker and Akber (2016). This experimentation has not only shaped the local governance landscape but has also been emblematic of the evolving relationship between local politics and national governance. The trajectory of local government development traces back to 1972 when local government institutions were first established at the Union level, a pivotal milestone discussed by Sarkar & Akber (2016) and Siddique (2005). The genesis of these institutions paved the way for the first local government elections in 1973, characterized by a non-partisan approach. This non-partisan character endured for over four decades, with the elections remaining devoid of overt political affiliations, as illuminated by Karim & Rashid (2016). This continuity presented a paradox in a country where diverse political ideologies coexisted even within non-partisan electoral contexts.

However, the year 2015 marked a paradigm shift. The decision to transition from non-partisan to partisan local government elections triggered a cascade of discussions, debates, and assessments. This shift was not without controversy, as the move was undertaken without prior consultation with political parties or a referendum to gauge public sentiment, as noted by Sarker & Akber (2016) and Nath (2015). This decision fueled concerns among politicians, local government experts, and civil society groups. The anxieties were not solely rooted in the electoral process itself but stemmed from the potential erosion of the longstanding local value system that favored candidates based on familial heritage, tradition, and social contributions (Sarker & Akber, 2016).

The landscape of scholarly inquiry surrounding this transition is equally rich and nuanced. The literature review reveals a mosaic of perspectives on the relationship between partisan elections and voter turnout. While some studies, like Crepaz (1990), suggest that wide political spectrums can boost voter participation, others, such as Sanz (2015) and Bernhagen (2007), underscore the role of competitive systems and campaign activity. McGhee (2011) delves deeper, revealing the influence of campaign activity on the partisan composition of voters. Amid this complexity, it becomes evident that voter turnout is influenced by a blend of electoral and extra-electoral factors.

Moreover, the influence of ruling parties on elections is explored in multifarious dimensions. Baker (2007), Castanheira (2010), Bawn (2012), and Boix (1999) offer divergent insights into how electoral systems, party organization, and policy

positions shape this relationship. The papers collectively underscore the intricate interplay between ruling parties, political strategies, and electoral outcomes, shedding light on the intricate web of democratic dynamics. Critics of the transition to partisan polls express concerns about the potential marginalization of non-party members and the infiltration of undesirable elements into the electoral process (Safi et al., 2015). The opposition party, "Bangladesh Nationalist Party," has gone so far as to label the partisan local government polls as a political ploy with concealed motives (Nath, 2015). Conversely, proponents of the new system point to international examples and local elections in Bangladesh where candidates embraced political identities without relying on party symbols, as highlighted by Sarker & Akber (2016). This shift signifies not just a change in electoral mechanics but also a manifestation of broader political strategies. In conclusion, the transformation from non-partisan to partisan local government elections has reshaped Bangladesh's political landscape. This evolution has invited scholarly inquiry into its impacts on voter turnout and the intricate relationship between ruling parties and electoral outcomes. While critics and proponents hold divergent views, the transition underscores the ever-evolving nature of democratic governance. As the Union Parishad election of 2016 unfolded in stages across the nation, it offered a microcosm for examining the consequences of this transformation on local democracy and societal values. This evolution, encapsulated in the realm of local government, illuminates the broader currents shaping Bangladesh's democratic journey.

Statement of the Problem

Local administration in Bangladesh is divided into three administrative levels: Zila Parishad, Upazila Parishad, and Union Parishad. While Union Parishads have diminished in significance over time, they continue to function as effective local government bodies (Ahmed, 2016; Quddusi, 2016). In 2015, Bangladesh conducted its first-ever local government elections on partisan lines, allowing candidates to utilize party symbols and portraits of party leaders in their campaigns. This shift from non-partisan to partisan elections posed significant challenges for the existing political parties in the country (Sarker & Akber, 2016). The introduction of partisan local government elections raised concerns about the potential disruption of traditional values and the use of coercion by certain candidates to influence voters (Safi et al., 2015; Sarker & Akber, 2016). Maintaining fairness, transparency, and credibility in the electoral process has become a critical issue (Sarker & Akber, 2016).

Overall, the transformation to partisan local government elections in Bangladesh has brought about significant changes and sparked debates regarding its impact on the electoral system and the role of political parties in local governance, in this study, we examine what significant changes happened in the local politics and environment of the election after the party line poll.

Method of the Study

"Discovering and learning new things through the social research process is enjoyable. Research is not only enjoyable but also essential for understanding the

events and structure of the social world. Social researchers also gain a lot of knowledge from qualitative research methods. Qualitative research is a valid and valuable, but different type of social research" (Neuman, 1991:143). This study used both qualitative and quantitative methods. Neuman argues that, to do good social research and acquire knowledge, we need to examine the social world from both a qualitative and a quantitative perspective.

Objective of the Study

The study aims to investigate the impacts of party-based union parishad elections on both the electoral process and the local government system, as well as their effects on the general population's experiences.

Data Collection

The data collected for this research actually comes from secondary sources. In these studies, primary sources are not to be used for collecting data. The primary sources are to be:

- Specific and structured questionnaires are used in the direct interview.

Secondary Sources

We have collected the information from secondary sources. These are as follows:

- Newspapers
- Books, journals, and publications
- Previous research, web browsing
- Articles and related materials.

Limitations of the Study

1. The method of data collection, such as interviewing through a questionnaire, is hard to implement because it's a vast concept.
2. Limited observation, content analysis, and interviews are being applied due to a lack of time and financial hindrance, but more observation and interviews can provide more comprehensive ideas about the functioning and awareness level of this system.
3. The data collection methods described in this paper largely depend on secondary sources. Secondary sources, such as newspapers, books, and journal-related articles, etc., rather than primary sources.
4. Sometimes many of the newspapers publish the news with bias, so some vague information may be collected.

A Brief Overview of Local Government Elections with party-line Around the World

Elections is one of the crucial way of practicing democracy in a country While national election draw more attention, local government elections are equally important, directly impacting communities' resources, services, and daily life quality. Around the world, various countries' experiences shed light on how parties

balance unified platforms with grassroots engagement. This journey through time illustrates how party-line elections have shaped democratic ideals, highlighting the ongoing struggle between collective representation and individual voices. Exploring this past is crucial to understanding the present and future of local governance, where the interplay of party politics and local interests continues to shape our democratic landscape. In Malaysia, there is a lack of local government elections. During British colonial rule, the appointment of commission members by the British Governor was the method of overseeing local government institutions (Alim, 2015; Chowdhury, 2015). While municipal elections took place in 1857 and 1858, replacing the appointment system, the federal government suspended local government elections in 1965 due to the Malaysia-Indonesia conflict. Consequently, since 1965, local councilors in Malaysia have been appointed by the ruling party (Alim, 2015). In the UK, local government elections are very political, as political parties nominate and support candidates, and party leaders campaign for them (Chowdhury, 2015; Humes, 1959). However, in the US, local elections are not influenced by political parties. For example, in California, political parties have only been allowed to endorse or oppose candidates since 1986 (Alim, 2015; Chowdhury, 2015). In contrast, India started having partisan local government elections in 1978 in West Bengal (Alim, 2015; Nath, 2015). Later, in 1994, fourteen other provinces followed suit. But these elections were not fair and transparent, as there were many cases of voter fraud and manipulation by the government.

Data Analysis of the 2016 and 2021 Union Parishad Elections

The data provided illustrates the results of two party-line elections, one in 2016 and the other in 2021. The elections were conducted in multiple phases, each involving a subset of UPs. In both years, the total number of UPs remained consistent at 4103 and 3920, respectively. In terms of AL's success, there is a notable decrease in the number of chairmen elected under AL's banner in 2021 compared to 2016.

This demonstrates a shift backward in AL's dominance in the UP elections over the years. Similarly, the number of uncontested elections has also risen significantly in 2021. In 2016, Bangladesh witnessed the Union Parishad elections for the first time under party lines across 4,103 UPs, divided into six phases. The results were declared for 4,002 UPs, while the remaining 101 UPs were scheduled for later elections. As reported by the Election Commission, the Bangladesh Awami League, the ruling party, secured 2,661 seats for chairman, whereas the Bangladesh Nationalist Party secured 367 seats. Amongst the various political parties, Jatiya Party, Jatiya Samajtantrik Dal (JSD), Jatiya Party-JP, Workers Party, Islami Andolon Bangladesh, Zaker Party, and Jamiat Ulama-e-Islam Bangladesh collectively secured 60 seats.

In addition to these, a notable count of 898 independent candidates emerged victorious, with a significant proportion of them being dissident candidates affiliated with the Awami League. In the latest 2021 and 2022 UP elections, which were held for the 10th time and boycotted by the opposition party BNP, this was the 2nd party line election. The 10th Union Parishad elections in Bangladesh occurred across the country in seven phases from June 2021 to February 2022. The ruling Awami League

secured a significant number of elected seats (2,034) and won a substantial portion of seats uncontested (313), demonstrating their dominance. Independent candidates also performed well, securing 1,740 seats. Other parties collectively obtained 74 seats.

Table 1: Overview of party-line local government elections in 2016 and 2021

Phase of election	Total UP		Total elected(AL)		Elected Uncontested		BNP	Other party		Independence	
	2016	2021	2016	2021	2016	2021	2016	2016	2021	2016	2021
1 st phase	725	204	540	148	54	28	47	9	7	103	49
2 nd Phase	644	834	450	486	34	78	61	8	18	115	330
3 rd phase	615	986	395	525	29	99	60	16	21	163	445
4 th phase	703	836	439	396	34	48	70	13	10	161	390
5 th phase	717	708	431	341	39	48	67	11	11	170	346
6 th phase	699	218	406	98	27	12	62	3	3	186	94
7 th Phase	---	134	-----	40	----		----		4		86
Total	4103	3920	2661	2034	217	313	367	60	74	898	1740

Source: The daily Prothom Alo (March 01,2016-June 05, 2016 and July 01,2022 to February 20, 2023), The daily Jugantor (Mach (March 01,2016-June 05, 2016 and July 01,2022 to February 20, 2023).

Result analysis of two UP elections:

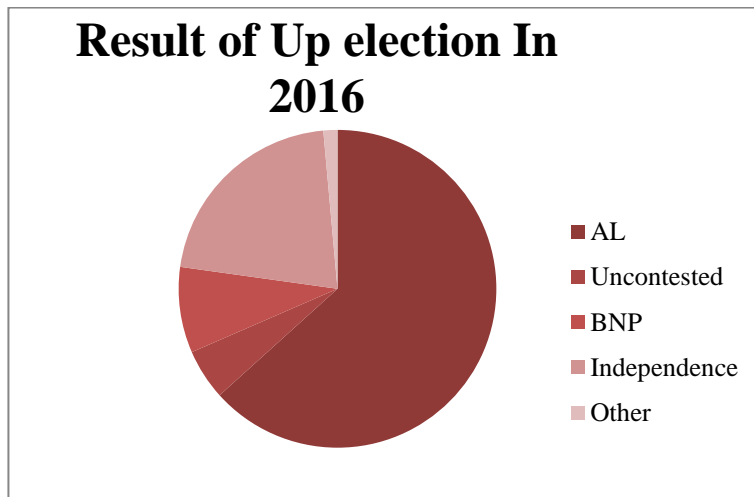
The comparison between the election results of 2016 and 2021-22 provides valuable insights into the evolving political dynamics in Bangladesh. The Awami League demonstrated a significant increase in its vote share, surging from 45.46% in 2016 to 51.88% in 2021. This uptick signifies the party's growing popularity and continued political influence. In a noteworthy departure from conventional party-based politics, independent candidates witnessed a substantial rise in their percentage of the vote, climbing from 31.29% in 2016 to 44.38% in 2021. This shift underscores a changing preference among voters for non-affiliated candidates, possibly indicative of dissatisfaction with mainstream parties or a desire for more localized representation. Notably, the Bangladesh Nationalist Party (BNP) opted not to participate in the 2021 elections, which significantly impacted the overall distribution of votes. Their absence was particularly pronounced considering their 18.98% vote share in 2016. Meanwhile, the combined vote shares of minor parties like the Jatiya Party and others experienced a slight dip, going from 4.54% in 2016 to 3.74% in 2021. This modest decline could be indicative of a trend where smaller parties face competition from independent candidates and the Awami League, hinting at a changing political landscape. Overall, these results highlight a dynamic and evolving political scenario in Bangladesh, characterized by shifting voter preferences and the rise of independent candidates alongside established parties.

Table 2: Percentage of votes in Two Ups Election

Party	Percentage of votes in 2016	2021
Bangladesh Awami League(AL)	45.47%	51.88%
Independent candidate	31.3%	44.38%
Bangladesh Nationalist Party(BNP)	18.97%	Not Participate
Jatiya Party (JP) and Others	4.54%	3.74%

Source: Compiled by author

Diagram 1: Result of the UP Election 2016



Source: Compiled by author

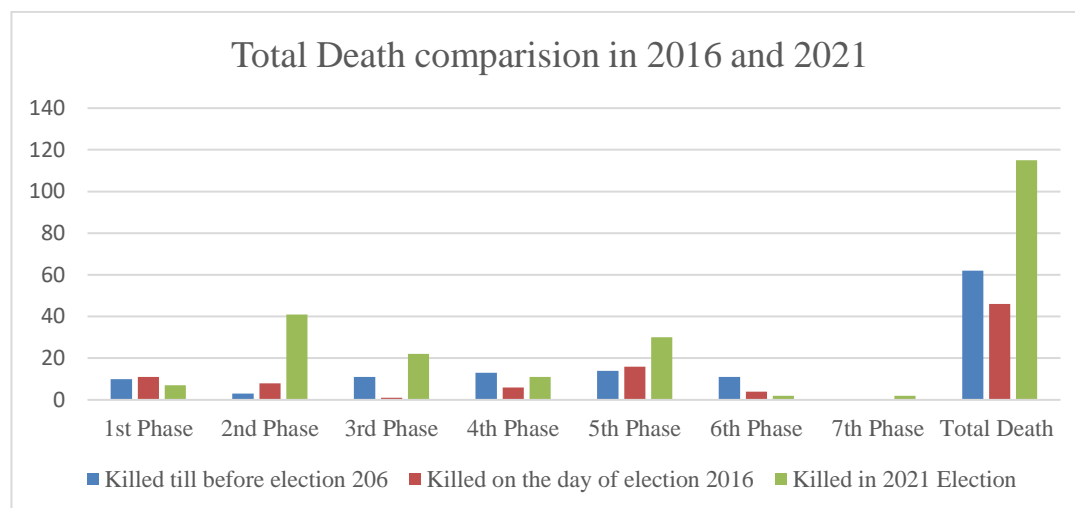
From the moment the elections were declared until the votes closed, 145 people died in the 2016 UP elections. Due to the absence of the BNP, there was little to no competition in the 2021–22 UP elections, which resulted in a modest decrease in fatalities from the previous one to 115. The division in Chittagong had the most fatalities (32), followed by the divisions in Dhaka (29), Rajshahi (20), Barisal (17), Khulna (17), Mymensingh (16), Rangpur (9), and Sylhet (5). During the electoral process, there were conflicts in every district, and 46 of the 64 districts reported deaths.

Table 3: Electoral Death and Violence in 2016 and 2021

Phase	Death before 2016 election	Death in 2016 election	Killed in 2021 Election	Wounded
1 st Phase	10	11	7	More than 2000
2 nd Phase	3	8	41	More than 1100
3 rd Phase	11	1	22	More than 900
4 th Phase	13	6	11	More than 1000
5 th Phase	14	16	30	More than 600
6 th Phase	11	4	2	More than 350
7 th Phase	----	----	2	
Total Death	62	46	115	

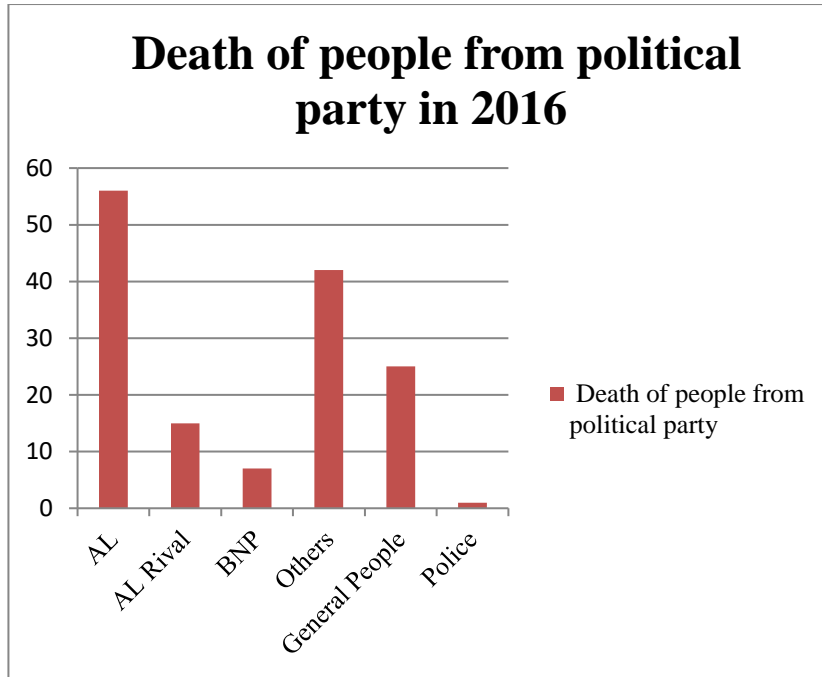
Source: Kaler Kantho, (8th February, 2022)

Diagram 2: Total number of deaths pre- and post-polls



Source: Compiled by author

As per SUJON's report, during this election, fatalities occurred among different groups: 56 individuals from supporters of ruling party candidates, 15 supporters from opposing candidates of the ruling party, 7 persons affiliated with the BNP, 1 from the JP, 1 from the Jonosonghoti Party, 3 neutral individuals, 36 from supporters of member candidates, 1 from the police, and 25 general citizens. (Hossain & Alam, 2016; Mojumder, 2016).



Source: Compiled by author

Table 4: Total number of deaths in all Union Parishad vote from 1973 to 2022

Year	Union Parishad Election	Number of deaths
1973	First	0
1977	Second	0
1983	Third	0
1988	Fourth	80
1992	Fifth	0
1997	Sixth	31
2003	Seven	23
2011	Eight	10
2016	Nine	145
2021	Ten	115
	Total	404

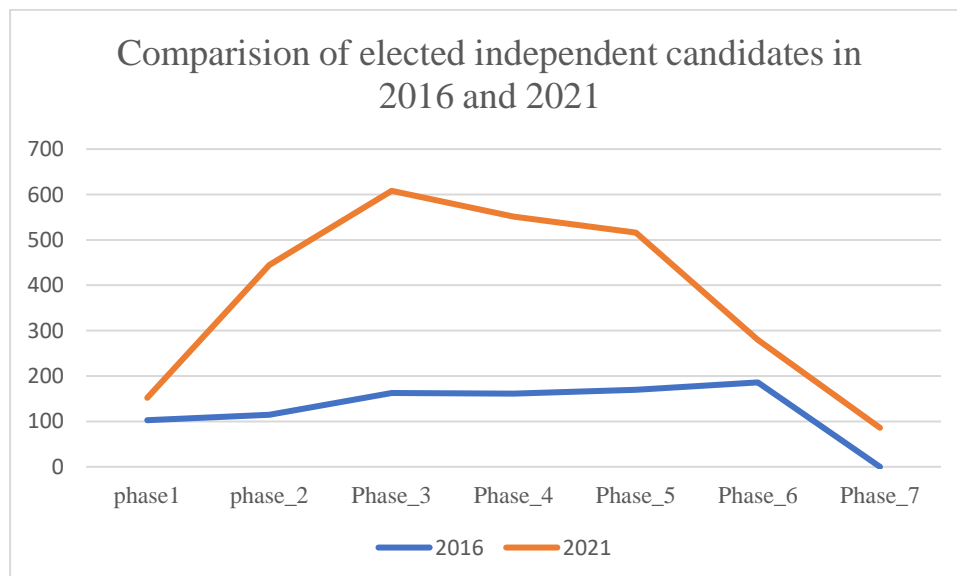
Sushasoner Jonno Nagorik, a civil society platform, asserted that a combined tally of 71 individuals lost their lives and over 6,000 sustained injuries due to violence linked to the polls following the Election Commission's announcement of the staggered schedule for Union Parishad elections on February 11. Sujan emphasized that throughout the history of the country's Union Parishad elections, the most violent and contentious instance occurred in 1988, resulting in the deaths of 80 individuals. In the ongoing Union Parishad elections, 71 fatalities have already been recorded after three phases of the process, with three more phases remaining to be conducted. in the 2016 UPs election.

Unusual voter turnout

Examination of the election outcomes as reported by the Bangladesh Election Commission of 2016 election reveals that, on average, 73.92% of voters participated in 207 municipalities. Among these, five municipalities registered voter turnouts exceeding 90%, while 74 municipalities displayed voter participation exceeding 80%. Election experts have scrutinized the figures released by the Election Commission and found them to be atypical. They assert that voter turnout in local elections typically falls within the range of 60% to 65%. Drawing from past electoral experiences, they noted that previous local body elections did not witness such elevated levels of voter participation.

Independent candidate dominance

In the 2016 election, 898 chairman candidates won, while 1740 chairman candidates, which was double the number from the first party line election, won in the next election. Media reports said that most of the candidates who were elected independently were the rebel candidates of the ruling AL men, due to their internal feud and not getting the party symbol. The number of independent elected candidates was doubled because the main opposition party of Bangladesh, the BNP, officially couldn't participate in the election, while some party men competed in the election independently. The number of independent candidates was doubled from the first phase.



Source: Compiled by author

Violence and rigging in the UP election

At least 115 people have died and several more have been injured since the UP polls began on June 21, 2021, making it one of the most violent and coercive elections ever in the 10th UP election. The majority of documented confrontations during the electoral process involved candidates backed by the ruling Awami League and rebel candidates as the main opposition. The Bangladesh Nationalist Party and other significant parties abstained from the elections. They expressed skepticism about the Election Commission's capability to conduct impartial elections, thus opting for a boycott. (New Age,2022).

Since the beginning of the recent UP elections, the exhibition of power and illicit weapons has become pronounced as ruling party candidates initiate actions against BNP candidates through various means. BNP candidates faced hindrances in submitting their nomination papers. The manner in which Awami men, with the support of the administration, Election Commission, and government entities, curtailed citizens' voting rights is nothing short of a mockery of human rights, demonstrating a bold manifestation of authoritarianism that starkly defies international standards and ethical principles. This situation even drew disapproval from the government's coalition partners.

Lack of international observers

In contrast to the city corporation elections, merely two international election monitoring groups have submitted applications to the Election Commission for observing the December 30th elections, states UNB. As per insiders at the EC Secretariat, these two overseas supervisory organizations are Democracy International and the International Human Rights Commission (IHRC). Foreign observers have displayed limited enthusiasm for municipal elections.

Ancient Election Commission

The Election Commission (EC) still runs in an old colonial way in digital Bangladesh. The EC can't officially accept reports of vote robbery via MMS, SMS, or voice call. They need a written or typed official report with details via proper channels—i.e., faced with imminent or ongoing violence or irregularity, the presiding officers must send an original written report via courier to the DC office, where it is officially received with a seal, then the DC (returning officer) writes and signs a note and faxes it to the EC, then the full commission goes over the report and decides on what is to be done. And while the formality goes on, all ballots are already sealed and stuffed in boxes.

Opinion of Election Observers and Experts

Many election observers, experts, and members of civil society, including SUJAN (Citizens for Good Governance), Broti, Dr. Tofayel Ahmed (Local Government Expert), Dr. Moinul Islam (Educator and Economist), and others, have expressed their displeasure and grave concerns regarding the violence, extensive rigging, and irregularities in party backed UP elections. Additionally, the Election Commission

has come under harsh fire for its inaction and failing to guarantee a fair and impartial electoral process. Diplomats stationed in Dhaka have also expressed their serious apprehensions about the violence and fatalities that occurred during the UP election. The credibility of the election outcomes could be upheld if impartial observers affirmed the fairness and peacefulness of the elections. Nevertheless, reports from the media have indicated numerous instances of coercion, clashes among party members, intrusion into polling stations, and manipulation of ballots in the recent UP elections. There could be numerous adverse consequences arising from election results perceived as neither free nor fair. The potential challenges posed by the ongoing UP elections are multifaceted.

Concerns Over Efficacy, Violence and credibility

First, the efficacy of elected chairpersons may be compromised, as their loyalty to the nominating party might overshadow their responsibilities, leading to disappointment among voters. Second, the manipulation of the electoral process and the prevalence of violence could deter voter participation and create a gender imbalance among contestants. Third, the shortcomings in conducting credible and inclusive elections might undermine the international community's faith in the country's democratic institutions, thereby tarnishing its global image. Fourth, internal conflicts and fictionalization within political parties could intensify, jeopardizing their unity and long-term stability. Finally, a noticeable contrast in these UP elections relative to the past lies in the deterioration of the country's capacity to ensure free and fair elections, an area in which substantial progress had previously been achieved.

Observation of the 9th and 10th Union Parishad Elections under party line

On November 23, 2015, the Bangladesh Cabinet passed a new law regarding the local government system. This move represented a noteworthy shift from a tradition spanning a century. The novel legislation granted political parties the authority to put forth nominees for regional elections, thus paving the way for the nation's inaugural localized elections with a partisan dimension. These historic elections unfolded on December 30, 2015, across 234 municipalities. Regrettably, the electoral proceedings were tainted by instances of violence, confrontations, discrepancies, withdrawals by 19 candidates, and a tragic fatality. No observer organization categorizes the municipal election as either 'credible' or 'unacceptable'. According to the preliminary statement from the Election Working Group (EWG), despite numerous electoral incidents of different levels of seriousness on Election Day, the majority of voters managed to cast their votes and express their preferences. Conversely, another statement acknowledged that the elections appeared to be open and equitable, with only minor discrepancies noted in polling centers. However, the civil society group SHUJAN expressed a different viewpoint, asserting that the recent municipal elections did not meet the criteria for fairness and impartiality, as they did not meet the standards set for credible elections. The media reports said that voting was stopped in 25 centers in 10 municipalities across the country, and the Election Commission dismissed five police officers for failing to do their duty. At least 78 people were wounded in clashes at different polling

centers in 12 districts across the country. In this election, AL candidates won 179 mayoral posts, while their opponents from the BNP got 21. And the AL rebels got 19 posts. Experts said the party backed municipal elections did not meet the expected standards. The Election Commission lost an opportunity to improve its declining image in the January 5, 2014, national assembly election. After all, from this observation, it can be assumed that election in the party line of a local government body is not suitable in this condition. Though it's helpful for strengthening the political party, it hampered the autonomy of the local body and caused internal feuds among the local body. In previous elections before 2016's, parties simply implied their support for candidates, who were allowed to accept numerous nominations. Notably, in the current election, the nominee of the Bangladesh Awami League (AL) emerged victorious in 1,777 out of the 2,540 UPs for which unofficial results have been declared, while the Bangladesh Nationalist Party (BNP) candidate secured 235 UPs. Conversely, during the 2011 election, candidates backed by the BNP won 1,618 seats, and AL-supported candidates clinched 2,101 chairman positions out of the total 4,298 UPs. This data underscores a shift: AL's success rate escalated from 49% in 2011 to 70% in 2016, while BNP's success rate plummeted from 38% in 2011 to 9% in 2016. This dynamic highlights the merits and drawbacks associated with voting in accordance with party affiliations.

Advantage and disadvantage of party based local government election

The implementation of a new system is poised to simplify the intricate fund allocation processes for local government institutions, streamlining the distribution of resources. Introducing party-based local body elections not only facilitates more efficient developmental endeavors by the government but also mitigates unnecessary controversies surrounding the engagement of political parties in these local polls. This practice is well established in advanced democracies like the UK and India, where local government elections are conducted with party affiliations, allowing political parties to actively vie for positions within local governing bodies. Such a partisan approach to local elections holds the potential to enhance the capabilities of these local governing entities. The potency of political parties, fundamentally rooted in their grassroots-level strength, becomes more evident. This shift also emphasizes transparency and accountability within the scope of local governance, as elected officials are held accountable to their respective parties for their actions. Consequently, political parties wield a certain level of control over these elected representatives. Moreover, such party-oriented local government elections serve as invaluable training grounds for upcoming national elections, preparing both parties and voters for the larger political arena. This practice empowers voters, as political parties present their agendas and policies well ahead of elections, allowing citizens to align with specific programs and candidates. In intricate societies, individual voices find greater resonance through organized entities, effectively channeling their aspirations. Ultimately, these changes aim to ensure a level playing field, foster transparency, and build confidence among all political parties involved. The interference in the independence of local government

institutions becomes evident through partisan local elections, which amplify the undesirable influence of political parties.

These elections discourage potential contenders with limited chances of victory, deterring rebel candidates. Consequently, such a system provides an avenue for self-serving individuals to exploit the masses for personal gains. This approach not only constrains people's perspectives, urging party members to prioritize their party over the greater good of the nation, but also establishes dual governing entities—the official government and the party caucus—leading from the shadows. This often deters meritorious and honest individuals from participating in local body elections, hindering democracy and autonomy at the grassroots level. The party-driven electoral environment further complicates the development process as rural-level political party identities overshadow progress. In addition, the choice of single candidates for mayoral roles poses challenges, and internal conflicts within political parties are prone to arise. The far-reaching impact of party politics is palpable, even affecting the policies and functioning of local governments. Consequently, the system fuels tensions, damages national interests through self-serving propaganda, and fosters factionalism, all of which cast a shadow on the political landscape. Local elections in developing democracies are often marred by manipulation by the ruling party. Defeated candidates face direct rejection from neighbors, more so if their party is in power. Research shows that partisan local elections provide opportunities for such manipulation. Opposition candidates encounter barriers, including instances of disqualification, as seen in Azerbaijan's 1999 local elections. Ensuring fairness in these elections is a challenge due to the influence of the ruling party's "code of conduct," which alters the outcome. The sudden decision to hold UP elections under the political party system had raised many questions. Many experts opined that the new system would trigger widespread violence at the grassroots level. Though party-based local government elections are practiced in many democratic countries, it is time to consider whether the system is feasible and applicable in Bangladesh. Many people share the perspective that the Awami League's decision to hold party-based elections in Union Parishad (UP) is clearly a calculated strategy aimed at improving their tarnished reputation following the contentious and exclusionary parliamentary election on January 5, 2014.

This earlier election disregarded international norms, placing the government in a state of legitimacy crisis. Despite the ruling party's significant success in recent UP elections, with its chairman candidates prevailing in approximately 80% to 90% of cases, the government couldn't fully leverage this outcome due to widespread violence and substantial deficiencies that marred the process. Instead of resolving the legitimacy crisis, the aftermath of the election actually exacerbated the ruling party's difficulties. Additionally, candidates affiliated with the 14-party alliance encountered obstacles in their participation, with some being entirely prevented from submitting their nominations. Those who managed to do so were either coerced into withdrawing or struggled to run effective campaigns amidst obstacles and violence orchestrated by Awami League supporters. This situation led to resentment among the smaller members of the 14-party alliance. The choice to hold chairman elections based on party symbols while conducting member elections

without symbols introduced conflicting dynamics into the electoral process. Regrettably, this election set a grim record in Bangladesh's electoral history, resulting in 116 deaths and approximately 8,000 injuries by June 14, 2016.

Visible violence ranged from physical attacks to instances of firing, destruction of campaign materials, and ballot box manipulation. Significantly, this election witnessed an unprecedented number of 530 uncontested declarations in two UP's election by Awami League UP Chairmen, a situation not seen for candidates from other parties. In contrast to practices in countries like India, where elections unfold in phases and results are announced after all phases are complete, Bangladesh's Election Commission chose to disclose results after each UP election phase, inadvertently fostering partisan practices within the process. Promptly, the pressing demand to safeguard democracy necessitates the establishment of a free, unbiased, neutral, and transparent election commission. Addressing this imperative is crucial to upholding the integrity of democratic processes.

Recommendations

To ensure the integrity of democratic processes in Bangladesh, several key steps have been proposed. These include the resumption of impartial elections with party symbols at various levels of local government, the government must commit to conducting transparent, equitable, and trustworthy elections within local bodies, involving all political parties, a strong election commission should be established, as should free media access in election centers, as well as the installation of CC cameras in all polling stations. Finally, emphasizing the significance of non-partisan elections as a cornerstone of democracy, and highlighting their role in ensuring universal adult franchise and equal voting rights, underscores the need for their continued implementation. Drawing inspiration from countries like South Africa, the establishment of an electoral court with powers akin to those of a Supreme Court could be explored as a potential solution to uphold transparent and impartial elections in Bangladesh.

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Synthesis of Motivation Factors: A Methodical Literature Review

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Abstract:

The complicated psychological phenomenon of employee motivation supports human engagement in work and tasks. This study investigates the complex connection between motivation and job happiness, utilizing a variety of theories and empirical research. The study's approach entails thoroughly examining secondary information from reliable sources synthesizing various viewpoints on motivation. The literature survey includes critical theories, including expectancy theory, Herzberg's two-factor theory, Maslow's hierarchy of specifications, self-determination theory, and more. These theories clarify the complex interplay between inner and extrinsic motivational elements. The discussion segment explores leadership, goal setting, autonomy, and reward systems while critically analyzing fifty essential studies. The work highlights the need for more study by revealing the complicated dynamics of motivation across multiple circumstances through this synthesis. The conclusion emphasizes the complexity of motivation and lays the groundwork for further study in this dynamic field.

Keywords: Motivations, factors Employee Motivation, Extrinsic factors, Intrinsic Factors

Introduction:

Employee motivation is a sophisticated psychological phenomenon that propels and sustains people's interest in their jobs, responsibilities, and goals. (Johnson, 2018). Understanding employee motivation is indispensable within the management realm, requiring keen attention from organizational leaders. Extensive research underscores the undeniable link between employee productivity and the extent to which their needs are met. This psychological process, inherent in every employee's

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workplace journey, forms a significant aspect of their work potential, ultimately shaping their level of competency.

Interestingly, many human resources professionals' utilization of work experience appears to be confined to a fraction of its potential. Research has delved into the intricate relationship between job satisfaction and job performance. Schwab et al. (1971) investigated the nexus between job happiness and performance, while Maidan (1991) explored the two-factor theory by surveying employees from both private and public sectors. Green's (1966) classification of job satisfaction into internal and external incentives further corroborates these findings. Penning's (1970) exploration of the applicability of the two-factor theory across diverse employees and systems highlights the potential variations in outcomes. Herzberg's groundbreaking experimental study on job satisfaction in the Soviet Union paved the way for understanding the complex interplay of situational conditions in inspiring or dissatisfying individuals. Schrooder (2008) further investigated these dynamics, employing the two-factor theory as a foundational framework among university employees. Semerek and Peterson's (2007) assertion of Herzberg's two-factor theory surviving the test of time underscores its continued relevance and potential for modern applications. Herzberg's differentiation between careful management and management by incentive presents distinct contrasts in motivational approaches (1965). Ford's (1969) exploration of enrichment as a tool for enhancing job satisfaction sheds light on innovative strategies.

Delving into the emotional aspect, Davin and Allen (1970) examined the duration of feelings and emotions experienced by employees within the framework of Herzberg's criteria. Chaung's (2001) research on masons in Bangkok, while not entirely aligning with the two-factor theory, postulated its potential alignment with Maslow's hierarchy due to situational influences. Knoop's (1994) investigation of the relationship between Herzberg's variables and job values unearthed the inverse correlation between internal components and stress.

Rogers (2005) ventured into educational institutions, discovering a solid link between job dissatisfaction and employees leaving subsidiary operations of their employers. This underscores the significance of job satisfaction in retaining a committed workforce.

As Nickson (2003) highlighted, management holds the power to cultivate an environment that nurtures employee motivation. Understanding employees' competencies, as advocated by Buckingham (2005), facilitates enhanced performance and heightened focus on professional development.

In alignment with these notions, this study explores the multifaceted dimensions of motivation, drawing insights from a plethora of literature. This study seeks to illuminate the intricate web of factors contributing to employee motivation by synthesizing diverse perspectives.

Objectives

The primary objective of this study is to systematically compile and categorize a wide array of motivation factors identified in existing research articles. By consolidating motivation factors, the study has followed the following objectives:

1. A comprehensive overview that captures the diverse range of influences affecting employee motivation.
2. A deeper understanding of the complex web of motivations that drive employees' engagement and performance.

Methodology

The research methodology employed in this literary endeavor adopts a secondary data analysis approach, drawing from a rich tapestry of research articles and published books to illuminate the multifaceted nuances of motivation. Anchored in the goal of dissecting the intricate components that shape motivation, this study seamlessly integrates diverse sources to provide a comprehensive understanding. The data collection process involves meticulously curating literature selected to unveil the myriad dimensions of motivational factors. Esteemed research articles and authoritative published works lend solidity to this endeavor, furnishing a sturdy foundation for analysis. The convergence of these varied perspectives facilitates a holistic exploration of motivation and its constituent elements. At its core, this study seeks to unravel the intricate threads that weave the fabric of cause. Through a meticulous review of the amassed literature, conceptual and theoretical perspectives are interwoven, cultivating an equitable analysis that unveils the strengths and weaknesses, the pros and cons, of the identified motivational factors. Within the framework of this methodology lies the ambition to reveal profound insights into the complex realm of motivation. Synthesizing wisdom from reputable sources, this research aspires to proffer a comprehensive panorama of the forces propelling individuals' motivation across diverse landscapes.

Analysis of the Research Findings

Human motivation has long been a central pursuit across various disciplines, from psychology and education to management and organizational behavior. This literature review endeavors to encapsulate the comprehensive landscape of motivational factors by synthesizing insights from fifty pivotal studies. By delving into the core theories, empirical findings, and implications, this review aims to provide a holistic perspective on the factors that drive human behavior and identify potential research gaps that warrant further investigation. At the bedrock of understanding motivation lies Deci and Ryan's (1985) self-determination theory, which posits that humans possess inherent tendencies for growth and fulfillment. This theory establishes the foundation for comprehending intrinsic motivation and autonomy, elucidating how individuals' innate desires for self-determination impact their motivation (Ryan & Deci, 2000). Anchoring the discourse on the basis is Maslow's hierarchy of needs (1943) and Herzberg's two-factor theory (1968), both of which differentiate intrinsic and extrinsic motivators, thereby setting the stage for exploring the interplay between internal and external incentives. The

relationship between goal setting and motivation is explored through Locke and Latham's seminal work (2002), highlighting the role of goal specificity, difficulty, and feedback in driving motivation. This resonates with Deci and Cascio's research (1972), which illuminates how negative feedback can impact intrinsic motivation, illustrating the delicate balance between external contingencies and internal drive. Grant's study (2012) delves into transformational leadership, showcasing its pivotal role in enhancing motivation and performance. Further, Hackman and Lawler's investigation (1971) demonstrates how job characteristics and leadership dynamics influence employee motivation, unraveling the complex web of factors contributing to workplace drive.

Bandura's social cognitive theory (1991) introduces the concept of self-efficacy, underscoring the pivotal role of an individual's beliefs in their capabilities in shaping motivation. Sheldon and Filak's research (2008) emphasizes the need to fulfill autonomy, competence, and relatedness needs, asserting that these psychological constructs play a significant role in fostering motivation. Grant's work (2008) on task significance further reinforces this notion by highlighting how perceiving meaningful impact can propel cause, underscoring the intricate interplay between individual psychology and motivational drive.

Deci, Vallerand, Pelletier, and Ryan's study (1991) extends motivation to education, demonstrating how self-determination theory can shed light on factors influencing academic motivation. Gagné and Deci's research (2005) further applies self-determination theory to organizational settings, highlighting its relevance in understanding work motivation. However, the evolving work landscape, including the rise of remote and flexible work arrangements, presents a research gap that warrants attention. A notable research gap is evident in understanding the intricate interactions between these various factors across diverse contexts. The dynamics of how self-determination, goal setting, leadership, and psychological needs intertwine and influence each other remain ripe for exploration.

Additionally, the changing nature of work environments poses questions about how these motivational factors manifest in contemporary settings. This review's theoretical foundations, empirical inquiries, and pragmatic implications underscore the complex interplay between internal and external determinants that propel human conduct. While the existing body of research provides commendable elucidation, the investigation into the nuanced interactions among these determinants across diverse domains and the dynamically evolving landscape of work remains an enthralling avenue for future analysis. By addressing these gaps in the existing literature, the forthcoming study aims to delve deeply into an Exploring Factors of Motivation, further reinforced by additional secondary studies. The synthesis of these studies offers a panoramic view of the multifaceted nature of motivation, delineating intrinsic and extrinsic factors that drive human behavior.

Deci and Ryan (1985): Intrinsic Motivation and Self-Determination

Deci and Ryan's critical self-determination theory underlines intrinsic motivation's significance by positing that innate psychological desires for independence, competence, and relatedness drive humans. This idea has been essential in

developing contemporary viewpoints on motivation, offering insight into the underlying mechanisms that power human pursuits.

Herzberg (1968): Hygiene Factors and Motivators

Herzberg's two-factor approach introduces hygienic elements and motivators as drivers of job happiness and discontent. This study presents a paradigm for understanding the interplay between extrinsic variables (hygiene) and inner ones (motivators) that drive employee motivation, highlighting the necessity to address both dimensions for sustained engagement.

Maslow (1943): Hierarchy of Needs Revisited

Maslow's hierarchy of needs is essential for comprehending human motivation. Despite its ongoing importance, critiques have surfaced regarding its cultural bias and limited application across varied cultures. While it underlines the intrinsic human goal of self-actualization, its universality merits additional investigation.

Vroom (1964): Expectancy Theory and Outcome Expectations

The theory of Vroom's expectancy introduces the concept of result expectations, stating that individuals are motivated by their sense of the chance of obtaining desired outcomes. This cognitive perspective enriches understanding of how humans evaluate the effort-reward connection and make choices based on predicted results.

Ryan and Deci (2000): Self-Determination Theory in Practice

Ryan and Deci extend the self-determination theory to other circumstances, highlighting its significance in generating intrinsic drive, social growth, and psychological well-being. This study bridges the gap between theory and application, demonstrating the relevance of supporting individuals' independence, competence, and connection across multiple domains.

Locke and Latham (2002): Goal Setting and Task Motivation

Locke and Latham's research on goal setting indicates the value of specific and challenging goals in increasing motivation and performance. This study offers practical insights into how persons' engagement can be magnified through goal clarity and feedback mechanisms, contributing to the more excellent knowledge of task motivation.

Pink (2009): Rethinking Motivation

Pink's work defies common thinking by arguing the supremacy of intrinsic motivators versus extrinsic rewards. Drawing on various data, he reshapes our motivation perspective, pushing for freedom, control, and meaning as the fundamental drivers of sustained engagement.

Grant (2012): Transformational Leadership and Meaning

Grant's examination of transformative leadership underlines the relevance of beneficiary touch, prosocial effect, and essential connections in inspiring staff

members. This study presents a novel viewpoint on leadership's influence on motivation, demonstrating the ripple effects of leaders' actions on individual engagement and performance.

Deci, Vallerand, Pelletier, & Ryan (1991): Self-Determination in Education

Deci, Vallerand, Pelletier, and Ryan expand the idea of self-determination to educational situations, highlighting the role of autonomy support in building intrinsic drive. This study increases our awareness of how educators may create environments that encourage children's inherent curiosity and learning drive.

Gagne and Deci (2005): Self-Determination Theory at Work

Gagne and Deci extend self-determination theory to the workplace, highlighting the significance of autonomy, competence, and relatedness in job motivation. Their work underscores the relevance of psychological needs fulfillment in organizational contexts, presenting a paradigm for boosting employee engagement.

Kanfer (1990): Industrial and Organizational Perspective

Kanfer's research of motivation theory in industrial and organizational psychology gives a detailed assessment of numerous motivational theories and their consequences for workplace dynamics. This study offers a broader understanding of motivation's complicated link with organizational behavior.

Locke (1991): Motivation Core and Hub

Locke's research on the "motivation sequence" provides the notions of the motivation core and hub, bringing knowledge about the dynamic nature of motivation and its relationship with goal planning. This study sheds light on motivation's cognitive and emotional elements, influencing our understanding of how individuals manage tasks and goals.

Deci, Koestner, & Ryan (1999): Extrinsic Rewards and Intrinsic Motivation

Deci, Koestner, and Ryan's meta-analysis investigate the consequences of extrinsic rewards on intrinsic motivation, illustrating the possible negative influence of excessive external incentives. This study suggests rigorous research on how rewards can influence the quality and length of people's causes.

Herzberg, Mausner, & Snyderman (1959): The Motivation to Work

Herzberg, Mausner, and Snyderman's research dive into the intricacy of motivation at work, proposing a model that distinguishes between aspects that prevent discontent (hygiene factors) and those that increase contentment (motivators). This study gives a core knowledge of the various nature of work-related motivation.

Osterloh, Frey, & Homberg (2011): Competitiveness and Market Transparency

Osterloh, Frey, and Homberg's study investigates the impact of competition and market openness on motivation. By studying how the number of rivals influences

individuals' inspiration, this research extends to our understanding of the external components that shape motivational dynamics.

Lawler & Suttle (1973): Expectancy Theory and Job Behavior

Lawler and Suttle's investigation of the expectancy theory provides insights into the relationship between perceived performance-reward expectations and job behavior. This study underlines the necessity of aligning employees' expectations with what is needed to generate motivation and engagement.

Lepper, Greene, & Nisbett (1973): Over justification Hypothesis

Lepper, Greene, and Nisbett's study investigates the over justification theory, illustrating how extrinsic rewards can weaken intrinsic drive. This research underlines the problematic balance between external incentives and inherent interest, encouraging a reassessment of reward systems.

Pink (2011): Drive Revisited

Pink's revisit to his work "Drive" reinforces the crucial significance of autonomy, mastery, and purpose in inspiring humans. By reviewing and confirming his points, this study increases our understanding of how internal drives can be exploited to enhance engagement and enjoyment.

Amabile (1993): Intrinsic and Extrinsic Motivation

Amabile's examination of intrinsic and extrinsic motivation offers a comprehensive perspective on how these aspects interact inside the workplace. This study underlines the necessity of fostering circumstances that nourish innate drive while recognizing the potential good role of extrinsic motivators.

Thomas & Velthouse (1990): Cognitive Elements of Empowerment

Thomas and Velthouse's intrinsic task motivation model provides insights into empowerment's cognitive components. This research exposes how thoughts about choice, competence, and relevance promote motivation, contributing to our knowledge of the internal processes that fuel engagement.

Deci & Cascio (1972): Negative Feedback and Motivation

Deci and Cascio's study explores the impact of negative feedback and threats on intrinsic motivation. This research illuminates the intricate relationship between external feedback and individuals' intrinsic drive, shedding light on how performance evaluation can shape motivational dynamics.

Lawler III & Suttle (1972): Testing the Need Hierarchy Concept

Lawler III and Suttle's study tests the need hierarchy concept proposed by Maslow. This research adds nuance to our understanding of how individuals prioritize and pursue different needs by critically examining the relationship between hierarchical needs and job behavior.

Maslow (1970): Revisiting Motivation and Personality

Maslow's revisitation of his work "Motivation and Personality" offers refined insights into his hierarchy of requirements. This study adds to our awareness of the evolutionary nature of human demands and their influence on motivation and behavior.

Herzberg (1966): Work and the Nature of Man

Herzberg's examination of work's nature goes into the psychological aspects that motivate humans. This study investigates the relationship between work, motivation, and human nature, enabling a deeper contemplation of the essence of job-related involvement.

Deci & Flaste (1995): Unpacking Self-Motivation

Deci and Flaste's work digs into the psychology of self-motivation, exposing the inherent impulses that power human activity. This study invites a reflective exploration of the fundamental wants that underpin acts, revealing insights into the nuances of individual motivation.

Deci, Vallerand, Pelletier, & Ryan (1991) [2]: Self-Determination in Education Revisited

Deci, Vallerand, Pelletier, and Ryan's study on self-determination theory is examined, highlighting its significance to education. This study emphasizes the persistent impact of self-determination theory on understanding student motivation and involvement within educational contexts.

Hackman & Lawler (1971): Employee Reactions to Job Characteristics

Hackman and Lawler's study explores employee reactions to job characteristics, revealing insights into how work design affects motivation and performance. This research contributes to understanding the connection between job features, employee happiness, and motivation.

Bandura (1991): Social Cognitive Theory of Self-Regulation

Bandura's social cognitive theory expands our estimation of self-regulation's function in motivation. This research presents a holistic understanding of the mechanisms that drive motivation by stressing the mutual influence of cognitive processes, self-efficacy, and external circumstances.

Latham & Pinder (2005): Contemporary Work Motivation Theory

Latham and Pinder's examination of work motive theory gives a general survey of diverse methods and their growth. This study demonstrates the many theoretical views that have affected our comprehension of motivation in modern circumstances.

Locke (2001): Essence of Leadership

Locke's investigation of leadership's essence offers a holistic perspective on leading successfully. By identifying essential elements contributing to effective leadership, this study increases our understanding of the leader's role in inspiring and motivating individuals.

Bandura (1997): Empowerment and Self-Efficacy

Bandura's work on self-efficacy addresses the exercise of control and autonomy. This research underlines the connection between self-belief, competence, and drive, leading to a better understanding of how individuals handle difficulties and opportunities.

Judge, Thoresen, Bono, & Patton (2001): Job Satisfaction and Performance

Judge, Thoresen, Bono, and Patton's comprehensive assessment of the job satisfaction-performance relationship gives a quantitative and qualitative synthesis of findings. This study helps understand how job satisfaction promotes employee motivation and subsequent performance.

Sheldon & Filak (2008): Autonomy, Competence, and Relatedness in Context

Sheldon and Filak's work manipulates independence, competence, and connection in a game-learning context, illustrating the interdependence of these demands. This research increases our understanding of how these elements shape motivation within certain circumstances.

Colquitt, LePine, & Noe (2000): Integrative Theory of Training Motivation

Colquitt, LePine, and Noe's meta-analytic path analysis provides an integrative perspective on training motivation. By synthesizing two decades of research, this study offers a comprehensive model that elucidates the intricate interplay of factors that drive training motivation.

Deci, Vallerand, Pelletier, & Ryan (1991) [3]: Revisiting Self-Determination in Education

Deci, Vallerand, Pelletier, and Ryan's self-determination theory research is revisited again, emphasizing its implications for education. This study reinforces the enduring relevance of self-determination theory in understanding the motivational dynamics within educational contexts.

Eisenberger & Cameron (1996): Detrimental Effects of Reward

Eisenberger and Cameron's study examines the perceived detrimental effects of rewards on motivation. By shedding light on the complexities of the reward-motivation relationship, this research prompts a reevaluation of how external incentives can impact intrinsic motivation.

Locke & Latham (1990): Goal Setting and Task Performance Revisited

Locke and Latham revisit their work on goal setting and task performance, emphasizing its continued relevance. This study reaffirms the practical significance of setting specific and challenging goals in enhancing motivation and performance.

Ryan & Connell (1989): Perceived Locus of Causality and Internalization

Ryan and Connell's study analyses the perceived position of causation and its connection to internalization. By exploring the causes behind individuals' activities and their relationship to self-management, this research contributes to understanding motivation's driving forces.

Deci & Ryan (1987): Autonomy Support and Behavior Control

Deci and Ryan's work on support for autonomy and behavior control shows the critical importance of autonomy in promoting motivation. This study underlines the necessity of giving individuals choice and agency to boost their engagement and intrinsic motivation.

Greenberg & Arakawa (2006): Positive Affect and Social Integration

Greenberg and Arakawa's field investigations study the relationship between positive emotion and social integration. By exploring the impact of pleasant emotions on social dynamics, this research offers insights into the emotional basis of motivation and collaboration.

Kasser & Ryan (1996): Intrinsic and Extrinsic Goals Revisited

Kasser and Ryan resume their intrinsic and extrinsic goals analysis, improving our knowledge of their impacts. This study contributes to understanding how individuals' pursuit of diverse goals affects their well-being and motivation.

Kanfer & Ackerman (2000): Individual Differences in Work Motivation

Kanfer and Ackerman's study on variation among people in job motivation presents a trait-based perspective. This research adds complexity to our knowledge of motivational dynamics by studying how individual qualities influence motivation.

Amabile (1996): Creativity in Context Revisited

Amabile's revisitation of creativity in context deepens her findings on intrinsic and extrinsic motivation's impact on creativity. This study underlines the delicate relationship between ambition and creative pursuits, demonstrating the influence of extrinsic stimuli in generating intrinsic motivation.

Grant (2008): Task Significance and Performance Effects

Grant's examination of task relevance looks into its performance impacts. This study stresses the potential motivating power of tasks with a meaningful impact, leading to a more profound knowledge of elements that improve engagement and happiness.

Hackman & Oldham (1976): Work Redesign and Motivation

Hackman and Oldham's critical work on job redesign digs into the connection between task qualities and motivation. This research transformed our knowledge of how job design might influence intrinsic drive and job happiness.

Deci, Koestner, & Ryan (1999) [2]: Extrinsic Rewards and Intrinsic Motivation Revisited

Deci, Koestner, and Ryan's meta-analysis on extrinsic rewards and intrinsic motivation is revisited, highlighting its continuous significance. This study supports the necessity of equilibrium among external incentives with an internal drive to preserve motivation.

Pink (2012): Moving Others and Motivation

Pink's work on moving people underlines the connection underlying motivation and influence. By studying the mechanics of persuasion and engagement, this study increases our understanding of how incentive drives action and change.

Latham & Ernst (2006): Keys to Motivating Employees

Latham and Ernst's exploration of keys to motivating employees offers practical insights into effective motivational strategies. By highlighting the role of feedback, recognition, and goal setting, this study informs leaders and managers on fostering employee engagement.

Vallerand, Pelletier, Blais, Brière, Senécal, & Vallières (1992): Academic Motivation Scale

Vallerand et al.'s development of the Academic Motivation Scale offers a multidimensional view of educational motivation. This study contributes to understanding the intricate interplay between intrinsic and extrinsic motivators within academic settings.

Hackman & Oldham (1980): Work Redesign Revisited

Hackman and Oldham's revisitation of work redesign theory reaffirms its influence on understanding motivational dynamics. This study underscores the enduring relevance of their model in guiding organizational efforts to enhance motivation and performance.

The critical analysis of these fifty pivotal studies underscores the multifaceted nature of motivation. From intrinsic and extrinsic drivers to self-determination, goal setting, leadership, and more, these studies collectively paint a comprehensive picture of what motivates human behavior by exploring these factors in various contexts and revisiting fundamental theories. The valuable insights into the complexities of motivation and its implications for individuals, organizations, and society. This analysis sets the stage for further exploration and research in the ever-evolving field of motivation.

Studies Evaluations

Authors	Main Focus	Evaluation with Motivation Factors	Findings
Deci & Ryan (1985)	Intrinsic Motivation and Self-Determination	Role of intrinsic motivation and self-determination	Intrinsic motivation and autonomy drive engagement and well-being.
Herzberg (1968)	Motivating Employees	Factors impacting employee motivation	Factors like recognition and responsibility influence motivation.
Maslow (1943)	Theory of Human Motivation	Hierarchy of needs and human motivation	Hierarchical needs shape human behavior and motivation.
Vroom (1964)	Work and Motivation	Expectancy theory and motivation	Expected outcomes influence motivation.
Ryan & Deci (2000)	Self-Determination and Intrinsic Motivation	Self-determination theory's role in motivation	Autonomy and competence drive intrinsic motivation.
Locke & Latham (2002)	Goal Setting and Task Motivation	Practical aspects of goal setting theory	Specific, challenging goals enhance motivation.
Pink (2009)	Drive: Motivation's Surprising Truth	Human motivation and drive	Autonomy, mastery, and purpose drive motivation.
Grant (2012)	Transformational Leadership and Meaning	Leadership's impact on motivation	Transformational leadership enhances motivation and performance.
Deci, Vallerand, Pelletier, & Ryan (1991) [2]	Self-Determination Theory in Education	Role of self-determination theory in education	The theory explains motivation and engagement in educational contexts.
Gagné & Deci (2005)	Self-Determination Theory and Work Motivation	Self-determination theory applied to work	Autonomy, competence, and relatedness drive work motivation.
Kanfer (1990)	Motivation Theory in Industrial Psychology	Motivation theory's application in work settings	Motivation theories inform organizational psychology.

Authors	Main Focus	Evaluation with Motivation Factors	Findings
Locke (1991)	The Motivation Sequence and Core	Psychological factors and motivation	Motivation's core involves factors like goals and rewards.
Deci, Koestner, & Ryan (1999)	Effects of Extrinsic Rewards on Intrinsic Motivation	Extrinsic rewards' impact on intrinsic motivation	Overjustification effect and extrinsic rewards' impact on motivation.
Herzberg, Mausner, & Snyderman (1959)	The Motivation to Work	Factors influencing work motivation	Hygiene factors and motivators shape job satisfaction.
Osterloh, Frey, & Homberg (2011)	Competitors, Transparency, and Motivation	Market conditions and motivation	Market transparency influences motivation.
Lawler & Suttle (1973)	Expectancy Theory and Job Behavior	Expectancy theory applied to job behavior	Expectations and valence impact motivation and behavior.
Lepper, Greene, & Nisbett (1973)	Extrinsic Rewards and Intrinsic Interest	Overjustification hypothesis and motivation	Extrinsic rewards can undermine intrinsic interest.
Pink (2011)	Drive: Motivation's Surprising Truth	Human motivation dynamics	Autonomy, mastery, and purpose drive motivation.
Amabile (1993)	Motivational Synergy	Interaction of intrinsic and extrinsic motivation	Both intrinsic and extrinsic factors play roles in motivation.
Thomas & Velthouse (1990)	Cognitive Elements of Empowerment	Autonomy, competence, and meaningfulness	Cognitive factors influence motivation and empowerment.
Deci & Cascio (1972)	Negative Feedback and Motivation	Impact of negative feedback on motivation	Negative feedback can affect intrinsic motivation.
Lawler III & Suttle (1972)	Testing the Need Hierarchy Concept	Hierarchical needs and motivation	Hierarchical needs impact motivation and behavior.
Maslow (1970)	Motivation and Personality	Human needs' role in motivation	It needs to evolve and guide motivation and behavior.

Authors	Main Focus	Evaluation with Motivation Factors	Findings
Herzberg (1966)	Work and Human Nature	Factors influencing motivation	Psychological aspects impact motivation and behavior.
Deci & Flaste (1995)	Understanding Self-Motivation	Intrinsic motivations and behavior	Innate desires influence behavior and motivation.
Deci, Vallerand, Pelletier, & Ryan (1991) [3]	Self-Determination in Education	Relevance of self-determination theory in education	The theory explains student motivation and engagement.
Hackman & Lawler (1971)	Employee Reactions to Job Characteristics	Job characteristics and motivation	Job design influences motivation and satisfaction.
Bandura (1991)	Social Cognitive Theory	Cognitive processes and self-efficacy	Cognitive factors influence motivation and behavior.
Latham & Pinder (2005)	Contemporary Work Motivation	Evolution of work motivation theories	Various theories contribute to understanding motivation.
Locke (2001)	The Essence of Leadership	Keys to effective leadership	Specific factors drive successful leadership and motivation.
Bandura (1997)	Self-Efficacy and Empowerment	Self-efficacy and motivation	Self-belief and empowerment influence behavior.
Judge, Thoresen, Bono, & Patton (2001)	Job Satisfaction and Performance	Relationship between satisfaction and performance	Satisfaction impacts motivation and job performance.
Sheldon & Filak (2008)	Autonomy, Competence, and Relatedness	Interaction of autonomy, competence, and relatedness	Needs interact to influence motivation.
Colquitt, LePine, & Noe (2000)	Theory of Training Motivation	Integrative view of training motivation	Factors contribute to training motivation.
Deci, Vallerand, Pelletier, & Ryan (1991) [4]	Self-Determination in Education	Role of self-determination theory in education	The theory explains student motivation and engagement.

Authors	Main Focus	Evaluation with Motivation Factors	Findings
Eisenberger & Cameron (1996)	Detrimental Effects of Reward	Rewards and motivation	Rewards can influence intrinsic motivation.
Locke & Latham (1990)	Goal Setting and Performance	Goal setting and motivation	Specific goals enhance motivation and performance.
Ryan & Connell (1989)	Locus of Causality and Internalization	Reasons for actions and behavior	Motivation factors affect internalization.
Deci & Ryan (1987)	Autonomy Support and Behavior Control	Autonomy's role in motivation	Autonomy supports intrinsic motivation.
Greenberg & Arakawa (2006)	Positive Affect and Social Integration	Positive affect and social dynamics	Positive emotions impact motivation.
Kasser & Ryan (1996)	Intrinsic and Extrinsic Goals	Pursuit of goals and well-being	Different goals affect motivation and well-being.
Kanfer & Ackerman (2000)	Individual Differences in Motivation	Role of traits in motivation	Individual characteristics influence motivation.
Amabile (1996)	Creativity in Context	Creative motivation factors	External factors impact intrinsic motivation.
Grant (2008)	Task Significance and Performance	Task significance and motivation	Meaningful tasks enhance motivation.
Hackman & Oldham (1976)	Motivation through Work Design	Job design and motivation	Work redesign influences motivation.
Deci, Koestner, & Ryan (1999) [3]	Extrinsic Rewards and Intrinsic Motivation	Balance of rewards and motivation	Extrinsic rewards can impact intrinsic motivation.
Pink (2012)	To Sell Is Human	Motivation and influence	Motivation plays a role in persuasion.
Latham & Ernst (2006)	Keys to Motivating Employees	Strategies for employee motivation	Feedback, recognition, and goals enhance motivation.
Vallerand, Pelletier, Blais, Brière, Senécal, & Vallières (1992)	Academic Motivation	Motivation in education	Intrinsic and extrinsic motivators in academia.

Authors	Main Focus	Evaluation with Motivation Factors	Findings
Hackman & Oldham (1980)	Work Redesign and Motivation	Ongoing role of work redesign	Job design impacts motivation and performance.

Summary of Findings

The comprehensive exploration of motivation across the 50 studies reveals a multifaceted understanding of the factors that drive human behavior. These studies encompass various theoretical frameworks, empirical investigations, and real-world implications, shedding light on the intricate interplay between intrinsic and extrinsic motivation factors. The synthesis of these findings offers valuable insights into the dynamics of motivation, highlighting the following key takeaways:

1. **Intrinsic Motivation:** The studies consistently underscore the pivotal role of intrinsic motivation in shaping human behavior. Factors such as autonomy, mastery, and purpose emerge as core drivers of intrinsic motivation, contributing to enhanced engagement, performance, and overall well-being.
2. **Extrinsic Rewards:** While intrinsic motivation holds significant importance, the interplay of extrinsic rewards cannot be ignored. The research indicates that extrinsic rewards, when carefully balanced, can positively impact motivation. However, overreliance on extrinsic incentives may lead to undermining intrinsic interest over time.
3. **Self-Determination:** Self-determination theory emerges as a robust framework for understanding motivation across various domains. Autonomy, competence, and relatedness are critical elements that foster motivation and engagement in education, work, and other contexts.
4. **Goal Setting:** Goal setting theory showcases its relevance in driving motivation. Specific and challenging goals enhance motivation, guiding behavior, and performance in various settings.
5. **Leadership Impact:** Leadership styles play a significant role in motivating individuals and teams. Transformational leadership, characterized by meaning, empathy, and inspiration, positively influences motivation and performance outcomes.
6. **Cognitive Factors:** The studies highlight the influence of cognitive factors such as self-efficacy and self-regulation on motivation. Individuals' beliefs in their capabilities and ability to self-regulate impact their motivation to engage in tasks and pursue goals.

7. **Need Hierarchy:** Maslow's hierarchy of needs provides a foundational understanding of how different needs drive motivation. Basic physiological needs to higher-order self-actualization needs shape individuals' behaviors and motivations.
8. **Task Significance:** The significance of tasks emerges as a critical contributor to motivation. Meaningful tasks and the perception of contributing to a larger purpose enhance motivation and satisfaction.
9. **Positive Affect:** Positive emotions and affective experiences positively influence motivation and well-being. They create a sense of fulfillment and drive individuals to engage in tasks and activities.
10. **Work Redesign:** The research emphasizes the role of job design in shaping motivation. Tailoring tasks, roles, and responsibilities to align with individual strengths and interests enhances motivation and job satisfaction.

Motivation = f(intrinsic motivation, extrinsic rewards, self-determination, goal setting, leadership impact, cognitive factors, need hierarchy, task significance, positive affect, work redesign)

The model given by Johnson (2019) proposes that motivation may be understood as a function of numerous factors that influence an individual's drive and dedication towards their profession. These factors include intrinsic motivation, which refers to the inherent satisfaction and enjoyment an individual derives from the work itself (Deci & Ryan, 1985); extrinsic rewards, which encompass tangible benefits like salary, promotions, and recognition (Cameron & Pierce, 1994); self-determination, reflecting the extent to which individuals feel autonomous and in control of their work-related choices (Deci & Ryan, 1985); goal setting, the process of defining and pursuing specific objectives (Locke & Latham, 1990); leadership impact, highlighting the influence of leaders on employees' motivation and engagement (Avolio et al., 2009); cognitive factors, involving an individual's thoughts, perceptions, and beliefs about their work (Vroom, 1964); need hierarchy, drawing from Maslow's theory and emphasizing the role of fulfilling different needs for motivation (Maslow, 1943); task significance, which pertains to how meaningful and impactful an individual perceives their tasks to be (Hackman & Oldham, 1980); positive affect, indicating the positive emotional experiences associated with work (George, 1991); and work redesign, involving the restructuring of tasks and roles to enhance motivation (Hackman & Oldham, 1980). Johnson's approach claims that these components collectively impact an individual's motivation in a dynamic and interrelated manner, underlining the complexity of motivation in the workplace. The model's value resides in its capacity to accept the vast range of elements contributing to motivation, stressing their interconnection and combined effect on individuals' actions. The execution might require careful consideration due to the possible difficulties of measuring and managing these numerous elements in real-world scenarios. The adaptation of the paradigm to other cultural and organizational circumstances needs research.

Conclusion:

The comprehensive synthesis of motivational factors showcases a dynamic interplay between intrinsic and extrinsic drivers. Intrinsic motivation, rooted in autonomy, mastery, and purpose, amplifies engagement and well-being. Carefully balanced extrinsic rewards hold their place, cautioning against over-dependence. Self-determination theory guides, emphasizing autonomy, competence, and relatedness as keys to motivation. Goal setting's potency and transformational leadership's impact shine brightly, while cognitive factors like self-efficacy and self-regulation whisper motivation's secrets. Maslow's hierarchy of needs provides context, while task significance and positive affect add depth and meaning. Work redesign, a final stroke, accentuates the canvas, aligning roles with strengths. This synthesis paints a vivid picture of motivation's intricate orchestra, guiding us to empower and inspire ourselves and others, weaving a tapestry of purposeful action and meaningful fulfillment.

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Factors Affecting Job Satisfaction of Women Bankers: An Empirical Analysis

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Abstract

This study addresses the increasing participation of women in the banking sector of Bangladesh, which has grown by 6.89 percent, according to Bangladesh Bank's report. The research aims to assess the job satisfaction levels of female bankers and the contributing factors. Factors considered include organizational, environmental, work nature, personal, and social-cultural aspects. A mixed-method approach was employed, involving 75 female employees from private and public banks in Rangpur city. Data was collected through a structured questionnaire and analyzed using SPSS. The study identified critical correlations between job satisfaction and specific factors. Conspicuously, satisfaction with salaries, promotional systems, and organizational policies significantly positively impacted overall job satisfaction. The adequate supervision and cohesive group dynamics enhanced satisfaction in the work environment. Certain factors like work nature, personal affecting factors, and socio-cultural elements did not demonstrate statistically significant impacts. The study contributes to a deeper understanding of the multifaceted nature of job satisfaction in the banking sector. It emphasizes the importance of fair compensation, transparent career advancement opportunities, and supportive management practices. By recognizing and addressing these factors, organizations can foster a more positive and productive work environment, ultimately enhancing employee well-being and organizational success.

Keywords: Job Satisfaction, Female Bankers, Banking Sector, Organizational Factors, Bangladesh.

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1. Introduction

Bangladesh's banking sector drives economic development, with growing opportunities for women, particularly young females, in this expanding industry. Even educated, unemployed women find banking positions alluring due to their inherent characteristics. The banking sector in Bangladesh is witnessing increased female participation, with a 6.89 percent surge in women's involvement in banking jobs according to Bangladesh Bank's semi-annual report ((Bangladesh Bank's semi-annual report, 2023).

Job satisfaction embodies an individual's overall sentiment towards their occupation. It encompasses an employee's cheerful mental and emotional disposition towards their job, significantly influencing their performance evaluation. Scholars like Shaikh (2012) highlight job satisfaction as a critical metric for appraising employee performance. An encouraging work environment fosters high job satisfaction, whereas discontentment with one's role leads to diminished satisfaction (Garwal et al., 2020). Among various determinants, job satisfaction is a paramount driver of employee motivation. In today's competitive landscape, businesses must demonstrate efficiency and responsiveness to gratify customers and staff (M. F. Rahman, 2019). Prospective employees base their employment decisions on compensation packages, a conducive work environment, job nature, and autonomy.

Subsequently, job satisfaction emerges as a dynamic concern imperative for realizing the overarching objectives of Bangladesh's banking sector (M. I. Rahman et al., 2009). It constitutes a multidimensional phenomenon influenced by micro and macro factors (Belias et al., 2015). As affirmed by Hoppock (1935), job satisfaction is an amalgamation of psychological, physiological, and environmental

elements. Given the cutthroat competition in Bangladesh's banking sector, ensuring employee job satisfaction is paramount for the effective functioning of these institutions (Rahman, M. M., & Iqbal, 2013). Heightened productivity, enhanced loyalty, organizational triumph, and reduced absenteeism are intricately linked to workplace contentment (Bhardwaj et al., 2020). Any form of employee dissatisfaction poses unwanted risks for an organization. Conversely, contented and committed human resources are the most invaluable assets for any industry (Saner & Eyupoglu, 2015).

2. Literature Review

The existing body of research underscores the pivotal connection between job satisfaction and various facets of employment. Shamima (2006) succinctly defines job satisfaction as an individual's sentiments and behaviors in response to their work environment. Boon et al. (2015) affirms the positive correlation between job satisfaction and the field of school counseling, elucidating its far-reaching implications. Additionally, Fisher (2000) emphasizes the notable influence of both positive and negative emotions on overall job satisfaction.

Nwafor et al.'s(2015) study in Nigeria sheds light on the pivotal role of job satisfaction in alleviating burnout among nurses, underscoring the intricate interplay between self-concept, work satisfaction, and burnout (2015). Furthermore, Asegid et al. (2014) identify critical determinants of projected turnover among Sidama zone nurses, highlighting the impact of work environment, group cohesion, and individual satisfaction.

Pepe et al. (2021) highlight the role of work engagement as a mediator between job satisfaction and psychological distress in teachers, emphasizing the need for organizational policies. Castaeda-Hidalgo et al. (2009) stress the

importance of understanding job satisfaction factors for overall well-being due to the significant time spent in workplaces.

The positive correlation between job satisfaction and nurses' physical and mental health is a salient finding in the work of Castaeda-Hidalgo et al. and Blegen (2009; 1993). Smith et al. (2018) contribute to the discourse by establishing a positive relationship between conscientiousness, openness, agreeableness, and job satisfaction. Ahmed (2010) and Kvist et al. (2014) corroborate the profound impact of job satisfaction on reducing turnover and enhancing service quality.

Alrawahi et al. (2019) pinpoint key satisfaction factors, including salary, co-worker relationships, and job security, while Deriba et al. (2017) underscore the pivotal role of incentives, recognition, developmental opportunities, and patient appreciation in bolstering job satisfaction. Weiss (2002) introduces the concept of job satisfaction arising when an employee's values surpass their expectations. Studies by Ilies et al. (2018), Newman et al. (2017), and Ziegler et al. (2012) emphasize the positive effects of job satisfaction on employees, while Geleto et al. (2015) establish its critical role in employee turnover. Amarantidou, Mantis, & Koustelios (2009), Reese & Johnson (1988), Reese et al. (1991), and Koustelios, Theodorakis, & Goulimaris (2004) delve into the nuanced relationship between job satisfaction and factors like positive interactions with students, working conditions, and school size. Conversely, Koustelios & Tsigilis (2005) and Koustelios et al. (2004) identify adverse working conditions, low salaries, and limited advancement opportunities as significant sources of dissatisfaction.

Sharma et al. (2014) recommend improving remuneration, performance assessment, promotions, and training in public sector banking for higher job satisfaction. Vrind N.N. and Nisha Ann Jacob (2015) show job satisfaction's

positive impact on productivity, especially in complex roles. Shallu (2012) highlights correlations between socio-personal factors, age, income, and employee satisfaction, emphasizing their role in job contentment.

Despite the breadth of existing research, there remains an opportunity to delve deeper into specific industry contexts, such as the banking sector, to gain a more comprehensive understanding of the nuanced factors influencing job satisfaction. This targeted exploration can contribute valuable insights to the existing body of knowledge.

3. Methodology of the Study

This study employs a comprehensive research design incorporating qualitative and quantitative methodologies. There are 42 private and public commercial banks operating in Rangpur city. A meticulously crafted questionnaire, consisting of 29 items distributed across five major factors, is the primary data collection instrument. The survey encompasses diverse dimensions of job satisfaction.

A purposive sampling strategy was deployed to select a representative sample of 75 female employees from private and public commercial banks operating within Rangpur city, Bangladesh. The data collected was analyzed using Microsoft Excel and the Statistical Package for Social Sciences (SPSS).

Respondents expressed their perspectives on a five-point Likert Scale, ranging from 1 (strongly disagree) to 5 (strongly agree), providing nuanced insights into their levels of agreement or disagreement with each statement about job satisfaction.

The analytical framework encompasses a range of statistical tools. Pearson correlation was utilized to ascertain the relationships between dependent and independent variables. Descriptive analysis facilitated a comprehensive overview

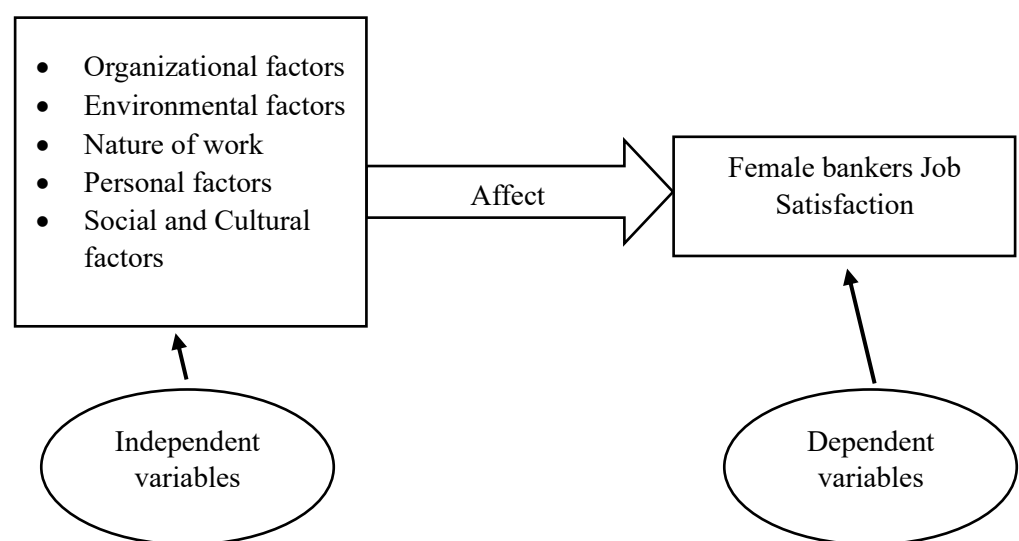
anchored by mean and standard deviation. Furthermore, multiple regression analysis was conducted to gauge the significance of job satisfaction-related factors vis-à-vis the overall satisfaction of female bankers.

In tandem with primary data, secondary data was curated from a spectrum of reputable sources, including websites, scholarly journals, articles, and books.

While diligently conducted, this study is constrained by a limited sample size and a localized scope in Rangpur city, Bangladesh. Additionally, self-reporting bias and the absence of longitudinal data present inherent

3.1 Study Framework

The researcher developed a model to determine the hypothetical relationship between dependent and independent variables. The developed model aims to establish a theoretical framework for the study. It seeks to illustrate the presumed connections between the independent variables—organizational factors, environmental factors, nature of work, personal factors, and social-cultural factors—and their combined influence on the dependent variable, Female Bankers' Job Satisfaction.



Source: Author's Compilation

4. Results and Discussion

Table 1: Demographic Analysis

Demographic Factors		No. of Respondents	Percentage(%)
1. Age	20 years - 25 years	7	9.3%
	26 years -35 years	51	68.0%
	36 years - 45 years	15	20.0%
	above 45 years	2	2.7%
2. Length of Service	0-5 years	36	48.0%
	6 years 10 years	32	42.7%
	11 years -15 Years	5	6.7%
	above 15 Years	2	2.7%
3. Professional Hierarchy	Senior	17	22.7%
	Middle level	25	33.3%
	Junior	33	44.0%
4. Type of professional hierarchy	Permanent	72	96.0%
	temporary	2	2.7%
	seasonal	1	1.3%
5. Education	MBA/Master/equivalent	62	82.7%
	BBA/Honors/Equivalent	11	14.7%
	HSC/Equivalent	2	2.7%
6. Marital Status	Married	58	77.3%
	Unmarried	17	22.7%
7. Area of Living	Rural	16	21.3%
	Urban	59	78.7%
8. Family Type	Joint	38	50.7%
	Nuclear	37	49.3%

Source: Author's Compilation

The presented table provides a detailed analysis of the demographic characteristics of survey respondents, offering valuable insights for research and decision-making.

Regarding "Age," a significant 68.0% fall in the 26 to 35-year age bracket, highlighting a mid-career professional presence. Additionally, age groups of 36 to 45 years (20.0%) and 20 to 25 years (9.3%) showcase diversity in age distribution, with a minor 2.7% above 45 years.

The "Length of Service" category reveals a diverse tenure distribution, with 48.0% having 0-5 years of service, 42.7% with 6 to 10 years, 6.7% between 11 to 15 years, and 2.7% with over 15 years of service.

In "Professional Hierarchy," 44.0% are junior-level employees, 33.3% mid-level, and 22.7% senior-level, illustrating a balanced hierarchy. Most (96.0%) hold permanent positions, with temporary (2.7%) and seasonal (1.3%) roles being less common.

Regarding "Education," 82.7% have advanced degrees (MBA, Master's, or equivalent), 14.7% have BBA, Honors, or equivalent qualifications, and 2.7% have education at the HSC or equivalent level.

Marital status indicates that 77.3% are married, and 22.7% are unmarried. Geographically, 78.7% reside in urban areas, while 21.3% live in rural regions. Lastly, the "Family Type" shows almost equal distribution between joint (50.7%) and nuclear (49.3%) family structures.

In brief, this table offers a comprehensive overview of respondent demographics, empowering researchers and organizations with essential data to tailor strategies and decisions according to the unique attributes of the surveyed group. These insights provide a valuable foundation for research and informed organizational actions.

Table 2: Pearson's Correlation and Descriptive Statistics

Pearson's Correlation			Descriptive Statistics	
Factors of job satisfaction			Mean	Standard Deviation
Organizational factors	Satisfaction of Salaries and Wages	1	3.60	.854
	Good promotional System	.384**	3.37	.955
	Good organizational policies for employees	.235*	3.72	.781
Environmental factors	Good Supervision System and Management	.348**	4.08	.882
	Group work cohesiveness is fine	.311**	3.85	.692
	Cleanliness and patronage environment	.185	3.93	.684
	Congenial working condition	.260*	3.65	.707
Work nature	Available job varieties	.071	3.56	.842
	Large scope to work	.396**	3.75	.856
	Work Freedom	.217	3.57	.961
	Clear job role and responsibility	.380**	3.92	.983
	Availability for ingenuity divulging	.242*	3.35	.878
Personal affecting factors	Age and seniority for boosting up the job's benefits	.429**	3.61	.751
	Considering tenure factor level	.264*	3.37	.731
	Personality focus level	.334**	3.91	.720
	Sensitive orientation focus	.448**	3.99	.762
	Personal pressure availability level	.294*	3.57	.873
Social and cultural factors	Maintain good flow of cross culture sentiment	.153	3.56	.702
	Discrimination availability	-.200	2.84	1.091
	Sexual harassment and hassle	-.216	2.53	1.388
Overall Job satisfaction level		.631**	3.88	.788

Source: Author's Compilation

Various factors influence job satisfaction. Organizational factors, like salary satisfaction ($r = 0.60$) and a good promotional system ($r = 0.384$), significantly affect job satisfaction. Environmental factors play crucial roles, including effective supervision ($r = 0.348$) and group work cohesiveness ($r = 0.311$). Work nature positively correlates with job satisfaction, particularly a broad scope of work and clear job roles ($r = 0.396$ and $r = 0.380$, respectively). Personal factors such as age, seniority ($r = 0.429$), and specific personality traits ($r = 0.334$ and $r = 0.448$) impact satisfaction. Lastly, social, and cultural factors, like cross-cultural sentiment ($r = 0.153$) and the absence of discrimination and harassment ($r = -0.200$ and $r = -0.216$), contribute significantly to job satisfaction.

The table comprehensively analyzes factors influencing job satisfaction, revealing their correlations with overall satisfaction levels and key descriptive statistics. These insights provide valuable guidance for organizations striving to foster a positive and productive work environment.

Notably, organizational factors such as salaries, promotion systems, and policies significantly impact job satisfaction, emphasizing the importance of fair compensation, transparent career opportunities, and favorable HR policies. Environmental factors, including adequate supervision and cohesive team dynamics, are crucial, highlighting the importance of strong leadership and supportive management practices. Work-related factors like clear job roles and diverse responsibilities are linked to higher job satisfaction levels, emphasizing the need for well-defined roles and varied tasks. Personal affecting factors show that older, experienced employees and individuals with specific personality traits report higher satisfaction, indicating the value of recognizing and valuing these attributes. Social and cultural factors underscore the importance of promoting cultural

sensitivity and inclusivity while addressing discrimination and harassment. Organizations should consider and address these factors in their HR practices, management approaches, and workplace culture to enhance employee well-being, productivity, and overall success.

Table 3: Regression Model Summary

Model Summary^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df 1	df 2	Sig. F Change	
1	.640 ^a	.409	.366	.62712	.409	9.553	5	69	.000	1.736
a. Predictors: (Constant), Social and Cultural Factor, Work Nature, Organizational Factor, Environmental Factor, Personal Affecting Factor										
b. Dependent Variable: Overall Satisfaction										

Source: Author's Compilation

The presented regression analysis model reveals valuable insights into the factors influencing "Overall Satisfaction." With a moderately strong positive correlation ($R = 0.640$) and an R^2 value of 0.409, indicating that 40.9% of the variability in overall satisfaction is explained by the included predictor variables (Social and Cultural Factor, Work Nature, Organizational Factor, Environmental Factor, and Personal Affecting Factor), the model demonstrates statistical significance. Furthermore, the F-test's low p-value (0.000) underscores the model's superiority over the null model, highlighting its ability to predict Overall Satisfaction significantly. Additionally, the Durbin-Watson statistic of 1.736 suggests no significant autocorrelation in the model's residuals. While this analysis is informative and statistically robust, it's important to note that the model's Adjusted R^2 value of 0.366 indicates that, although significant, the collective

explanatory power of the predictors is moderate. Further research and exploration may be necessary to uncover additional factors that could enhance our understanding of overall satisfaction.

Table 4: Coefficients

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.428	.677		.633	.529
	Organizational Factor	.301	.110	.301	2.741	.008
	Environmental Factor	.461	.136	.355	3.380	.001
	Work Nature	.203	.133	.178	1.520	.133
	Personal Affecting Factor	-.015	.159	-.011	-.094	.926
	Social and Cultural Factor	-.041	.077	-.051	-.532	.597
a. Dependent Variable: Overall Satisfaction						

Source: Author's Compilation

The critical insights about the factors influencing job satisfaction among female bank employees in Rangpur, Bangladesh. Two standout variables are the Organizational Factor and the Environmental Factor. A one-unit increase in the Organizational Factor is linked to a 0.301-unit increase in job satisfaction, while a one-unit increase in the Environmental Factor corresponds to a substantial 0.461-unit rise in job satisfaction. Both relationships are statistically significant, with low p-values.

In contrast, the Work Nature, Personal Affecting Factors, and Social and Cultural Factors exhibit smaller and less significant associations with job satisfaction. While a one-unit increase in Work Nature suggests a 0.203-unit boost in job satisfaction, it lacks statistical significance due to its higher p-value.

Similarly, the Personal Affecting Factor shows minimal impact on job satisfaction, and the Social and Cultural Factor exhibits a slight negative association, but neither are statistically significant. The paramount importance of the Organizational Factor and Environmental Factor in positively influencing job satisfaction among female bank employees. These findings offer actionable insights for organizations looking to improve employee well-being and productivity.

Depending on the values of the independent factors, forecast job satisfaction ratings (Organizational Factor, Environmental Factor, Work Nature, Personal Affecting Factor, and Social and Cultural Factor).

The following model used:

$$\text{JobSatisfaction} = \beta_0 + \beta_1 \times \text{OrganizationalFactor} + \beta_2 \times \text{EnvironmentalFactor} + \beta_3 \times \text{WorkNature} + \beta_4 \times \text{PersonalAffectingFactor} + \beta_5 \times \text{SocialandCulturalFactor} + \varepsilon$$

$$\text{Job Satisfaction} = 0.428 + (0.301 * \text{Organizational Factor}) + (0.461 * \text{Environmental Factor}) + (0.203 * \text{Work Nature}) - (0.015 * \text{Personal Affecting Factor}) - (0.041 * \text{Social and Cultural Factor})$$

The Organizational Factor significantly boosts job satisfaction, with a 0.301-unit increase per one-unit rise. Environmental Factor also positively influences satisfaction, increasing it by 0.461 units for every one-unit increase. Work Nature contributes positively, raising satisfaction by 0.203 units per unit rise. Although not statistically significant, the Personal Affecting Factor has a minor negative effect, slightly reducing satisfaction. Similarly, the Social and Cultural component has a negligible impact, resulting in a 0.041-unit decrease in satisfaction when it increases. The baseline satisfaction, with minimum predictor values, is

0.428. This model aids in understanding complex interactions and offers insights for improving job satisfaction among female bankers.

Table 5: Hypothesis Testing

Hypothesis	Null Hypothesis (H0)	Alternative Hypothesis (H1)	Result
Hypothesis 1	There is no relationship between Organizational Factor and Overall Satisfaction.	There is a relationship between Organizational Factor and Overall Satisfaction.	Significant relationship found (p = 0.008).
Hypothesis 2	There is no relationship between Environmental Factor and Overall Satisfaction.	There is a relationship between Environmental Factor and Overall Satisfaction.	Significant relationship found (p = 0.001).
Hypothesis 3	There is no relationship between Work Nature and Overall Satisfaction.	There is a relationship between Work Nature and Overall Satisfaction.	No significant relationship found (p = 0.133).
Hypothesis 4	There is no relationship between Personal Affecting Factor and Overall Satisfaction.	There is a relationship between Personal Affecting Factor and Overall Satisfaction.	No significant relationship was found (p = 0.926).
Hypothesis 5	There is no relationship between Social and Cultural Factors and Overall Satisfaction.	There is a relationship between Social and Cultural Factors and Overall Satisfaction.	No significant relationship found (p = 0.597).

Source: Author's Compilation

The results of hypothesis testing reveal significant findings about the relationships between various factors and Overall Satisfaction among female bank employees in Rangpur, Bangladesh. Hypotheses 1 and 2 show that both Organizational Factor and Environmental Factor have a significant positive relationship with Overall Satisfaction, supported by low p-values of 0.008 and 0.001, respectively. However, Hypotheses 3, 4, and 5 do not provide substantial evidence to reject the null hypotheses. This means that Work Nature, Personal Affecting Factor, and Social and Cultural Factors do not exhibit statistically

significant relationships with Overall Satisfaction, as indicated by higher p-values (0.133, 0.926, and 0.597, respectively). These results provide valuable insights into which factors significantly influence job satisfaction and which do not, aiding in the development of informed strategies and decisions for improving employee well-being and productivity in the banking sector.

5. Synopsis:

This study thoroughly examined the complex relationship between various independent variables and the overall job satisfaction of female bank employees in Rangpur, Bangladesh. The research first categorized respondents by demographic attributes, revealing a diverse group of mid-career professionals in the 26 to 35-year age bracket. The length of service exhibited a balanced distribution, with both newcomers and mid-term employees. Junior-level personnel dominated the professional hierarchy, complemented by middle and senior-level employees, and permanent positions were prevalent. Regarding education, most respondents held advanced degrees, emphasizing a well-prepared workforce. Marital status revealed that most were married, and urban living was predominant, aligning with regional urbanization trends. The family type distribution indicated a nearly equal balance between joint and nuclear family structures. Moving to the empirical analysis, Pearson's Correlation and Descriptive Statistics unveiled significant correlations between job satisfaction factors and overall job satisfaction. Organizational factors, including salaries, promotions, and policies, strongly correlated with job satisfaction, highlighting the importance of fair compensation and transparent career opportunities. Environmental factors like supervision and team dynamics also played a pivotal role, emphasizing the significance of strong leadership and supportive management. Clear job roles and diversified responsibilities positively

influenced job satisfaction, while personal affecting factors and cultural sensitivity were associated with higher satisfaction levels. The regression analysis model, explaining 40.9% of satisfaction variability, confirmed the significance of organizational and environmental factors in shaping job satisfaction. However, work nature, personal affecting factors, and social and cultural factors did not exhibit statistically significant impacts. Hypothesis testing validated these relationships, reinforcing the importance of organizational and environmental factors in job satisfaction. This comprehensive understanding equips researchers and organizations with valuable insights to create a positive and productive work environment for female bank employees in Rangpur, Bangladesh.

6. Conclusion and Policy Implications

In conclusion, this study highlights the critical role of organizational policies and work environment conditions in shaping the job satisfaction of female bank employees in Rangpur, Bangladesh. It underscores the need for fair compensation and supportive workplaces. While workplace characteristics, individual traits, and social factors also play roles, these are secondary. To enhance job satisfaction and organizational success, we recommend 1) Fair compensation, 2) Supportive work environments, 3) Trim approaches, 4) Continuous assessment, 5) Social support promotion, and 6) Ongoing research. These strategies offer a comprehensive framework for organizations to address the multifaceted nature of job satisfaction in this context.

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Addressing Greenhouse Gas Intensive Agricultural Trajectories in Developing Nations: Exploring Better Approaches for Achieving Sustainable and Low-Emission Agricultural Practices

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Abstract

The escalating frequency and severity of extreme weather events, exacerbated by global temperature rise and rapid climate change, pose significant challenges, particularly for developing countries. This paper aims to explore strategies for developing nations to steer clear of greenhouse gas (GHG) intensive agricultural practices, given the pressing need to increase food production for a growing global population. Analyzing established research, case studies, and policy frameworks, the study identifies four prevalent global agricultural systems: Green Revolution (GR), Climate Smart Agriculture (CSA), Agroecology, and Regenerative Agriculture (RA). The focus is on how these systems can be adapted to address climate change impacts while concurrently curbing GHG emissions. The research delves into the opportunities, challenges, and barriers associated with implementing these agricultural approaches in developing countries. Additionally, it compares the suitability of the four strategies for fostering climate-friendly agricultural systems in these regions. Emphasizing a qualitative approach, the paper acknowledges a limitation in the absence of significant quantitative discussions. Nonetheless, it underscores the necessity for developing nations to adopt sustainable agricultural paths, offering examples of approaches already embraced for mitigating environmental impact. This study contributes valuable insights to the global discourse on sustainable agriculture and climate resilience in the context of developing countries.

Key words: Climate Change, Developing Countries, GHG emission, Green Revolution (GR), Climate Smart Agriculture (CSA), Agroecology, Regenerative Agriculture (RA).

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Introduction

The frequency, intensity, length, and severity of severe climate events have grown dramatically as a consequence of global temperature rise and fast climate change (Thornton et al., 2014; Pörtner et al., 2022). Floods, hurricanes, and heatwaves, for example, have caused 91% of all natural disasters in the previous ten years, with the frequency of such disasters rising by more than 35% throughout the 1990s. Catastrophic disasters have killed approximately 410,000 individuals in the last ten years, the vast majority of whom died in low- and lower-middle-income countries (IFRC, 2020). If the current rate of global temperature increase is not reduced by 2% as agreed in Paris Agreement, and greenhouse gases (GHG) are not reduced to levels that trees, soil, and oceans can naturally absorb, more terrible climate change disasters will occur on Earth (Sato et al., 2022; Schleussner et al., 2022). On the other side, the world's population is rapidly increasing, rising from 2 billion in 1950 to more than 8 billion in 2022 (McLean, 2022). As a consequence, agricultural production must be considerably increased to supply food and nourishment for this rising population which made agriculture one of the greatest contributors to GHG. Agriculture, forestry, and other land use account for 24% of total global greenhouse gas emissions, according to the IPCC (IPCC, 2014). As a consequence, increasing agricultural productivity on the one hand and reducing agricultural emissions on the other have become a global concern (Pörtner, 2022). The challenge is even greater for developing countries because almost 80% of the world's people live in underdeveloped and developing countries and regions, and many of these countries do not have enough resources, infrastructure and technical facilities to reduce emissions from agriculture by ensuring their food security (Sato et al., 2022). However, these nations must identify feasible solutions that promote sustainable agricultural paths while limiting their impact to global warming and climate change.

This paper aims to explore the strategies and approaches that developing countries can adopt to best avoid greenhouse gas intensive agricultural practices. By examining existing research, case studies, and policy frameworks, this paper found four agricultural systems namely Green Revolution (GR), Climate Smart Agriculture (CSA), Agroecology and Regenerative Agriculture (RA) which are practiced globally. This paper will discuss how developing countries can adapt to climate change through these four methods of agricultural management and how they can reduce GHG emissions while continuing to increase production. In addition, this paper will also show the opportunities, challenges and barriers that developing countries face in implementing these four approaches. Furthermore, a comparison of which of these four strategies is most suited for climate-friendly agricultural systems in developing nations will be explored. Finally, several agricultural approaches that developing nations have already embraced for sustainable agriculture will be addressed as examples. Above all, since this research takes a qualitative approach, there

is no significant quantitative discussion, which might be regarded as a shortcoming of this work.

METHODOLOGY

To write this paper, I have followed qualitative method purely. First, I have conducted an extensive review of existing academic literature, research papers, gray literature, and publications related to climate change impacts on agriculture, greenhouse gas emissions, and sustainable agricultural practices in developing countries. Second, I have summarized key findings and identified gaps in the literature regarding the strategies and approaches employed by developing countries to mitigate greenhouse gas-intensive agricultural practices. Afterwards, I have discussed some case studies from developing countries that have implemented the Green Revolution (GR), Climate Smart Agriculture (CSA), Agroecology, and Regenerative Agriculture (RA). Finally, I have analyzed these case studies to understand the contextual factors, challenges, and successes in adopting these agricultural systems highlighting the impact on greenhouse gas emissions and climate resilience.

GREENHOUSE GAS AND ITS IMPACTS ON CLIMATE CHANGE

Greenhouse gases (GHGs) are gases in the Earth's atmosphere that trap heat. They allow sunlight to enter the atmosphere freely but prevent some of the heat that the Earth would otherwise radiate back into space from escaping. This natural greenhouse effect is crucial for maintaining a habitable temperature on Earth. However, human activities, particularly the burning of fossil fuels and deforestation, have significantly increased the concentrations of certain greenhouse gases, leading to an enhanced greenhouse effect and contributing to climate change (Mikhaylov et al., 2020; Fant et al., 2016). The major greenhouse gases include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), fluorinated gases, and water vapor while water vapor is the most abundant greenhouse gas, its concentration is largely influenced by natural processes (Bruhwiler et al., 2021; Schneider et al., 2010). Human activities primarily drive the increased concentrations of carbon dioxide, methane, and nitrous oxide. The impacts of greenhouse gases on climate change are profound. As these gases accumulate in the atmosphere, they trap more heat, leading to a warming of the Earth's surface (Staniaszek et al., 2022; Zeebe et al., 2013). This warming is associated with a range of adverse effects, including **rising temperatures, melting ice, rising sea levels, extreme weather events, acidification, health risks and threats to agriculture** (Oreggioni et al., 2021). The following is an examination of the detrimental impacts of greenhouse gases on agriculture.

THE RELATIONSHIP BETWEEN AGRICULTURE AND GHG EMISSIONS

While agriculture provides food for about 8 billion people on Earth today, a study published in the journal Nature in 2021 shows that the food production

process for this huge population accounts for about 34% of anthropogenic GHG emissions (Crippa et al., 2021). Similarly, the IPCC's 5th Assessment Report reveals that agriculture, forestry, and other land uses account for 24% of worldwide GHG emissions. The following diagram will help us understand the above discussion.

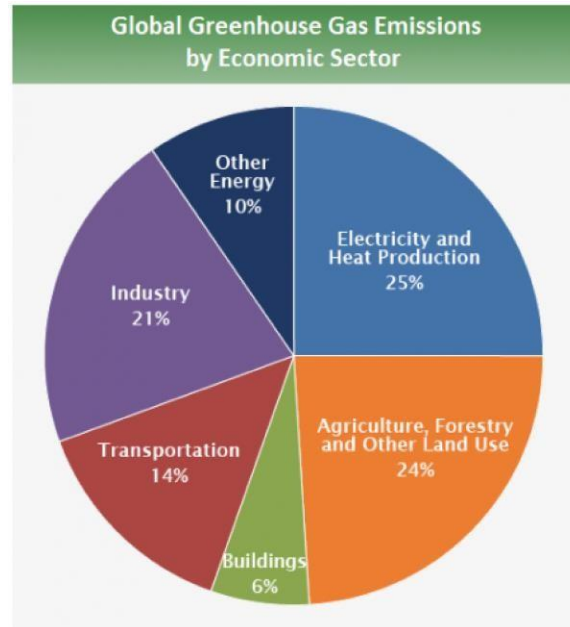


Figure 1 shows the Global emissions by economic sector (IPCC, 2014).

At this stage we will discuss what types of GHG emissions releases from the agricultural sector and how and from what sources. The major sources of GHG emissions from agriculture are livestock farming, crop production, and land use change (Duxbury, 1994). One of the primary sources of greenhouse gas emissions in the agricultural sector is animal farming. About 32% of all agricultural emissions are caused by methane released during enteric fermentation in ruminant animals including cattle, sheep, and goats (UNEP, 2020). Methane and nitrous oxide (N₂O) are released into the air during the breakdown of manure. GHG emissions are exacerbated by the cattle industry's use of fossil fuels for transportation, heating, and cooling. Second, fertilizer usage and rice paddies produce GHGs (Rojas-Downing et al., 2017). Nitrogen fertilizers boost agricultural yields but it emits N₂O which is a powerful GHG with 298 times the warming potential of carbon dioxide (Smith et al., 2014). Thirdly, deforestation which is a result of the conversion of forestland into agricultural land releases carbon dioxide into the atmosphere. Natural ecosystems absorb less carbon as forest cover decreases. Land-use change also results in emissions of other GHGs, such as methane and N₂O. Lastly, CO₂ emissions are caused by the use of energy in agriculture. This includes running machines, watering systems, and processing centers (Molotoks et al., 2021).

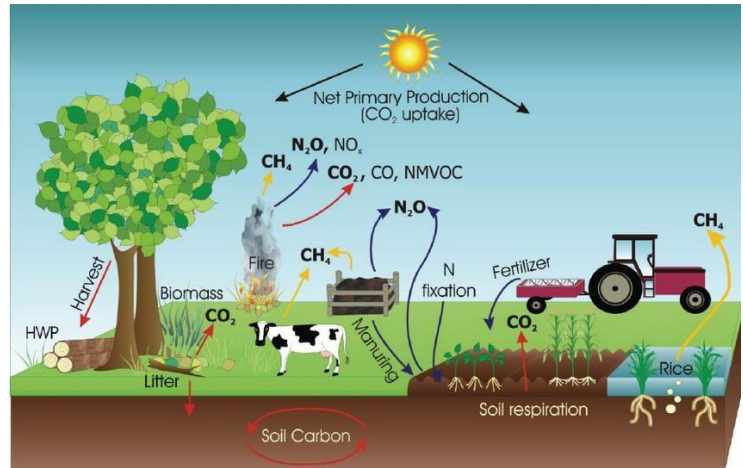


Figure 2 shows the primary sources of greenhouse gas emissions, sinks, and processes in managed ecosystems that are associated with on-farm agricultural activities (MacLeod et al., 2015).

On the other hand, Climate change is disrupting agricultural production globally. Studies have shown that shifting temperature and rainfall patterns affect the timing of agricultural activities (Lipper et al., 2014). The Intergovernmental Panel on Climate Change (IPCC) warns that rising temperatures could significantly reduce yields of major crops like wheat, rice, and maize (Bezner Kerr et al., 2012). Extreme weather events, including droughts and floods, have become more frequent and intense, leading to a 9% to 10% decrease in global cereal production (Lesk et al., 2016). Climate change has also expanded the range of pests and diseases, affecting crop quality and yield. Water scarcity caused by climate change is projected to decrease global irrigated crop yields by 6% by 2050 (He & Rosa, 2023). Additionally, climate change alters the suitability of crops in their current regions, necessitating changes in farming practices and land use. Livestock production is impacted through heat stress, reduced pasture productivity, and increased disease exposure (Campbell, 2017). In such severe conditions, developing nations must, on the one hand, cut greenhouse gas emissions from agriculture. On the other side, more productive agriculture is required for the food security of its enormous population. The next chapter covers the difficulties that developing nations face in this area.

CHALLENGES OF BALANCING FOOD SECURITY AND CLIMATE-FRIENDLY AGRICULTURE FOR DEVELOPING COUNTRIES

Although, the total number of developing nations is debatable, the United Nations, on the other hand, classifies 152 nations and regions as developing economies based on a variety of characteristics such as income levels, human development indicators, and economic vulnerability (United Nations Conference on Trade and Development, 2021). According to 2021 estimates, this enormous territory of the developing world is home to over 6.3 billion people, or 80% of the world's population (United Nations Conference on Trade and Development, 2021). This population will

increase in the coming days. By 2050, the world's population could rise to 9.7 billion (United Nations, 2019). Therefore, agricultural production must be increased to ensure food security for this large population (Rojas-Downing et al., 2017). However, in order to increase agricultural production using conventional methods, deforestation will increase the amount of agricultural land, chemical fertilizer use will increase at a faster rate, and animal husbandry will need to increase in order to meet the demand for milk and protein (Rojas-Downing et al., 2017). As a result, anthropogenic greenhouse gas emissions will rise, which will have a negative impact on the climate (Kalt et al., 2021). Consequently, extreme weather events such as droughts, floods, and hurricanes can destroy crops, reduce yields, and lead to food shortages. Furthermore, due to climate change, millions were already experiencing food insecurity in 2019. In addition, the predicted decline in global crop production is between 2% and 6% per decade (Little, 2019). By 2050, it was predicted in 2019 that food prices would increase by 80% (Flavelle, 2019). This will likely result in an increase in food insecurity, which will disproportionately affect low-income communities. On the other hand, for many developing countries, agriculture is an essential part of the economy. According to the World Bank, 4% of the global GDP and 25% of the GDP of some least developing countries comes from the agricultural sector (The World Bank, 2023).

Under such circumstances, developing countries face significant challenges in reducing greenhouse gas emissions from agriculture due to various economic, social and environmental reasons, while maintaining food security and economic prosperity. Some of these challenges are discussed below. First, limited resources and technology: Most poor nations lack the resources and sophisticated technologies required to minimize agricultural GHG emissions. Ogle et al. (2014) showed that underdeveloped nations lack access to better seeds, fertilizers, and irrigation infrastructure, which hinders low-emission farming methods. Secondly, many developing nations continue to rely on traditional agricultural practices that contribute to greenhouse gas (GHG) emissions, such as crop residue burning and inefficient irrigation. According to a study conducted by Amjath-Babu et al. (2020), the low adoption rates of sustainable land management practices in developing countries can be attributed to their reliance on traditional agricultural practices. Additionally, a research by Sova et al. (2019) found that a lack of policy support has made it difficult to implement successful climate change mitigation strategies in the agriculture sector in developing nations due to weak governance structures and limited policy support. Finally, it can be said that reducing greenhouse gas emissions from agriculture in developing nations is a complex and interconnected problem. However, I will discuss below how developing nations can reduce their agricultural greenhouse gas emissions. We will begin by discussing four agricultural theories such as 1. Regenerative Agriculture 2. Agroecology 3. Climate Smart Agriculture and 4. Green Revolution. Later, I will propose additional policies to reduce agricultural greenhouse gas emissions. I will

conclude by demonstrating, through a series of case studies, that many developing nations have already taken steps to reduce detrimental greenhouse gas emissions from agriculture.

GREEN REVOLUTION (GR)

First we will discuss about green revolution. GR refers to a period of agricultural innovation and development that occurred predominantly in developing countries between the 1940s and the 1960s. Among other technological advances, this revolution was marked by the introduction of high-yielding crop varieties (HYVs), the expansion of irrigation infrastructure, and the use of chemical fertilizers and pesticides (Armanda et al., 2019). Within 5 years following the introduction of HYVs and the development of chemical fertilizers, herbicides, and insecticides to boost growth, yields of maize, rice, and wheat grew by 40% (Morvaridi, 2012). GR was initiated

in reaction to increasing hunger and food insecurity in many regions of the globe, notably Asia and Africa. By expanding food production, the objective was to enhance agricultural productivity and decrease poverty. The introduction of high-yielding varieties (HYVs) of basic crops such as rice, wheat, and maize was a crucial invention of GR. These crops were developed with the goal of having shorter stems, stronger roots, and larger yields than conventional types. They were also more resistant to pests and disease, as well as more tolerant of drought and other environmental challenges (Thenkabail, 2010).

GREEN REVOLUTION: PREVENTER OR FACILITATOR OF CLIMATE FRIENDLY AGRICULTURAL DEVELOPMENT IN DEVELOPING COUNTRIES

It is possible to claim that GR was both a preventer and a facilitator of climate-friendly agricultural development, depending on how it is viewed and implemented. On the one hand, the reliance of the Green Revolution on chemical fertilizers and pesticides, as well as monoculture farming, led to a decline in soil health, water resources, and biodiversity (Pingali, 2012). This caused the environment to deteriorate, which had an adverse effect on climate change. In this sense, GR prevented the growth of climate-friendly agriculture because it put production above sustainability and had a detrimental effect on the environment (Osborne & Beerling, 2006). In contrast, GR also paved the way for the development of new agricultural technologies and practices that could be adapted to promote climate-friendly agricultural development. For instance, the development of high-yielding crop varieties permitted more efficient land use, thereby reducing the need for additional deforestation and fostering sustainable land management (Stevenson et al., 2013). Similarly, the use of irrigation infrastructure contributed to the conservation of water resources and the promotion of water efficiency, a crucial aspect of climate-friendly

agricultural development. In addition, GR gave farmers and agricultural scientists the opportunity to experiment with new practices and technologies that prioritize sustainability and climate change mitigation (Thenkabail, 2010). This includes, among other things, the promotion of agroforestry, conservation agriculture, and organic cultivation. These practices can be adapted and implemented to promote sustainable agricultural development that mitigates the effects of climate change by expanding on the legacy of GR (Harwood, 2020).

CLIMATE SMART AGRICULTURE (CSA)

CSA is the approach most recently emphasized by the Food and Agriculture Organization of the United Nations to introduce climate-friendly agricultural systems in developing countries. CSA refers to agricultural techniques and systems that boost production and resilience while lowering greenhouse gas emissions and other environmental consequences in a sustainable manner. CSA aspires to incorporate and implement the concepts of sustainable agriculture as well as adaptation and mitigation to climate change (Campbell, 2017). As terminology, CSA was first discussed in 2010 at a conference on food security and climate change organized by the Food and Agriculture Organization (FAO) of the United Nations (Sarker et al., 2019).

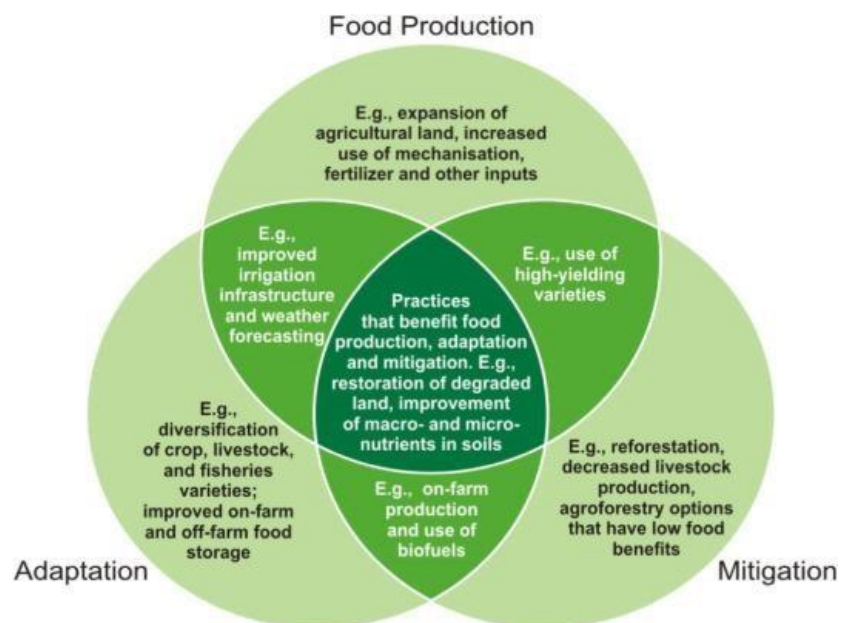


Figure 3 shows how CSA is promising adaptation, mitigation and production enhancement of agriculture (Dovie, 2019).

According to FAO, three fundamental pillars of CSA that are often referred to as "Triple Win" are ensuring sustainable growth in agricultural production and revenue, promoting adaptive and resilience capacity of agriculture and food security systems to the effects of climate change, and reducing GHG

emissions from agricultural production (Campbell, 2017). Drought-resistant crop varieties, optimizing irrigation systems, conservation agriculture methods such as low tillage and cover crops, and integrating livestock with crop production in sustainable ways are examples of climate-smart agricultural practices (Lipper et al., 2017). Furthermore, using renewable energy and better managing manure and other organic waste might help decrease greenhouse gas emissions linked with agricultural production.

ADAPTATION AND MITIGATION METHODS OF CSA

CSA emphasizes the importance of adaptation strategies to mitigate the effects of climate change. Some key adaptation strategies include crop diversification and the use of drought-resistant varieties to reduce crop failure risks and decrease reliance on a single crop. Improved water management techniques like drip irrigation, rainwater harvesting, and soil moisture conservation help farmers adapt to changing rainfall patterns and conserve water (Adamides, 2020). Soil conservation practices such as conservation tillage, crop rotation, and cover cropping prevent soil erosion, retain moisture, and enhance fertility. Furthermore, early warning systems and climate monitoring aid in preparing for extreme weather events and making informed agricultural decisions. Moreover, agroforestry, another effective CSA adaptation method, involves the use of trees to provide shade which reduce wind, improve soil health, conserve water, and promote biodiversity (Campbell, 2017).

Mitigation plays a crucial role in CSA to address the impacts of climate change. Here are some examples of mitigation methods in CSA. Conservation agriculture is an important approach that reduces tillage and improves soil health, employing practices such as minimal soil disturbance, crop rotation, cover crops, and crop residues to reduce greenhouse gas emissions from agricultural activities. The use of renewable energy, such as solar, wind, and biogas, helps minimize agricultural emissions by utilizing solar pumps for irrigation and utilizing biogas from animal waste for cooking and lighting (Campbell, 2017). Livestock production is a significant source of greenhouse gas emissions, and CSA practices like improved manure management, feed supplements, and dietary changes for animals can help reduce emissions in this sector. Additionally, agroforestry is a recommended mitigation strategy in CSA, as it contributes to carbon sequestration by trees, which absorb and store carbon dioxide in their biomass and soil (Kurgat et al., 2020).

CSA'S METHOD OF INCREASING AGRICULTURAL PRODUCTION

To begin with, improved crop management strategies such as early planting, efficient fertilizer management, and weed control may boost crop yields and quality. Similarly, agricultural production may be increased by utilizing better seeds that are adapted to local environments (Kurgat et al., 2020). Integrated crop-livestock systems which involve the integration of crop and

livestock production systems can increase soil fertility, reduce crop pest and disease pressure which consequently provide additional sources of income from livestock production (Campbell, 2017). Furthermore, conservation agriculture and proper water management techniques can help increase crop yields. Moreover, effective post-harvest management techniques such as proper storage and handling can help reduce post-harvest losses and improve food quality and safety (Adamides, 2020).

CSA AND DEVELOPING COUNTRIES: TRIPLE WINS FOR WHOM?

Despite the potential benefits of CSA in terms of climate change and food security, civil society organizations, activists and organizations working on farmers' rights internationally have been strongly opposed to it. They complain that the initiative undermines agroecological solutions to climate change and agricultural issues (CIDSE, 2015). It also creates opportunities for a greenwashing in agribusiness for governments and large multinational food companies because CSA may be used as a marketing tool by them to promote their green credentials without making substantive changes to their practices (Anderson, 2014). They also allege that marginal and smallholders farmers of developing nations will suffer as a result of this initiative as they will not be able to afford the huge technology, market access and high investment that adaptation of this initiative will require (Karlsson et al., 2018). As a result, this initiative will disempower small farmers of developing countries (CIDSE, 2015). In addition, one of the criticisms of CSA is that it focuses too much on technology-based solutions in climate change mitigation and adaptation, such as improved seeds, fertilizers and irrigation systems, but ignores other sustainability issues such as sustainable land management, water management, biodiversity conservation and issues of social justice are also overlooked (Newell & Taylor, 2018). Above all, critics say, CSA lacks a participatory approach because it is a top-down and techno-centric approach with little input from local farmers in solving agro-centric problems. Such an approach will create a lack of ownership among the stakeholders who are truly affected by climate change and food security, which will hinder the implementation of such initiatives (Taylor, 2018).

AGROECOLOGY

Agroecology is one of the some significant sustainable and climate-friendly agricultural systems that are widely discussed in contrast to traditional and industrialized agricultural systems. Agroecology is a scientific discipline and approach that focuses on understanding the ecological processes that govern agricultural systems, and using that knowledge to design sustainable and resilient farming practices. It is an interdisciplinary discipline that incorporates concepts from ecology, agronomy, sociology, and economics and others (Kremsa, 2021). Dalgaard et al. (2003) define agroecology as the study of plant, animal, human, and environmental interactions within agricultural systems. Agroecology originated in the early 20th century when farmers and scientists realized industrialized agriculture had detrimental

environmental and social effects. The current discipline of agroecology began in the 1980s as a reaction to the detrimental effects of the Green Revolution, which encouraged high-input, monoculture-based farming (Gliessman, 2018). Today, organizations such as the Food and Agriculture Organization of the United Nations (FAO) recognize agroecology as an essential method for achieving sustainable agriculture (Loconto & Fougère, 2019).

METHODS OF AGROECOLOGY IN ADAPTATION AND MITIGATING GHG FROM AGRICULTURE

Agroecology is a scientific strategy for planning and managing agricultural systems that are resilient, sustainable, and socially equitable, rather than a particular farming technique. As a result, there is no one-size-fits-all method for agro ecological farming since it is dependent on the local conditions, resources, and demands of the population in the area. (Wezel et al., 2009). However, there are some general principles that are often associated with agro ecological farming. Some of them are discussed below. Soil health: Agro ecological farming places a strong emphasis on the value of healthy soil and makes use of techniques to maintain and enhance soil fertility, including cover crops, crop rotation, and the use of organic fertilizers. Low reliance on external inputs: In order to achieve sustainable production, agro ecological farming attempts to decrease reliance on external inputs like synthetic fertilizers, pesticides, and genetically modified organisms (GMOs) (Kremsa, 2021). Instead, it empowers local communities to engage in agricultural system decision-making and management by integrating local knowledge into agricultural practices which promotes social justice, community resilience, and ecological sustainability (Timmermann & Félix, 2015). Biodiversity: Agro ecological systems optimize above- and below-ground biodiversity to boost ecological resilience, natural pest management, and soil fertility (Wanger et al., 2020). Decreased energy use: Agro ecological methods including decreased tillage, diverse cropping systems, and intercropping minimize agricultural energy inputs and GHG emissions from fossil fuels (Altieri & Nicholls, 2012).

AGROECOLOGY: REDUCING FOOD WASTE AND CHANGING DIET FOR REDUCING GHG EMISSION

Food waste accounts for 6% of global GHG emissions (Ritchie, 2020). According to World Bank, 1/3 of food produced globally is either lost or wasted (The World Bank, 2021). One of the many ways agroecology says to reduce GHG emissions is to prevent food waste and change our diet. The figure below shows the huge amount of food we waste.



S Figure 4.3. Per capita food losses and waste at the consumption and pre-consumption stages in different world regions. Source: Gustavsson et al (2011)

Figure 5 shows the global food waste and loss per year per person (Gustavsson et al., 2011)

Similar data we get from the study of FAO. FAO reported that approximately 1.3 billion kilograms of food were lost or squandered globally in 2007, which equates to about one-third of the food produced for human consumption at the time. Food losses and waste deprive the impoverished of access to food in developing regions, significantly deplete resources like land, water, and fossil fuels, and increase the GHG emissions associated with food production (Munesue et al., 2015). Therefore, tackling food loss and waste is essential for achieving climate objectives and lowering environmental stress (The World Bank, 2021).

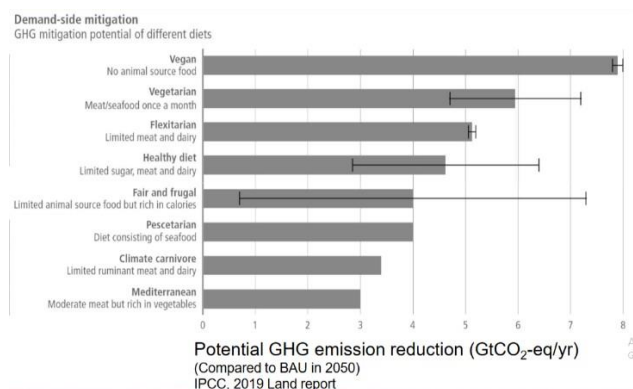


Figure 6: reveals the potential GHGs emission reduction of different diets ((IPCC, 2019)

With this figure we can see that a vegan can help reduce CO₂ by about 8 GT per year and a vegetarian by about 6 GT per year. So Developing nations can help reduce global GHGs by cutting out excess animal meat from their livestock management.

CHALLENGES FOR DEVELOPING COUNTRIES IN ADOPTING AGROECOLOGY

Many developing countries have adopted agroecology to reduce GHG emissions from agriculture, and many are planning to do so. But in this case, developing countries in general face the following challenges. First, the adoption of agroecology demands supportive policies, research funding, incentives, and institutional frameworks. Comprehensive policies that emphasize and encourage agroecology may be lacking in developing nations. Second, agro ecological approaches sometimes involve early investments and a longer transition period, which may be difficult for poor farmers in developing countries who lack land, water, seeds, and other resources (Timmermann & Félix, 2015). Third, agroecology demands ecological knowledge and advanced agricultural practices. Farmers may lack knowledge and technical abilities to undertake agro ecological methods. This knowledge gap needs training and extended programs. Agroecology may involve lowering dependency on these external inputs, which may be difficult without local contributions or supporting policies. Addressing these challenges requires a multi-dimensional approach that includes capacity building, policy support, infrastructure development, and market access, along with active involvement and empowerment of local communities (Wanger et al., 2020).

Regenerative Agriculture (RA)

RA is one of several methods of reducing GHGs from agriculture in the developing world that is gaining global recognition. RA is a system that combines traditional agriculture with sustainable innovations (Gosnell et al., 2019). The Rodale Institute began using the term "regenerative agriculture" in the early 1980s, but it did not acquire widespread usage until the early to mid-2010s (Renature, 2021). RA is an approach to farming and land management that prioritizes improving soil health, increasing water retention, and promoting biodiversity, which can contribute to increased agricultural yields and more resilient farms (Gosnell et al., 2019). Its techniques include reducing tillage, planting cover crops, rotating crops, intercropping, integrating livestock into cropping systems, and utilizing natural fertilizers and insect control techniques (Schreefel et al., 2020). This agricultural system's primary objective is to produce enough nutritious food for the world's population and to improve the lives and livelihoods of farmers by sequestering carbon in the soil and reducing greenhouse gas emissions by regenerating climate-friendly agricultural systems. Another purpose is to restore endangered biodiversity and improve natural habitats. One of its goals is also to prevent further deforestation and grassland conversion by increasing productivity on existing agricultural land (McLennon et al., 2021).

DIFFERENCES BETWEEN TRADITIONAL AGRICULTURE AND RA AND HOW IT WORKS FOR REDUCING GREENHOUSE GAS EMISSION FROM AGRICULTURE.

The differences between RA and conventional farming systems and how it helps reduce greenhouse gas emissions in the climate are discussed below. In preparing this chart, data has been collected from the research of McLennon et al., 2021, Renature, 2021, Schreefel et al., 2020 and Sahu & Das, 2020.

DIVERGENCES BETWEEN TRADITIONAL AGRICULTURE AND REGENERATIVE AGRICULTURE		
Criteria	Traditional Agriculture	Regenerative Agriculture
Soil health:	Traditional agricultural techniques including heavy tillage, monoculture crops, and industrial fertilizers and pesticides may damage soil health consequently.	Conversely, cover cropping, crop rotation, decreased tillage, and natural fertilizers increase soil health, fertility, and water retention in RA.
Biodiversity	Monoculture crops and insecticides and herbicides in traditional agriculture can endanger biodiversity and damage beneficial insects and wildlife.	Cover crops, intercropping, agroforestry, and other RA approaches promote biodiversity and conserve ecosystem.
Carbon sequestration	By using fossil fuels for machinery and releasing carbon dioxide from tilled soil, traditional agriculture may contribute to greenhouse gas emissions.	RA practices such as cover cropping, reduced tillage, and the use of perennial crops and agroforestry, which can store carbon in soil and biomass, can help sequester carbon.

<p>Water management</p>	<p>Synthetic fertilizers and pesticides may cause soil erosion, nutrient runoff, and water contamination in traditional agriculture.</p>	<p>Cover crops, decreased tillage, and natural fertilizers may prevent erosion, increase water infiltration, and safeguard water quality in RA.</p>
<p>Community benefits</p>	<p>Traditional agriculture may favor short-term profits for farmers and agribusinesses.</p>	<p>RA prioritizes community advantages including food security, biodiversity, and GHG reduction.</p>

HOW AND TO WHAT EXTENT DEVELOPING COUNTRIES CAN MITIGATE GHG EMISSIONS FROM AGRICULTURAL SYSTEMS BY ADOPTING RA PRACTICES

The suitability of RA varies depending on the specific context of each developing country which include economic capabilities, natural diversity, and different soil composition which necessities customized farming approaches for maximizing productivity through regenerative practices (Schreefel et al., 2020). To enable developing countries to embrace regenerative agriculture, governments must initiate policy changes. It is crucial to develop comprehensive guidelines for farmers to adapt to this system (Sherwood & Uphoff, 2000). Encouraging farmers through incentive packages, providing complete information, technical support, and adequate resources are essential steps (Keshavarz & Sharafi, 2023). Additionally, creating a market that increases consumer demand for environmentally sustainable and ethically produced products is paramount.

These measures collectively support the adoption of regenerative agriculture practices in developing countries (Keshavarz & Sharafi, 2023).

On the other hand, implementing RA methods in developing countries presents several challenges. Firstly, significant financial investments are required for new technology, tools, and education, which may be difficult for nations with limited financial resources. Secondly, farmers may lack awareness, knowledge, and skills to effectively implement RA practices (McLennon et al., 2021). Moreover, the smaller farm sizes and labor-intensive techniques associated with RA can hinder scalability on a large commercial scale. Lastly, despite its growing popularity, there is a lack of comprehensive research on the long-term impacts and effectiveness of RA

(Sherwood & Uphoff 2000). These challenges highlight that while RA offers potential benefits, its suitability and feasibility may vary across different farmers and regions, especially in developing countries with limited resources and infrastructure (Lunn-Rockcliffe et al., 2020).

WHICH OF THE FOUR AGRICULTURAL THEORIES (GR, AGROECOLOGY, RA, AND CSA) IS THE BEST FOR REDUCING GHG EMISSIONS FROM AGRICULTURE IN DEVELOPING NATIONS?

The best approach for reducing greenhouse gas emissions from agriculture in developing countries will depend on a variety of factors, including local environmental conditions, cultural practices, and economic constraints. However, based on current research and evidence, agroecology and regenerative agriculture appear to be the most promising approaches for achieving this goal (Francis et al., 1986; McLennon et al., 2021). These approaches prioritize soil health, biodiversity, and the use of ecological principles to design and manage agricultural systems. By promoting carbon sequestration and reducing greenhouse gas emissions from agriculture, they offer a sustainable and climate-friendly path forward for agriculture in developing countries (Kremsa, 2021). On the other hand, the Green Revolution and Climate Smart Agriculture (CSA) have also been promoted as ways to reduce greenhouse gas emissions from agriculture, they have been criticized for their reliance on chemical inputs and industrial farming practices (Newell & Taylor, 2018; Osborne & Beerling, 2006). The use of chemical fertilizers and pesticides in the Green Revolution, for example, has contributed to soil degradation and water pollution. Similarly, while CSA promotes the use of climate-smart technologies, it does not necessarily prioritize soil health and biodiversity in the same way that agroecology and regenerative agriculture do (CIDSE, 2015 and Pingali, 2012).

SOME POLICIES OF DEVELOPING NATIONS TO REDUCE GHG FROM AGRICULTURE

Despite various limitations, many developing countries have already taken some initiatives to reduce GHGs from agriculture. We will discuss it below. Brazil, Chile and Mexico have started practicing agroecology for their local farmers and indigenous peoples through their Global Forest Coalition (GFC) project. India started practicing agroecology through their Participatory Guarantee Systems (PGS) project. Through this project they are providing necessary training, investment and market facilities to hundreds of thousands of farmers to cultivate organic food through agroecology practices. The African country, Malawi, has also started practicing agroecology in four districts including the country's capital through their The Malawi Farmer-to-Farmer Agroecology project (or MAFFA) project and is also providing necessary training to farmers (FAO, n.d.).

On the other hand, FAO and the World Bank have taken various steps to help developing countries adopt CSA to reduce GHG. The World Bank Group has decided to scale up the CAA as part of its first Climate Change Action Plan, which was initially for 2016-2020 but has now been extended to 2021-2025. The World Bank has adopted the Climate-Smart Agriculture Investment Plans (CSAIPs) with ten countries including Bangladesh, Zimbabwe, Zambia, Lesotho, Mali, Burkina Faso, Ghana, Cote D'Ivoire, Morocco, and The Republic of Congo under its project and the initial investment is estimated at 2.5 billion US dollars. Already, each of these ten states has taken various initiatives to adopt CSA. Under this project, Brazil has already trained 20,025 beneficiaries to implement CSA on 378,513 hectares and expects to sequester 7.4 million CO₂ over the next 10 years. Similarly, Pakistan is trying to adopt CSA in its Pakistan Punjab Irrigated Agriculture Productivity Improvement Program. About 23500 hectares of land have been cultivated with low GHG systems involving about 5 million people and 11916 water projects have been improved (The World Bank, 2021). However, we will have to wait a little longer to know how much GHG emissions have been reduced from such climate-friendly agricultural practices in developing countries. However, we need to wait for some more scientific data and time to know how much GHG emissions have been reduced from such climate-friendly agricultural practices in developing countries and which of the above-discussed agricultural methods actually contribute more to reducing GHG emissions.

CONCLUSION

This paper first explored agriculture as one of the primary contributors to global warming and climate change, accounting for 24% of world greenhouse gas emissions. On the other hand, it highlighted that a more productive agricultural method is required to assure food and nutrition security for a rising population. In such a situation, it is paramount important to create an agricultural system that will expedite food security and economic growth while simultaneously aiding in climate change mitigation. As feasible as it is for developed nations to implement such a system, it is considerably more difficult for developing countries since most of them lack enough resources, trained labor, infrastructure, and technology. This study discussed GR, CSA, Agroecology, and Regenerative Agriculture techniques as alternatives to conventional agriculture. Among these four techniques, the Green Revolution has had a significant influence on developing nations' food production through the employment of sophisticated technology, equipment, and synthetic fertilizers, but at the same time it is increasing the agro-centric GHG emission. CSA model is an agricultural system that many people refer to as a "triple win" since it simultaneously enhances climate adaptation and mitigation while also improving productivity. However, this paper revealed that according to civil society and organizations working on farmers' rights, this triple win will not be a triple win for the marginal and smallholder farmers rather this triple win will greatly aid the large multinational agricultural industry and governments in a form of greenwashing. Moreover, Agroecology and

Regenerative Agriculture can help reduce GHG emissions from agriculture while simultaneously ensuring food security in developing nations. However, the advanced technology, large infrastructure and finance required to adopt these two approaches are also challenging for many developing countries. Besides, different developing countries have adopted different approaches of these four models according to their context and conditions are also discussed in this paper as examples.

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Navigating the Changing Family Dynamics: Impacts on the Elderly Population in Bangladesh

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Abstract

This study investigates the intricate interplay between changing family structures and their profound implications for the elderly population in Bangladesh. The research explores various household arrangements, including nuclear, joint, and extended families, in the context of modernization and evolving societal values. The study anticipates a potential return to joint households as fertility rates decline, emphasizing the adaptability of household structures. Notably, household decision-making dynamics, traditionally gendered, exhibit evolving participation patterns of both young and old individuals. Economic roles within households highlight the significance of older men as primary breadwinners and the central role of women in household maintenance. Financial security for the elderly primarily relies on family support, while family members also play critical roles in caregiving and decision-making. This research underscores the necessity for nuanced policy interventions to address the multifaceted challenges and opportunities posed by changing family dynamics. As the elderly population in Bangladesh grows, policies must prioritize social protection programs that guarantee financial security and support for caregiving responsibilities. Moreover, promoting gender equality and empowering the elderly in household decision-making processes is crucial. Additionally, fostering intergenerational relationships and reducing social isolation among the elderly are vital policy imperatives. In fact, this research highlights the complexity of family dynamics in Bangladesh and their significant implications for the elderly population. Policymakers must recognize and address these dynamic challenges to design comprehensive and adaptable strategies that enhance the well-being of the elderly within the changing landscape of family structures in Bangladesh.

Key Words: Elderly Population, Changing Family Dynamics, Household Structures, Decision-Making Dynamics, Economic Roles, Financial Security, Caregiving Responsibilities, Bangladesh.

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1. Introduction

The changing family structures in Bangladesh have significant impacts on the support network available to elderly individuals. As families are restructuring due to migration, there are emerging structures such as families of women with children, grandparents with grandchildren, or group living of working girls (Zarin et al.2022).The traditional concept of family as the prime informal caregiver for the elderly is changing, and the provision of home care is becoming limited, especially in rural areas(Mohammad et al. 2017). This vulnerability in receiving care is more pronounced in terms of personal care in rural areas, while financial vulnerability is higher in rural areas as well. Older people depend heavily on social support, which is favorably correlated with traits including being male, married, literate, and in the workforce(Mohammad et al.2017). According to the findings, governments should think about giving elderly people in-home care and identifying additional characteristics that have an impact on social support (Fawzia et al.2019). Reduced emotional and practical assistance for elderly individuals amid changing family dynamics is the result of a number of core problems. One significant cause is the younger generation's decreased ability to help others, which is driven by increasing economic conditions and shifting cultural norms (Emily & Grundy, 2010; Isabella & Aboderin,2004). Another reason is the change in the foundation of filial support, which now depends more on the history of parental behavior and the reciprocity principle (Isabella et al.2000). Increased levels of transfer from older to younger generations, altered household arrangements, and challenges to older people's notions regarding their entitlements and sense of wellbeing are all effects of this reduction in support (Sarah et al.2010). Although there is currently a lot of family support available, factors like parental divorce and a dwindling population may make it even less so in the future (Hafiz et al.2006).

In Bangladesh, elderly people struggle financially to maintain separate households, which has a negative influence on their general wellbeing. Discrimination, carelessness, abuse, and restricted access to mental health care are some of these issues (Shaorin et al.2022). Inadequate laws, a weak national economy, corruption, nepotism, a lack of older homes, and poverty also contribute to the abuse of senior citizens' human rights (Md et al.2020).

Elderly people struggle to be self-sufficient and maintain separate households as a result of these economic difficulties, which make it harder for them to exercise their human rights. In order to address these issues, it is necessary to increase awareness, develop gender-sensitive policies and programmes, establish old homes, and create and enforce appropriate regulations (Md et al.2022).

Fawzia (2019) argued, as family structures change in Bangladesh, so do the power dynamics and decision-making authority among senior people within family groups. Family ties and social norms change when the nation moves from being in a developing to a middle-income status. The dependency rate is declining, which raises concerns regarding older persons' social standing in comparison to the younger generation (Naznin et al. 2019). According to the research, older individuals in Bangladesh have the choice of "ageing in place" if they have the

necessary support to stay in their current homes and communities (Mohammad et al.2017). However, there is a need for improvement in both formal and informal elder care (Md. et al.2018). The formal care system is inadequate, particularly in rural regions, and the traditional idea of the family as the primary caregiver has altered (Jalal & Uddin, 2014). Elderly vulnerability must be quickly addressed, and choices for in-home care must be provided

Due to the changing family arrangements in Bangladesh, family members' irresponsibility, slow economic growth, inadequate savings, and a lack of pension coverage are the main causes of financial insecurity among the elderly (Md. et al.2022). Due to these considerations, there is a significant reliance on financial support from family and pension, with little reliance on insurance (Mohammad et al.2017). The elderly's financial insecurity is made worse by their imbalanced financial obligations and rising health care costs (Fawzia et al.2019). They struggle to get healthcare, maintain their standard of living, and meet their fundamental necessities, which has a severe influence on their overall quality of life (Mohammad et al. 2021). In addition, sleep issues, sadness, and limits in daily living activities may cause the aged to have a lower quality of life. It is advised to expand institutional resources and social activities to raise the standard of living for senior citizens residing in nursing homes.

Age-related alienation and loneliness among older people in Bangladeshi families that are changing can be linked to a number of social variables. Significant risk factors for loneliness in Bangladesh's ageing population include gender, marital status, housing situation, hearing-visual impairment, depression, and worry about falling (Md et al. 2019). More than half of the study participants reported feeling lonely, indicating a significant prevalence of loneliness among older persons in Bangladesh (Riski et al. 2022). The absence of social support from family members and the loss of a spouse or friends can also make an older person feel lonely (Abdol et al. 2014). These results emphasize the significance of addressing social aspects and assisting the elderly in order to lessen feelings of isolation in Bangladesh (Rabia et al.2012).

The quality and accessibility of healthcare services for the elderly in Bangladesh are significantly impacted by the changing family structure, which has a negative influence on their health and wellbeing. For older women with multimorbidity, gender concerns and inequities pose significant obstacles to accessing healthcare, especially in rural areas (Mohammad et al.2017). The difficulties that the elderly have in getting healthcare are exacerbated by political upheaval, slow economic growth, and inadequate savings, which has a severe effect on their household's level of living (Mohammad et al.2019). The accessibility of healthcare for the elderly is further hampered by the lack of healthcare facilities in rural and semi-urban areas, emphasizing the demand for specialized physicians and diagnostic facilities (Jaafar et al.2018). Low social networks, economic hardship, and neighborhood cohesion are linked to poor self-rated health status, according to the association between social capital and health outcomes of the ageing population in Bangladesh (Md et al.2020). In order to address these challenges, it is important to pay attention to gender inequality, the alleviation of economic hardship, the development of rural

healthcare services, the encouragement of social networks, and neighborhood cohesion

Changing family structure greatly influences the status, roles and functions of aged population in family and community in Bangladesh. This paper focuses on five major sections. The first section states the explicit objectives of the study. Secondly, the introduction portion converges the reviews of relevant literatures. The third section is the methodology that encompasses the methods and data sources used for further analysis and evidence to support the main themes of this paper. The next section, findings, consist of several subsections. Where the variety of household structures, elderly authority and decision-making, economic roles, financial security, support from family noteworthy. Finally, the fifth section outlines the discussion with recommendations for the wellbeing of elderly people living within family in Bangladesh.

2. Objectives of the Study

This study aims to thoroughly investigate the complex web of issues and implications surrounding elderly people in light of the changing environment of family structures. Our main goal is to investigate the dramatic effects of shifting family dynamics on the domestic support networks available to the elderly. By closely examining these changes, we hope to identify the underlying factors and wide-ranging effects of the declining emotional and practical support that ageing family members feel. This study will also carefully examine the financial obstacles that older people must overcome in order to maintain separate residences. We want to raise awareness of how these financial difficulties can have a significant impact on people's general wellbeing and quality of life. In addition, we will concentrate on how the power structures and the authority of the decision-making processes within families with senior members are changing. This goal will enable us to comprehend how these changes affect the autonomy and agency of the elderly in topics pertaining to their families. Exploring the ubiquitous problem of elderly people's financial instability as a result of shifting family configurations is a crucial component of our research. Understanding the complex facets of financial instability and its subsequent effects on the general level of life satisfaction among the senior population depends on achieving this goal. Additionally, we will explore the complex social dimensions of the loneliness and alienation that older people encounter in the face of altering familial circumstances. This goal strives to provide readers a clear image of how emotionally well older family members are. Finally, we will evaluate the availability and caliber of healthcare services for the senior population in the context of the dynamic nature of family arrangements. By doing this, we want to offer useful insights into the healthcare issues this demographic faces. Our research aims to provide a thorough understanding of the complexity surrounding elderly people within changing family structures through these interconnected objectives, with the goal of improving policy and practice to better serve this vulnerable population.

3. Methodology

The present study employed a methodology that aimed to provide a comprehensive understanding of the experiences of caregiving and care receiving processes among elderly individuals in both rural and urban areas of Bangladesh. In order to achieve this objective, a combination of quantitative and qualitative methods was utilized, including interviews, intensive observation, questionnaires, and case study techniques. This multifaceted approach was chosen to delve deeper into the subject matter beyond what a survey alone could provide. The study focused on two distinct areas, namely, a rural setting in Sakowa Union under Panchagarh district and an urban setting in Thakurgaon Poursobha under Thakurgaon district. These locations were selected based on the researcher's familiarity with them, allowing for a comparative analysis of the elderly population's backgrounds. In each area, a sample of forty respondents was carefully chosen for in-depth investigation. The data collection process encompassed various methods, including interviews, questionnaires, and case studies. A case-study approach was adopted, with close observation of respondents from both rural and urban areas. To ensure accurate information sharing, respondents were kept separate during data collection. It is worth noting that natural hazards occasionally presented challenges during this phase. Following the data collection, a rigorous analysis ensued. The collected information was meticulously edited, categorized, and tabulated based on its characteristics. Different statistical methods were applied to process the data, and the outcomes were visually presented using bar diagrams. In this study, several key terms were operationally defined to maintain clarity. Elderly persons were defined as individuals aged 60 years and above. The household was operationally defined as a group of persons who shared the same cooking pot, and a regular household member was defined as someone who had slept in the household the previous night. The research concentrated on specific regions within Bangladesh, with a focus on understanding the caregiving and care receiving experiences among the elderly population. These regions included the rural Sakowa Union in Panchagarh district and the urban Thakurgaon Poursobha in Thakurgaon district. By combining these elements in our methodology, we aimed to provide a robust framework for investigating and gaining insights into the complex dynamics of caregiving and care receiving among elderly individuals in both rural and urban settings within Bangladesh.

4. Findings

A Variety of Household Structures: Within Bangladesh, there exists a diverse array of household structures in which the elderly resides. These structures include nuclear families, joint families, and extended families. Nuclear families consist solely of the husband and wife or parents with unmarried children. Joint families, however, entail related males from multiple generations living together, sharing resources, and making communal decisions. Extended families feature paternally related members living separately while maintaining economic independence. Nonetheless, the majority of households in Bangladesh still live in a joint and extended family system with strong kinship ties.

Table: 01: Percentage of Households According to Type of Household, Household Structure and Household Head by Age, Sex and Residence.

Trend Towards Nuclear Families: Due to modernization, there has been a shift towards nuclear families. This has resulted in elderly individuals having fewer family members residing with them. Nevertheless, despite this trend, many households in Bangladesh still maintain joint and extended family structures, emphasizing strong kinship ties.

Household Type	Rural		Urban	
	Male	Female	Male	Female
All ages				
One person	6.4	21.7	3.4	12.9
Nuclear	69.2	38.5	66.1	22.6
Extended	24.4	38.5	29.5	62.9
Less than age 60				
One person	5.9	12.8	1.4	12.5
Nuclear	76.0	55.3	75.7	41.7
Extended	18.1	31.9	19.6	45.8
Age 60+				
One person	8.8	33.3	6.3	13.2
Nuclear	35.3	16.7	37.5	10.5
Extended	55.9	47.2	56.2	73.7
Household Structure				
All ages				
One generation	6.3	20.5	3.9	14.5
Two generation	69.7	41.0	70.9	30.7
Three generation	69.7	41.0	70.9	30.7
Less than age 60				
One generation	6.0	12.8	3.0	12.5
Two generation	76.6	57.4	80.1	50.0
Three generation	17.4	29.7	17.0	35.5
Age 60+				
One generation	7.8	30.6	6.3	15.8
Two generation	35.3	19.4	46.4	18.4
Three generation	56.9	50.0	47.3	65.8
Household Head				
Self	81.3	47.3	87.2	52.2
Spouse	2.8	8.9	4.3	4.5
Son/Son-in-law	15.0	39.3	7.6	38.6

Source: Samad and Abedin, 1998; Tables 2.2, 2.2a, 28.5

Predicted Reversion to Joint Households: It is anticipated that as fertility rates decline, household structures will likely revert to joint households. Joint households facilitate shared decision-making and resource pooling among family members, with the elderly retaining important roles within these structures.

Elderly Authority and Decision-Making: Household decision-making often depends on the authority and status of the elderly. Traditionally, men have held

greater decision-making power in Bangladeshi households. In extended families, decision-making is more communal, involving multiple family members. The ESCAP 1998 survey reveals that high proportions of young-olds compared with old-old have a say in a range of household decision making (about 70%), with more males than females being involved (Samad and Abedin, 1998).

Table: 02: Percent Distribution of Elderly who have a say in Selected Household Decision Making by Age and Sex

HH Decision Making	Age group		Sex	
	60-69	70+	Male	Female
a. Daily expenditures	72.9	27.1	66.7	33.3
b. Type daily food to buy	74.2	25.8	65.2	34.8
c. Education of young members	72.7	27.3	66.8	33.2
d. Marriage of young members	70.9	29.1	62.9	37.1
e. Investments	71.0	29.0	64.7	35.3
f. Buying major hh items	70.8	29.2	67.1	32.9
g. Where to go for treatment when member falling ill	71.6	28.4	65.2	34.8

Source: Samad and Abedin. 1998; Table 38.2

Economic Roles: Typically, older men serve as the primary breadwinners and are responsible for income generation. Women, on the other hand, play a crucial role in maintaining households and performing non-income-generating tasks such as cooking, cleaning, and caregiving.

Financial Security: Elderly individuals rely on their families for financial security as maintaining a separate household can be financially challenging. Single-person households, which are often comprised of older women, face economic difficulties.

Support from Family: Elderly individuals receive support from their spouses and children. Daughters often take on caregiving responsibilities for older women. Sons are crucial for providing financial support and hold decision-making authority within the family.

Living Arrangements: Most elderly individuals in Bangladesh live in households with their spouses and children. These households often follow a three-generational extended structure, where multiple generations co-reside. Even those elderly individuals not living with their children maintain frequent contact with them. These elaborations provide a more in-depth understanding of how family structures in Bangladesh influence the roles, authority, and support systems for elderly individuals. This sheds light on the complexities of family dynamics and their impact on the elderly population.

5. Discussion:

In our research, we have unearthed a multifaceted landscape of household structures and their impact on the elderly population in Bangladesh. Our exploration has

revealed several key insights that warrant comprehensive consideration. Primarily, we have observed a diverse range of household structures within the country, encompassing nuclear families, joint families, and extended families. This diversity reflects the intricate tapestry of social norms and familial ties in Bangladesh. However, the dominant trend of modernization has ushered in a shift towards nuclear families, resulting in elderly individuals having fewer family members residing with them. This transformation can be attributed to urbanization, changing lifestyles, and evolving societal values. Nonetheless, the persistence of joint and extended family structures, with their strong kinship ties, remains a prevalent feature of Bangladeshi households. This endurance suggests that traditional values and the importance of familial bonds continue to influence the choices people make regarding their living arrangements.

Our research also points to a potential reversion to joint households in the future, as fertility rates decline. Joint households facilitate shared decision-making and resource pooling among family members, with the elderly retaining crucial roles within these structures. This anticipated shift underscores the dynamic nature of household structures and their adaptability to demographic changes. Crucially, household decision-making appears to hinge on the authority and status of the elderly. Traditionally, men have held greater decision-making power in Bangladeshi households. However, our findings reveal a noteworthy involvement of both young-olds and old-olds in household decision-making, with more males than females participating. This evolving landscape of decision-making dynamics warrants further exploration.

Economic roles within households also emerged as a significant aspect of our research. Older men predominantly serve as primary breadwinners, while women are central to maintaining households and performing non-income-generating tasks. This division of labor may influence financial security and independence among the elderly, particularly older women. In terms of financial security, elderly individuals primarily rely on their families, as maintaining separate households can be financially challenging. Single-person households, often composed of older women, face economic difficulties. This highlights the importance of family support networks in providing economic stability to the elderly.

Family support extends beyond financial aspects, encompassing caregiving responsibilities and decision-making authority. Daughters often shoulder caregiving duties for older women, while sons play a pivotal role in providing financial support and holding decision-making power within the family. The prevalence of three-generational extended households in Bangladesh is a testament to the enduring significance of kinship ties. Even when elderly individuals do not co-reside with their children, they maintain frequent contact, emphasizing the value placed on intergenerational relationships. The elderly population in Bangladesh faces unique challenges, which are shaped by the complex interplay of cultural, social, and economic factors.

Our research has highlighted the importance of considering the multifaceted nature of household structures when designing policies aimed at improving the well-being

of the elderly. The persistence of joint and extended family structures, alongside the emergence of nuclear families, suggests a need for nuanced policy interventions that take into account the evolving dynamics of household structures. As the population ages, there is a growing need for social protection programs that provide financial security and support for caregiving responsibilities. Additionally, policies that promote intergenerational relationships and reduce social isolation among the elderly are essential.

The findings of our research also underscore the need for further exploration of the evolving decision-making dynamics within households. The involvement of both young-olds and old-olds in household decision-making, as well as the notable gender disparities in participation, require in-depth analysis. Policies that promote gender equality and empower the elderly in decision-making processes could have significant positive impacts on the well-being of the elderly population.

Therefore, our research has uncovered a complex picture of household structures and their impact on the elderly population in Bangladesh. The enduring significance of kinship ties, alongside the emergence of new household structures, highlights the dynamic nature of societal changes. Policies aimed at improving the well-being of the elderly must take into account the multifaceted nature of household structures, including economic roles, decision-making dynamics, and intergenerational relationships. By doing so, we can ensure that the elderly population in Bangladesh receives the support and care they need to live fulfill lives.

6. Conclusion

This study sheds light on the complex relationship between changing family patterns and the welfare of senior citizens in Bangladesh. It demonstrates the presence of various home configurations, the prospective trend towards joint households, changing decision-making processes, and the economic roles of older people. It is significant because it emphasizes how important family support is in the lives of the elderly. Nuanced policies that offer financial security, advance gender equality, involve the elderly in decision-making, and promote intergenerational connections are essential for addressing the particular problems these dynamics present. In the end, this study emphasizes the necessity of thorough, flexible methods to enhance elderly people's quality of life in Bangladesh as a result of shifting family patterns.

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**Understanding Gender Differences through Analyzing the
Variant Usage of Language by Male and Female: A
Sociolinguistic Study on the Bangladeshi Tertiary Level Students**

Emrana Bari¹

Abstract

Background

With the development of sociolinguistics, language and gender study in some specific contexts needs to be conducted.

Objectives of the study

This study examined the gender differences through analyzing the language differences and finds out the social factors working behind the variation of language among the tertiary level Bangladeshi students.

Methods

A small-scale, quantitative survey on the gender differences in language use was conducted among the tertiary level students of four universities (public and private) in the northern part of Bangladesh.

Summary of findings

This study found significant gender differences in language use based on the conversational analysis of male and female students focusing on their distinctive speech act, choice of vocabulary, sentence construction, turn taking, use of hedges or fillers, conversation lead, etc. Multiple factors were found behind the variation of language used by male and female students; gender is one of them. Moreover, gender is culture specific. This study also showed that a particular society's power relation between two genders, economic structure, social norms, and beliefs have an impact on shaping the language of men and women.

Contribution and implication

This study will help female to recognize the factors that subconsciously build their perspective which are reflected in the language they use. This study will play a significant role in the arena of linguistics, sociology, and especially in feminism for various reasons.

Keywords: Sociolinguistics, Culture, Gender difference.

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Introduction

Language is the medium of interaction. It is often get modified by the context and featured by the gender (Karlsson, 2007). As a part of macro-linguistics, modern sociolinguistics has been carrying out its' investigation on how a particular language represents or talks about males and females, how a language is spoken by men and women, language differences between men and women, and the reasons working behind the differences (Cameron, 2014). Language is used in different contexts by males and females differently. Moreover, they use various linguistic strategies in their conversation. Coats and Johnson (2001) refer to the context which is responsible for the occurrence of language or communication. Some researchers used the term gender preferential than gender based differences to talk about gender differences in language use because both males and females have the potential to utilize some linguistic strategies but it is the context that let them select language type (Fitzpatrick et al., 1995; Kennedy & Camden, 1983). So, context decides what type of language has to be used. Males and females speak differently depending on the context. The way male and female speakers speak at home is totally different from the way they speak on the university campus or marketplace. However, their individual speech act has some common features. Male and female speakers adopt those features wherever they talk or whatever they talk about. Those features differ from male to female students. This study was based on several aspects of language differences like the purpose of the conversation, the amount of talk, use of vocabulary, turn taking, etc.

The conversation's purpose varies from male to female. According to Crawford, the way men and women talk is shaped by some fundamental differences (Crawford, 1995). Men and women have to play different roles in society. To accomplish those roles and responsibilities they have to act differently and speak differently depending on the purpose they have to serve. Maltz and Broker's (1982) model of gender marked language use claims that the content and purpose of males' and females' speech are different and sometimes serve opposite to each other. Males find scope for self-assertion through a conversation. On the other hand, females are more collaborative and try to build and maintain good relationships (Sheldon, 1990).

The amount of talk associated with males and females varies to a great extent. If we travel back to Greek philosopher Sophocles who said “Silence gives the proper grace to women” which means the silence of women was always appreciated (Kaplan, 1976). In other words, quiet women are good and those who speak can be tagged as talkative (Spender, 1989).

Women have their own areas of interest as men. They both cherish and use some distinguished specialized vocabularies. Women develop some special adjectives to address or admire people. They also have some special names and terms for color and cosmetics. On the contrary, males have various interesting special dictions and phrases of different games and sports. Their different area of choice does matter because of their language differences (Holmes, 1986).

Language differences can happen at various levels like phonology, morphology, and syntax depending on the male’s and female’s language skills and preferences or the social contexts they are in (Gooch, 1973; Haas, 1979). A good number of research studies have been already conducted by different linguists, sociolinguists, feminists, and sociologists on male-female language differences (Mulac et al., 1986, 1988; MULAC et al., 1985). This study includes three significant approaches to language and gender: Dominance, Difference, and Deficit theories focusing on the language differences and the reasons for language differences between male and female students of the tertiary level of the northern part of Bangladesh. The general objective of this study is to explore the gender gap by analyzing the variant usage of a language by men and women. Based on the general objective, this research has been designed to be conducted on some specific objectives:

1. To identify the different usage of a language by male and female students
2. To identify the distinctive communicative style of male and female
3. To examine the factors working behind the language differences between male and female
4. To provide a clear picture of how an individual’s perspective and behavior (language) is patterned by social treatment.

This study will play a significant role in the arena of linguistics, and sociology, especially in feminism for various reasons. First of all, it will enlighten both males and females about the reasons behind the variation in language use. Additionally, the result of this study will help female to recognize the factors that subconsciously build their perspective which are reflected in the language they use.

Data and Methodology

Data Source

The study was conducted based on a small-scale, quantitative survey on the gender differences in language use. The study was administered in the four universities (public and private) in the northern part of Bangladesh. The primary data was collected from one public university; Begum Rokeya University, Rangpur, two private universities Bangladesh Army University of Science and Technology, Saidpur, and Pundra University, Bogura; and from one national university i.e., Bogura Azizul Haque College and University. Data was collected using simple random sampling from 100 (50 males and 50 females) students (Sugden et al., 2000). A structured questionnaire consisting of 17 multiple choice questions was used to collect primary data. On the other hand, both print versions and online sources i.e., relevant books, publications from authentic sources, journals, reports, newspapers etc. were also utilized for our study.

Methods

This study has adopted a quantitative research methodology for analyzing data. The quantitative approach has been chosen for getting more accurate results and for carrying out more effective evaluations.

Results and Discussion

The purpose of the conversation differs from male to female participants. In Figure 1, we can see that 13 percent of male participants converse about improving relationships. Thirty seven percent of them are driven by making a good image. The other 42 percent want to enrich knowledge by conversation while at least 8 percent do that for expressing their feelings. On the other hand, a total of 51 percent of female participants engage in conversation to build and maintain a good relationship. Other 7 percent of them are motivated to make a good image while another 33 percent are seeker of knowledge and at least 19 percent merely want to share their feelings.

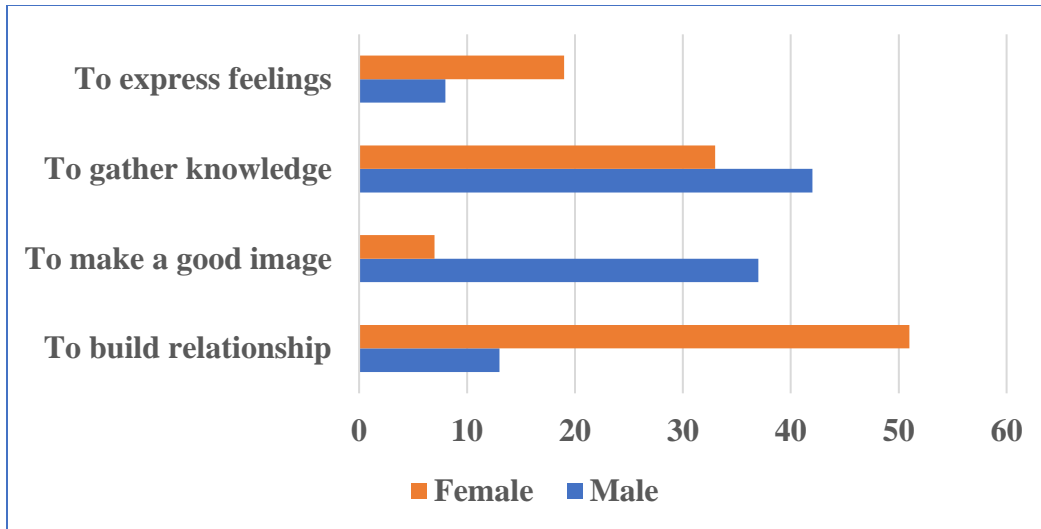


Figure 1. **Percentage distribution of purpose of conversation between male and female Bangladeshi university students**

Figure 2 shows male and female participant's choice of topic varies a great deal. The topic of interest differs greatly from male to female participants. A total of 41 percent of the male participants love to talk about politics. Talking about family affairs interests only 3 percent of them. On the contrary, female participants are less interested in politics. Only 8 percent of them feel free to talk about politics. Around 26 percent of females love to talk and listen about education or study-related issues. The number falls to only 4 percent when comes to the sport. However, the study shows that 62 percent of female participant's chosen topic is family matters.

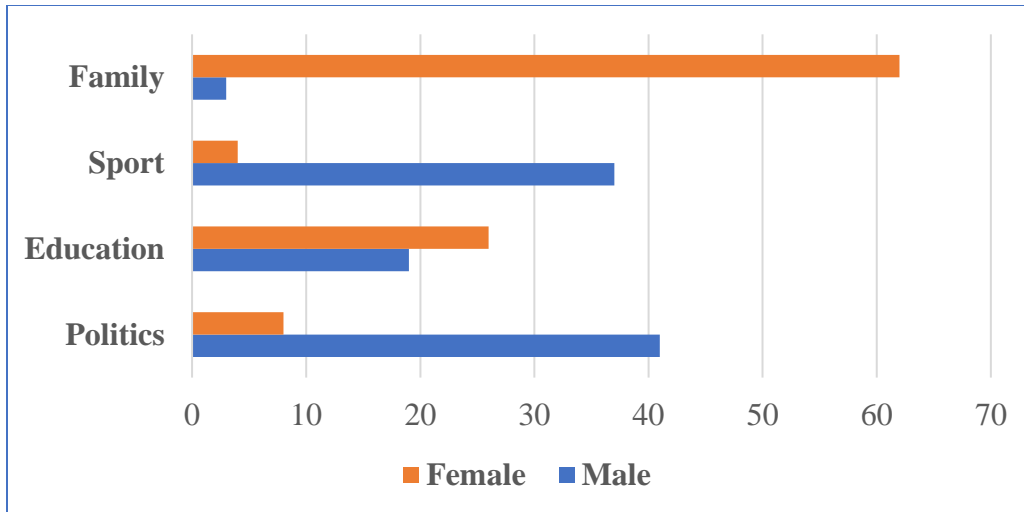


Figure 2. **Percentage distribution of topics of conversation between male and female Bangladeshi university students**

Figure 3 shows that in the context of Bangladesh male speaker usually start a conversation. Sixty one percent of the total male participants use informal language and the other 22 percent use colloquial variation whereas only 17 percent speak formal. In the case of females, the picture is the opposite. Most of the participants, shown above 74 percent speak formal language, the other 26 percent use informal and colloquial. About 77 percent of male participants open a conversation while the other 23 percent do not. Among female participants, 81 percent are usually reluctant to open a conversation while the other 19 percent easily can.

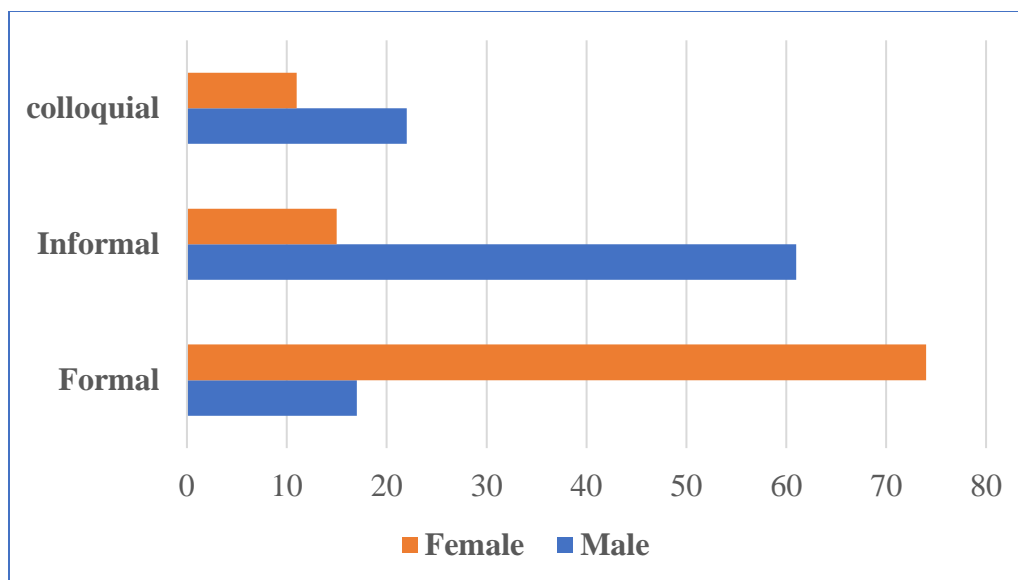


Figure 3. **Percentage distribution of usage of language type between male and female Bangladeshi university students**

Table 1. Distribution of response regarding major type of conversational differences between male and female Bangladeshi university students

Factors	Options	Gender	
		Male (%)	Female (%)
Ice-breaker	Yes	77	19
	No	23	81
Usage of slang	Yes	93	14
	No	7	86
Seeking approval	Yes	21	79
	No	65	12
	Sometimes	14	9
Like hedges and fillers	Yes	22	94
	No	78	6
Using hyperbolic expressions	Yes	13	89
	No	87	11

Response minimally	Yes	23	94
	No	77	6
Use of special lexis	Yes	21	79
	No	65	12
	Sometimes	14	9
Adjective preference	Yes	22	97
	No	78	3
Commanding style	Yes	84	11
	No	16	89
Interrupting a conversation	Yes	69	18
	No	31	82
Pitch	Low	16	91
	High	84	9
Conversation gesture	Yes	44	72
	No	66	28
Amount of talk	Home	38	68
	Outside	62	32
Social expectations	Yes	93	94
	No	7	6

Table 1 shows the overuse of slang and taboos by the male participants. About 93 percent use slang comfortably and at least 7 percent simply do not. On the other hand, only 14 percent of total female participants use slang and the other 86 percent do not.

Nearly 21 percent of males use question tags and the other 14 percent use on an irregular basis whereas 65 percent of the total male participants do not seek approval by tagging questions (Table 1). The reverse situation is noticeable in the case of the female participant where exactly 79 percent of females use tag questions to get their approval. Other 12 percent do not use tags but again less than 9 percent do tag questions sometimes.

Female user uses an extensive number of hedging words to soften their conversation. About 94 percent of female speaker add hedges in their talk, other 6 percent simply avoid them. But only

22 percent of male participants use hedges while conversing and the other 78 percent do not prefer hedging words (Table 1).

The account of using exaggerated expressions differs from male to female.

Among male participants, 13 percent used intensifiers in their talk. Other 87 percent talk without putting those with the language. Female speaker overtly uses intensifiers and hyperbolic expressions. Eighty ninepercent of female respondents answered it positively and the other 11 percent ticked negatively (Table 1).

To keep the conversation going the speaker uses some sounds or word stems signifying minimal responses. According to the study among male speaker, 23 percent use this kind of response while the other 77 percent of male speakers do not respond minimally. On the other hand, 94 percent of total female participants use minimal responses to support the speaker. Though other 6 percent of femalesdo not use those.

Table 1 shows the picture of using special lexis by male and female counterparts. The percentage of the special lexis user among male participants is 21 percent while other 14 percent use occasionally and 65 percent of them do not normally use unfamiliar or special lexis. However, the number of special vocabulary users among female respondents is high. A total of 79 percent of females uses special lexis. Again, 9 percent use it occasionally, but 12 percent do not use it at all.

In Table 1, it is found that male participants use fewer adjectives than female. Among male participants 22 percent use adjectives while they engage themselves in a conversation. A major portion of 78 percent usually do not use adjectives in casual conversation. Ninety seven percent employ adjectives in their conversation while only 3 percent do not bother using them.

Table 1 shows that 84 percent of males do command directly by using imperative forms while the other 16 percent do that more politely or indirectly. The table shows the difference between male and female participants differ a great deal while giving direct commands. Among them, 89 percent usually give proposals rather than giving direct commands. However, 11 percent are in favor of giving commands directly and using imperatives to direct or order.

Table 1 shows that 69 percent of male students interrupt the conversation while 31 percent do not interrupt the speaker and allow them to finish first. However, only 18 percent of female students interrupt their male speaking partners and the other 82 percent do not make interruptions. Between male and female speakers' 16 percent of males speak in a low pitch while 84 of them

speak in a high pitch whereas female 91 percent speak in a lower pitch and the other 9 percent prefer speaking at a high pitch.

Among the total male respondent, 44 percent move their hand or bodies or give facial expressions while they speak, other 66 percent do not pose gestures in their conversation. On the contrary, 72 percent of females are habituated to body movement while they speak. The remaining 28 percent do not use gestures or facial expressions.

In the issue of the amount of talk, there are also differences between male and female students. The study reveals that 38 percent of males think that they talk much at home but another 62 percent claim that they talk much outside.

Sixty eight percent of female speakers think that they talk much at home and love to talk with family members. The other 32 percent are reserved for talking in the home arena and talk much on the university campus.

Interestingly 93 percent of male participants agreed and said 'yes' while the other 7 percent do not think that adequate. On the other hand, 94 percent of female speakers answered positively, and they think they are on the right track while the other 6 percent denied negation.

From the above findings, it is worth noting that the conversation between males and females differs to a great extent. The purpose of making conversation varies from male to female participants. Males are more concerned with gathering knowledge as well as protecting their good image. On the other hand, females are driven by the tendency to build a good relationship. Some females are also purposive of attaining knowledge. A good number of females talk only to express their feelings whereas males are less bothered about building relationships and reserved of expressing their feelings. Some topics attract men more whereas some others attract women more. Very few of them talk about politics or sports. The language type collected for this study reveals that female speakers use more formal language in contrast to their male counterparts. Male speakers are in love with the informal usage of language property. Among the university students, male students usually start conversations while female students feel reluctant. Usage of slang or vulgar words or expressions marks noticeable differences between male and female language.

Limitations of the study

This paper has been done with some limitations. First and foremost, the research is conducted on

limited participants. Its' data is collected from only four universities. Moreover, there were also methodological limitations. Along with providing a survey questionnaire, it was needed to hold close interviews for better results. All these issues need to be improved in further research.

Conclusion and Policy Implications

Males and females are physiologically different. They socialize differently. Their perception of society is different as well. Language is the channel by which their different individual social perception finds its way out. So, the language differences as well as the reasons behind the differences can be understood by studying the language they use. This study shows that a particular society's power relation between two genders, economic structure, social norms, and beliefs have an impact on shaping the language of men and women.

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