Effect of Mobile Financial Services on the Living Standard of Underprivileged Workers in Bangladesh

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Abstract:- The impact of financial inclusion has been seen on the underprivileged people. As financial inclusion indicates as to "delivery of financial services at affordable costs to disadvantaged and low-income segments of society", the poor and low-income segments of the country are getting benefits from this. The main objective of the study is to find out the interface between financial inclusion (mobile financial services) and the living standard of underprivileged workers of Bangladesh. This study has conducted based on the quantitative method. Data was collected mainly from the primary as well as secondary sources. Primary data were collected from the underprivileged workers living in different haor areas using structured questionnaire. Total 386 respondents' data were considered as sample data. Mainly convenient sampling method were used to select sample different haor regions. Data were analyzed by using SPSS 23. Descriptive statistics, ANOVA, Chi square, OLS regression analysis were used as analytical tools in this study. Conclusion was drawn based on the findings of the study. A significant finding is that mobile banking service is assumed as a blessing for these small savers and users who relied on risky informal savings practices. Mobile banking enables the low income people to reduce their costs associated with transaction of money and thus helps to upgrade their economic condition.

Keywords:- Mobile Remittance, Financial Inclusion, Living Standard, Underprivileged People]

I. INTRODUCTION

In today's world, technology plays a pivotal role in controlling every aspect of our life. It is indeed an inevitable truth that financial institutions are remarkably relying on mobile technologies to provide the customers of all sectors with secure access to financial services Banking institutions are, without a doubt, the most important organized financial intermediaries that aid in the strengthening of an economy's financial system. As a result, financial inclusion is critical in laying the groundwork for a country's financial infrastructure, which will facilitate economic growth and development (Sharma, 2016). Financial inclusion is mainly targeted for the lower income groups of the society for introducing a convenient and easily accessible method of transaction (Shakhawat, Aminul, & Russel, 2017); Rangarajan, 2008). As they aim to alleviate poverty, foster economic and social growth, and overcome a perceived "digital divide," many developing country governments and development agencies are focusing on expanding telecommunications services into rural regions (Chiu & Ttl, 2008). Poor people who are usually positioned in the informal sector and rarely use banking services can now use financial services thanks to mobile banking. As a result, financial activity in rural areas has increased, resulting in increased economic growth. Receiving and transferring money was a huge pain for the lower-income people. Mobile technology has opened up new possibilities, allowing a huge number of people to access financial services without having a bank account. The lack of chances for vulnerable and impoverished people to obtain financial services has prompted financial institutions to innovate in a variety of ways, including the concept of mobile banking (Mago, 2014). As long as they have access to a cell phone, mobile banking can help formerly "unbanked" low-income earners and the unemployed. In Bangladesh, the mobile banking services has been inaugurated in 2011 by the Dutch Bangla Bank Limited as an alternative of banking services. Later, its immense popularity contributed towards its widespread use through the nation. Bkash, Dutch Bangla Bank Rocket, Ucash, Mcash and other mobile financial services have been introduced in the country to facilitate the general public, especially, the rural population (Mago, 2014; Nandhi, 2012). Besides, the easier completion of money transfer, break-down of the power of business intermediaries and mobility of the money encouraged the underprivileged people to use this remarkable instrument. In addition, it has been identified that among the users of mobile financial services, most of the people are either farmers or businessmen, who are involved with agricultural or fish products (Shakhawat et al., 2017).

The Bangladesh government is currently focusing on the socio-economic development of the people living in Bangladesh's haor region. Enabling mobile financial services in the *haor* area would boost up the living standard of the underprivileged workers living over there. This might be

helpful for the regional development and augmenting the economic contribution of the *haor* area of Bangladesh. Nevertheless, inadequate research evidence regarding this subject matter provokes for answering certain questions. The actual of impact of mobile financial services on the living standard of underprivileged workers of the *haor* region is still ambiguous. The current study is aimed to discover the truth regarding this issue. So it is imperative to find out the impact of financial inclusion particularly mobile banking services on the living standard of underprivileged workers of Bangladesh.

II. OBJECTIVES OF THE STUDY

The main objective of the study is to find out the effect of mobile financial services on the living standard of underprivileged workers of Bangladesh. The specific objectives are as follows:
a) To depict the scenario of living standard of underprivileged workers of haor area of Bangladesh.
b) To analyze the current scenario of mobile banking services in haor area of Bangladesh.
c) To assess the impact of mobile banking services on the living standard of underprivileged workers in Bangladesh.
d) To recommends some guidelines for improving living standard of underprivileged workers in Bangladesh.

III. RATIONALE OF THE STUDY

The issue of access to financial services for the adult population in every country in terms of development, poverty reduction, decent work and economic empowerment has received growing attention from scholars and policy makers (Titus & Ifeanyi, 2019). Due to technological advancement as well as for the convenience of the users, several mobile financial services have been started in our country. The inevitable contribution of mobile financial services in the economy of a country through improving their living condition, can be verified from the prior research evidence (Macharia, 2013). It plays an indispensable role in terms of the socio-economic development of Bangladesh (Shakhawat et al., 2017); (Das et. al., 2014). According to different researchers, because of convenience and accessibility, less time consumption and reduction of cost have brought enormous popularity of mobile financial services in case of rural population (Mago, 2014; Nandhi, 2012). Particularly, government is focusing on the *haor* areas for implementing efficient mobile financial services. However, there are limited research evidence to conclude the issue. Hence, it is material to explore the extent of which financial inclusion or mobile financial services effect the living standard of underprivileged workers living in the *haor* area of Bangladesh (Shakhawat et al., 2017). It can be said that there is an impact of financial inclusion on economic growth, poverty and the living standard of poor people of this country and this is the subject of this study. The findings of the current study may uncover new potentiality of mobile financial services to facilitate the unprivileged people of Bangladesh, who plays an imperative role for the economic growth of Bangladesh.

IV. LITERATURE REVIEW

Financial inclusion has been shown to have a significant contribution to economic development and poverty reduction (Cooperation, 2020). Financial inclusion has risen to the top of many countries' policy agendas as a means of achieving sustainable development and improving people's well-being (Ratnawati, 2020). Mobile telephony has spread to even the most remote corners of the planet, allowing everyone to communicate. Individuals in emerging economies, in particular, can benefit from improved communication and technology to acquire financial inclusion (Sharma, 2020).

A. Living standard of underprivileged workers of Bangladesh
People who live in rural areas rely heavily on the land, which is both fertile and vulnerable (Kabir, Seamoon, & Rahman, 2016). In terms of output, the country's authoritative economic sector is "services" (UNFPA, 2015). It has become a burden for them to live a healthy, sound existence due to low salaries, high prices of daily necessities, and a big number of family members in their family. The situation of the lower classes in rural areas has deteriorated. Many times, the lower classes in rural areas are unable to achieve the minimum amount of expenditure required to support a person's fundamental necessities, which include both food and nonfood products. The concept of the standard of living has a both complicated and interdisciplinary character (Grzega, 2018). The prominent factors are income , general price level, size of the family, level of education etc. on which the standard of living of an individual or a family depends.

B. Mobile Banking
With the mobile technology, the transfer of resources from one place to another; from one region to another region, and from one country to another, it augments the mobility of money resources and thereby it has multiplier effects on the regional and macro-economic growth (Akhter & Khalily, 2017). In countries where the majority of the population is unbanked, the concept of mobile financial services is well-known (Khan, 2016). Mobile Banking is a crucial tool of financial inclusion that has been used to bring the unbanked and underprivileged into the official financial system (Shakhawat et al., 2017) in order to improve their existing financial transactions. Because it reduces travel time and improves safety and convenience, mobile banking offers significant efficiency gains over traditional methods of money transfer. Mobile banking technologies are rapidly gaining traction in developing nations, where they appear to be on course to reach billions of 'unbanked' people (Sahay et al.2015).

C. Mobile banking service and the living standard of underprivileged people
Bangladesh's labor force earns a pittance in comparison to other countries, but they must work for eleven hours or more every day (Islam, 2019). Laborers in the agriculture sector, especially female laborers, are paid a pittance. Long working hours, less pauses between jobs, poor and unhealthy eating habits, physical and emotional stress, and a lack of suitable living quarters make garment workers weak and sick

(Islam, 2019). Furthermore, their poor money prevents them from receiving effective therapy or caring for themselves. They are excluded from official financial services, despite the fact that they are an engine of economic growth. The official financial system is easily accessible through mobile banking.

It should also demonstrate that borrowers can lessen their reliance on informal sources of funding over time, paving the way for steady or effective integration of these borrowers into the formal banking system (Hussaini, 2019). It aims to raise people's living standards by facilitating access to and use of a diverse variety of financial products and services, including insurance, credit, savings, pensions, and payments (Central Bank of Nigeria, 2018). People are enticed to participate in the banking system by providing financial services, which leads to GDP growth. It increases the production of domestic capital, which encourages entrepreneurship, and it increases the depth of a country's private sector, which, in turn, produces new jobs and possibilities. It should also show that borrowers may lessen their reliance on informal sources of funding over time, paving the way for steady or effective integration of these borrowers into the formal banking system (Hussaini, 2019). It aims to raise people's living standards by facilitating access to and use of a diverse variety of financial products and services, including insurance, credit, savings, pensions, and payment services (Central Bank of Nigeria, 2018). People are enticed to join the banking system by providing financial services, which leads to GDP growth. It promotes the generation of domestic capital, which encourages entrepreneurship, as well as the development of a country's private sector, which, in turn, provides new jobs and opportunities.

V. RESEARCH METHODOLOGY

This study has been conducted based on survey technique with a snowball sampling techniques A total of 17 union parishad members were selected by using simple random techniques and 20 respondents were selected by that member from his elected area those are working different areas of Bangladesh. But this study considered only 386 respondents as final sample. This study considered two areas of Sunamganj district Tahirpur and Darmapasha Upazilla as study site. Because tanguar haor actually located in these two upazilla. The study has considered both primary and secondary data. Primary data has been collected from the underprivileged workers' family members living in different haor areas using a semi structured questionnaire. Various journals, books and publications along with unpublished articles will be used for collecting the essential secondary data. SPSS version 21.0 were used to analyze data, prior to test hypotheses, for scale reliability and validity. Relationship between various variables of the study were explored by using descriptive statistics, chi square test, ESI, OLS model have been considered for assessing the relationship between mobile financial services and the living standard of underprivileged workers of Bangladesh while developing the estimated regression models of the study.

VI. ANALYSIS AND FINDINGS

The data analysis section consists of the frequency table, descriptive statistics, chi- square test, economic situation index (ESI) and ordinary least square (OLS) test. This portion of the study has depicted the empirical findings of the interface between financial inclusion (mobile financial services) and the living standard of underprivileged workers of *haor* area of Bangladesh.

A. Demographic characteristics of the respondents

In appendix section table A1 shows that gender differences were not very marked except that the 19.4% were all male. The age of the respondents is below 30 is 45.6%, 30-35 is 33.9%, 35-40 is 13.5%, 40-45 is 7%. The family size of the respondent is important factor in the related field of financial inclusion. The members below 3 is 18.4% small family, 3-5 is 56.5% and above 5 is 25.1%. The marital status of the respondents is 68.4% is married and 31.6% is single. The income level of the respondents, below 20K is 83.9%, 20K to 25K is 8.3%, 25 to 30K is 7% and 30 to 35K is only 0.8%. Education level of the respondents, below SSC is 6.5%, SSC is 27.5%, HSC level is 29.5%, Under Graduate is 31.6% and Graduate is 4.7%. In appendix section table 2 shows that among 386 respondents, here 344 family earner lived outside home and remaining 42 family earner lived with family. However, 371 respondents agreed with the statement that remittance received through MFS reduce transaction cost. In appendix section table 3 found that 196 respondents stated that MFS improved their choice of housing facilities, 95 people highly improved their housing facilities due to MFS. And 53 respondents could not change their housing facilities whereas 39 respondents could able to change in little in their housing facilities. Here 50.8% percent people can improve their housing facilities which implies that mobile financial service can able to bring changes in living standard. Another proxy variable use hygienic of toilet, tube-well shows that 62.4 percent people change their living standard and 10.9 percent highly improved their condition. The variable choice of food facilities implies that 40.7% of the respondents can able to change their food preferences whereas 46.9% cannot able to change their food preferences. To examine the change in medical facilities, the study found that 37.8% respondents did not change their preference of medical facilities. In contrast, 32.1% people improved their choice of medical facilities and 18.7% highly improved their preferences. In order to explore the changes in clothing preferences, the study found that 40.7% of the respondents improved their clothing preferences and 34.2% of respondents did not change their clothing preferences. The variable named preferences in fashionable product, 35% of respondents changed in little and 34.7% did not change their preferences. To analyze educational expenses, 33.7% respondents improved their educational expenses and 32.6% did not change their preferences. And overall economic situation is improved for 37.6% respondents whereas 44% respondents could not able to change their economic condition.

B. Descriptive statistics of households' living standard

In appendix section table 3 shows the sub variables denoting the changes in living standard such as, choice of housing facilities, clothing preferences, food preferences, educational expenses and so on. Choice of housing facilities, use hygienic of toilet, tube-well, choice of food facilities, choice of medical facilities, clothing preference, fashionable product preferences, mean are 2.91, 2.76, 2.50, 2.58, 2.28 and 1.51 respectively. The standard deviations are .887, .776, .697, .920, .877 and .991 respectively. Mean value 2.91, 2.76, 2.50 and 2.58 that are close to 3 imply improved situation. Similarly, 2.28 and 1.51 are close to 2 which implies living standard did not change. Educational expense, household accessories expense, specific educational opportunities and overall economic situation have mean value of 2.19, 2.19, 2.18 and 2.36 respectively that are close to 2. It reflects that these sub variables denoting living standard remained unchanged. The standard deviations are .922, 1.041, .836 and .814 respectively.

C. Association between the choice of housing facilities and economic condition of fund receiving family

There are 95 respondents who can able to improve their housing facilities choice highly. This result indicates that the major portions of remittance beneficiary groups can able to improve their housing facilities from the survival group because they are the most benefitted group of receiving remittances through MFS. In appendix section table A5, the chi square value is 292.694 and likelihood ratio is 299.423. The linear by linear association between the variables among the 383 respondents is 1.027 with 1 degree of freedom. However, the obtained P value (.000) is less than the minimum acceptance value of (0.05). Therefore, we reject the null hypothesis. In other words, there is strong significant association between the two variables.

D. Association between the use of hygienic of toilet, tube-well and economic condition of fund receiving family

There are 42 respondents who can able to improve their housing facilities choice highly. This result indicates that the larger portions of remittance beneficiary groups can able to improve their using hygienic toilets & tube-well from the survival group (140 respondents) because they are the most benefitted group of receiving remittances through MFS. In appendix section table A5, the chi square value is 101.542 and likelihood ratio is 90.382. The linear by linear association between the variables among the 383 respondents is 48.619 with 1 degree of freedom. However, the obtained P value (.000) is less than the minimum acceptance value of (0.05). Therefore, we reject the null hypothesis. In other words, there is strong significant association between the two variables.

E. Association between food preferences and economic condition of fund receiving family

Again, 27 respondents who can able to improve their food choice highly. This result indicates that a large number of of remittance beneficiary groups can able to improve their food preferences. In contrast, a large number of people have no benefit from receiving remittances through mobile banking. In appendix section table A5, the chi square value is 172.508 and likelihood ratio is 162.478. The linear by linear

association between the variables among the 383 respondents is 61.787 with 1 degree of freedom. However, the obtained P value (.000) is less than the minimum acceptance value of (0.05). Therefore, we reject the null hypothesis. In other words, there is strong significant association between the two variables.

F. Association between the choice of medical facilities and economic condition of fund receiving family

Total 72 respondents who can able to improve their choice of medical facilities highly. This result indicates that the larger portions of respondents from survival groups can able to improve their preferences of medical facilities because they are the most benefitted group of receiving remittances through MFS. A5, the chi square value is 174.690 and likelihood ratio is 179.210. The linear by linear association between the variables among the 383 respondents is 119.115 with 1 degree of freedom. However, the obtained P value (.000) is less than the minimum acceptance value of (0.05). Therefore, we reject the null hypothesis. In other words, there is strong significant association between the two variables.

G. Association between the clothing preferences and economic condition of fund receiving family

There are 18 respondents who can able to improve their choice of medical facilities highly. This result indicates that the clothing preferences of 6 respondents get worsen, and it is really alarming fact. In appendix section table A5, the chi square value is 145.135 and likelihood ratio is 151.414. The linear by linear association between the variables among the 383 respondents is 26.488 with 1 degree of freedom. However, the obtained P value (.000) is less than the minimum acceptance value of (0.05). Therefore, we reject the null hypothesis. In other words, there is strong significant association between the two variables.

H. Association between fashionable product preferences and economic condition of fund receiving family

Another 12 respondents who can able to improve their choice of fashionable products highly. This result indicates that the preferences of fashionable products of 61 respondents get worsen that means they cannot get the benefit of receiving remittances through MFS. In appendix section table A5, the chi square value is 151.068 and likelihood ratio is 157.800. The linear by linear association between the variables among the 383 respondents is 24.469 with 1 degree of freedom. However, the obtained P value (.000) is less than the minimum acceptance value of (0.05). Therefore, we reject the null hypothesis. In other words, there is strong significant association between the two variables.

I. Association between overall economic situation and economic condition of fund receiving family

Other total 24 respondents who can able to improve their overall economic situation highly. This result indicates that the overall economic situation of 6 respondents get worsen that means they cannot get the benefit of receiving remittances through MFS. In appendix section table 14, the chi square value is 139.760 and likelihood ratio is 142.322. The linear by linear association between the variables among the 383 respondents is 23.165 with 1 degree of freedom.

However, the obtained P value (.000) is less than the minimum acceptance value of (0.05). Therefore, we reject the null hypothesis. In other words, there is strong significant association between the two variables

J. Economic Situation Index (ESI)

ESI can be used to examine the impact of economic situation on the variables. The objective of this analysis is to assess the economic situation of under privileged households. The household respondents of different types were asked whether their economic situation change due to receiving foreign remittances through mobile financial banking. In appendix section table A6, in survival group, 16.47% of household can able to improve their situation and 5.88% of this group of household are able to highly improve their situation. Most surprisingly the percentage of improvement of this low saver groups is quite high, which is about 59.40%. In fair saver group, about 40% of the respondents highly improved their economic situation which is not so high in the middle and low-income group as the fair saver group received more benefit through MFS than the other two groups. For all group, it can be also said that 6.21% of household can highly improve their economic situation.

K. Ordinary Least Square (OLS)

OLS Regression results showing the impact of one known variable on another unknown variable. Regression analysis implies how one unit change of a variable effect another variable. In this study, OLS regression analysis shows the impact of using of mobile banking on the living standard of underprivileged workers. Here living standard is measured as personal income level of the household assuming that higher income denotes higher living standard. Because higher income encourages to spend and consume more. And the independent variables are gender, marital status, age, education level, family size, family earner living place, fund receive through mobile banking and without mobile banking.

Table 1: OLS regression analysis with fund receive through and without MFS

Model		Unstandardized Coefficients		t	Sig.
		B	Std. Error		
1	(Constant)	.535	.259	2.068	.039
	Gender of the respondent	-.452	.072	-6.249	.000
	Marital status of the respondent	.373	.072	5.221	.000
	Education Level	.122	.024	5.086	.000
	Family size of the respondents	.334	.050	6.629	.000
	Age of the respondent	-.408	.043	-9.519	.000
	Family Earner lived outside home	.056	.100	.557	.578
	Funds Received before using mobile financial services	.262	.041	6.344	.000
	Funds Received after using mobile financial services	-.151	.043	-3.516	.000

R square= .397   Adjusted R square=.384   F statistics=30.989

The above regression result depicts that except family earner living place, all other variables are statistically significant. It can be said that if education level increase by 1% or unit then personal income will be increased by .224% or units. Similarly, if family size increase by 1 member then income will be increased by .359 units as more earner implies more income. Funds received before using MFS is positively related with personal income whereas funds received after using MFS is negatively related with personal income. R square value of the model is quite low that is .397 which means the model can estimate the dependent variable by 39.7% only. But F statistics is quite high that reflects the model is clearly defined.

Table 2: OLS regression result assuming household expenditure as dependent variable

Model		Unstandardized Coefficients		t	Sig.
		B	Std. Error		
1	(Constant)	.558	.114	4.893	.000
	Gender of the respondent	-.190	.033	-5.700	.000
	Marital status of the respondent	-.018	.032	-.562	.574
	Education Level	.039	.011	3.599	.000
	Family size of the respondents	-.046	.023	-1.964	.050
	Age of the respondent	.086	.021	4.110	.000
	personal Income level of the respondent	-.154	.023	-6.808	.000
	Family Earner lived outside home	.057	.044	1.311	.191
	Funds Received before using mobile financial services	.079	.019	0.120	.061
	Funds Received after using mobile financial services	.693	.019	36.300	.000

R square=.955   adjusted R square= .954   F statistics=880.498

The above model assumes household expenditure as a dependent variable to measure the living standard of household. R square value of this model is quite high (.955), which implies that the independent variables can forecast the value of dependent variable by 95.5%. F statistics value is 880.498 which dictates that the model is statistically significant.

The above model of regression result shows that education level, gender, Family size, age, personal income, funds received through MFS statistically significant. Here, it can be said that if family size increase by 1 member then

household expenditure will be decreased by .031 units. Again, if funds received without MFS increase by 1 percent or unit then household expenditure will be increased by .107 units or percentage. Moreover, if funds received using MFS increase by 1 unit or percent then household expenditure will be increased by .933 units or percent as people receive more money. The result implies that after using mobile banking service, people receive more money as transaction cost decrease so that they can able to spend more money to develop their living standard.

VII. CONCLUSION AND POLICY RECOMMENDATIONS

The emergence in mobile payments is realized as key to providing new solutions to improve access to financial services by the poor. Mobile technologies have been accepted as powerful instruments for social change and the removal of financial exclusion. The research uncovers some new details on the impact of mobile banking services on the living standards of low-wage people. A key conclusion is that mobile banking is seen as a boon for small savers and users who previously relied on riskier informal savings methods. Furthermore, it is regarded as a viable alternative to many informal savings techniques, as well as a bank account. Mobile banking, on the other hand, makes payments and deposits easier, more accessible, and more efficient. It is obvious that expanding the use of mobile phones has a multi-dimensional favorable impact on long-term growth (Table 1 and 2). The positive opinions of mobile banking in account holders' daily lives are an encouragement of mobile money's ability to promote financial inclusion to huge numbers of low-income households in developing countries. Mobile banking allows the country's low-income citizens to access financial services. The non-bank led mobile system is clearly an excellent form for distant places because it is easily accessible, cost-effective, convenient, and a faster way to transmit and receive money. Low-income persons can use mobile banking to lower the expenses of money transactions, which helps them improve their financial situation. The study's findings reveal that mobile banking services have a favorable impact on housing preferences, medical and educational expenses, food preferences, and other factors. Because financial activity and money mobilization have a direct impact on economic growth and development, as well as poverty reduction, this study depicts a comparable relationship between financial development and the improvement of impoverished people's living standards.

Because mobile banking is a potential source of prosperity, its full economic impact has yet to be recognized, and governments must encourage regulators to allow digital financial services in order to achieve long-term economic progress. Furthermore, mobile phone firms must devise ways to empower all cell phone users by ensuring that mobile banking services are made easy to use while remaining secure, so that more people are encouraged to utilize the product. The public and commercial sectors can collaborate on a payments platform, allowing for more innovation and competition in other financial services. A safe, reputable, secure, and accessible platform that is open and shared among market participants will operate as a catalyst for financial inclusion and encourage widespread adoption of basic financial services. Governments may offer technological support and funding to make mobile banking services more accessible.

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APPENDIX

Table A1: Descriptive statistics of Demographic Information

Gender	Frequency	Percentage %	Age	No.	Percentage %
Male	311	80.6	Below 30	176	45.6
Female	75	19.4	30-35	131	33.9
Total	386	100	35-40	52	13.5
Family size of the respondents	**Frequency**	**Percentage %**	40-45	27	7.0
Below 3	71	18.4	Total	386	100
3-5	218	56.5	**Marital Status**	**No.**	**Percentage %**
Above 5	97	25.1	Single	122	31.6
Total	386	100	Married	264	68.4
Income level of the respondent	**Frequency**	**Percentage %**	Total	386	100.0
Below 20000	324	83.9	**Education level**	**No.**	**Percentage %**
20000-25000	32	8.3	SSC	107	27.5
25000-30000	27	7.0	HSC	114	29.5
30000-35000	3	0.8	Under graduate	122	31.6
Total	386	100	Graduate	18	4.7
			Below SSC	25	6.5
			Total	386	100

Source: Primary data analysis

Table A2: Remittance received through MFS reduce cost

Description of variables	Yes (%)	No (%)	Percentage
Family earner lived outside home	344	42	100.0
Remittance received through MFS reduce cost	371	15	100

Source: Primary data analysis

Table A3: Scenario of changing living standard

Variables		Frequency	Percent
Choice of housing facilities	Little changed	39	10.1
	Unchanged	53	13.7
	Improved	196	50.8
	Highly improved	95	24.6
Use hygienic of toilet, tube-well	Little changed	35	9.1
	Unchanged	65	16.8
	Improved	241	62.4
	Highly improved	42	10.9
Choice of food facilities	Little changed	18	4.7
	Unchanged	181	46.9
	Improved	157	40.7
	Highly improved	27	7.0
Choice of medical facilities	Little changed	44	11.4
	Unchanged	146	37.8
	Improved	124	32.1
	Highly improved	72	18.7
Clothing preference	Get worsen	6	1.6
	Little changed	73	18.9
	Unchanged	132	34.2
	Improved	157	40.7
	Highly improved	18	4.7
Fashionable product facilities	Get worsen	61	15.8
	Little changed	135	35.0
	Unchanged	134	34.7
	Improved	44	11.4
	Highly improved	12	3.1
Educational expense	Get worsen	3	8
	Little changed	100	25.9
	Unchanged	126	32.6
	Improved	130	33.7
	Highly improved	24	6.2
Overall economic situation	Get worsen	6	1.6
	Little changed	41	10.6
	Unchanged	170	44.0
	Improved	145	37.6
	Highly improved	24	6.2

Source: Primary data analysis

Table A4: Descriptive statistics of households' living standard

	N	Min	Max	Mean	SD
Choice of Housing facilities	383	1	4	2.91	.887
Use hygienic of toilet, tube well etc.	383	1	4	2.76	.766
Choice of Fooding facilities	383	1	4	2.50	.697
Choice of Medical facilities (Doctors, Treatment, Diagnosis, Expense	386	1	4	2.58	.920
Clothing Preference (Purchase frequency, brand Choice, Total clotting expenses etc.)	386	0	4	2.28	.877
Fashionable product preference (Expense)	386	0	4	1.51	.991
Educational expense (Accessories educational materials)	383	0	4	2.19	.922
Household Accessories Expense (e.g.) TV, Smart Phone, Fridge, Motor Car, IPS, Micro Oven, Water Filter	386	0	4	2.19	1.041
Specific educational opportunities (Schooling, Tutoring, Institution choice considering cost)	386	0	4	2.18	.836
Overall Economic Situation	386	0	4	2.36	.814
Valid N (listwise)	374				

Table A5: Chi-square Tests

Chi- Square Tests in between the choice of housing facilities and economic condition of fund receiving family	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	292.694ª	6	.000
Likelihood Ratio	299.423	6	.000
Linear-by-Linear Association	1.027	1	.311
N of Valid Cases	383		
Chi- Square Tests in between the using hygienic toilets & tube-well and economic condition of fund receiving family			
Pearson Chi-Square	101.542a	6	.000
Likelihood Ratio	90.382	6	.000
Linear-by-Linear Association	48.619	1	.000
N of Valid Cases	383		
Chi-square tests in between food preferences and economic condition of fund receiving family			
Pearson Chi-Square	172.508a	6	.000
Likelihood Ratio	162.478	6	.000
Linear-by-Linear Association	61.787	1	.000
N of Valid Cases	383		
Chi-square tests in the choice of medical preferences and economic condition of fund receiving family			
Pearson Chi-Square	174.690a	6	.000
Likelihood Ratio	179.210	6	.000
Linear-by-Linear Association	119.115	1	.000
N of Valid Cases	386		
Chi-square tests in the clothing preferences and economic condition of fund receiving family			
Pearson Chi-Square	145.135ª	8	.000
Likelihood Ratio	151.414	8	.000
Linear-by-Linear Association	26.488	1	.000
N of Valid Cases	386		
Chi-square tests between the fashionable product preferences and economic condition of fund receiving family			
Pearson Chi-Square	151.068ª	8	.000
Likelihood Ratio	157.800	8	.000
Linear-by-Linear Association	24.469	1	.000
N of Valid Cases	386		
Chi-square tests between educational expenses and economic condition of fund receiving family			
Pearson Chi-Square	81.385a	8	.000
Likelihood Ratio	86.675	8	.000
Linear-by-Linear Association	21.354	1	.000
N of Valid Cases	383		
Chi-square tests between overall economic situation and economic condition of fund receiving family			
Pearson Chi-Square	139.760a	8	.000
Likelihood Ratio	142.322	8	.000
Linear-by-Linear Association	23.165	1	.000
N of Valid Cases	386		

Table A6: Economic situation of different income groups

Types of economic situation	Weight (wi)	Frequency (fi)	∑wifi	ESI
Survival group				
Get worsen	0	0	0	0
Little changed	1	35	35	3.43
Unchanged	2	149	298	29.21
Improved	3	56	168	16.47
Highly improved	4	15	60	5.88
Low saver group				
Get worsen	0	6	0	0
Little changed	1	3	3	0.74
Unchanged	2	9	18	4.45
Improved	3	80	240	59.40
Highly improved	4	2	8	1.98
Fair saver group				
Get worsen	0	0	0	0
Little changed	1	3	3	2.5
Unchanged	2	12	24	20
Improved	3	9	27	22.5
Highly improved	4	6	48	40
For all group				
Get worsen	0	6	0	0
Little changed	1	41	41	2.65
Unchanged	2	170	340	15.54
Improved	3	145	435	28.17
Highly improved	4	24	96	6.21