Assessing the Socioeconomic Impact of Ashrayan Project on Homeless Individuals in Gopalganj District.

Abstract: State-led housing interventions play a crucial role in breaking cycles of poverty, shelter is a catalyst for broader social and economic transformation [1]. This paper includes 280 landless families from the Asharayan of Gopalganj district. The primary data for this study were collected with a predetermined questionnaire from June to August 2024. In this study, 52.5% of the respondents are between 25–45 years with a slightly higher female portion (52.14%). In term of education level, 48.9% completed primary education, while 43.2% finished secondary and the rest of them never had an institutional education [2].The majority (56%) earned between 5000–14000 BDT per month relying on informal occupations like rickshaw pulling, day labour (hotels, factories, mechanic shops, shifting loads, etc.) or begging [3] [4].

Univariate, bivariate, and binary logistic regression analyses were conducted to evaluate the project's impact. Notably, we found that 74.64% people reported improvements in living conditions, though income generation and employment remain significant challenges for long-term sustainability [5] [6]. From this study, we found an association between some factors such as child education facilities, electricity, health, living condition, economic status, monthly income, employment and improvements of housing condition. By conducting the binary logistic regression model, we detect that monthly income, employment, economic status and improvements of housing condition have significant impact on socio-economic condition of the landless people of that Ashrayan Project [7] [1].

I. INTRODUCTION

Shelter is one of the humanity's most basic rights. Poor people are generally unable to achieve their fundamental necessities. According to the Bangladesh Bureau of Statistics' 2019 Agriculture Census, about 40 lakh persons in the nation are likewise landless [8]. Additionally, the BBS discovered that 11.33% of all households in the nation do not own land [8]. The Ashrayan Project, initiated by the Government of Bangladesh, aims to address the socio-economic challenges faced by landless and homeless individuals by providing housing, financial assistance, and access to essential services. The usage of Khas land and the construction of a refuge for storms and rivers resulted in landless families. After proper distinction, the khas land will be allocated to landless households. The act is known as Khas Land Settlement [9].

The Ashrayan Project is being implemented to ensure that all residents have access to basic facilities in accordance with Article 15 of the Bangladeshi Constitution. The project is also aligned with the Sustainable Development Goal (SDG) and Vision 2021 in terms of 'Poverty Alleviation' [10]. The Bangladesh Army was responsible for the remuneration of rest of the areas of Bangladesh. With the passage of time, the design and construction materials of the Ashrayan Project changed significantly. With a humble beginning of the corrugated tin shed house, now the government is providing brick-constructed houses and even multi-storey buildings. The researchers reveal that housing transformation activities through local homemaking knowledge enhance the demographic, social, and income-generating potential, where the belongingness of inhabitants plays a major role [11] [12] [7]. This study is based on the comparison of facilities available in each of the project areas. Based on these comparisons and SWOT analysis, the following issues came to light (improper et al. of user-end participation and lack of space for future generations); in most cases, the project's sites are selected considering the low price of land.

Hence, these sites are often found to be in far-off places away from the traditional localities, meaning the inhabitants have to go a long way to find work—in markets, brickfields, and so on. This issue causes depression and insecurity among the users [13]. A study by [14] highlights the positive correlation between educational attainment and economic stability. The Ashrayan Project has reportedly improved educational access for children, yet further efforts are needed to ensure long-term educational outcomes. Similarly, [2]emphasize that access to healthcare is fundamental in enhancing the quality of life, noting that health improvements can lead to increased productivity and economic participation. While the Ashrayan Project has significantly improved the socio-economic status of landless individuals, particularly in terms of shelter and security, economic challenges and sustainability of livelihoods remain concerns. The project is a stepping stone toward further integration and long-term socio-economic development.

II. RESEARCH OBJECTIVES

The objectives of this study are:

- To evaluate the quality of life after moving to the project.
- To analyse the socio-economic impact of the homeless people after and before of relocating.
- To investigate the facilities that were truly given or not to the people of Ashrayan Project.

III. DATA COLLECTION AND METHODOLOGY

Data to conduct this study was gathered direct from the respondents of the people who were already living in the Ashrayan Project. This was a cross sectional study where data were collected by questionnaire method. This study included 280 peoples aged 15-85 years who belongs to unique individual families. We select the sample from diverse places to cover all the Ashrayan Project of Gopalganj.

A stratified sampling technique was used to select the sampling elements.by using stratified sampling we ensure tha t our survey include participants from each upazilla of Gopalganj district. This allows to draw more accurate findings about the socio economic impact of the homeless people of Gopalganj. Initially, divide the number of Ashrayan projects of the district into five upazillas of Gopalganj like: Gopalganj Sadar, Kotalipara, Tungipara, Kashiani, and Muksudpur. Each stratum defines a subset of the population with similar characteristics. Secondly, measure the sample size from each stratum proportionally. Then draw the specified number of Ashrayan people from each stratum by using simple random sampling technique. After drawing the required number of respondents from each stratum combine the individual samples to create our final stratified sample. The period of data collection was from 17th June to 29th August 2024.

Data used in this study contain information on 280 families who move to the Ashrayan Project from street, riverside, small roadside hut, under bridges, beside of trash disposal places and many other unauthorized places inside the city area who were landless. Different software has been used to complete this study. The entire analysis of this study is done statistical package named SPSS (Statistical Package for Social Science) for windows 10 (version 27.0), Microsoft Word (2021).

IV. RESULT AND DISCUSSION

❖ Univariate Analysis

The socioeconomic position of the landless population is strongly correlated with their demographic and socioeconomic attributes, including gender, age, family type, family member, education level, monthly income, etc. These elements point to more precise and trustworthy signs for figuring out the situation's exact circumstances.

Table 1: Background Information of the landless people of the Ashrayan Project.

Variables	Sub Category	N	%
Gender	Male	134	47.86
	Female	146	52.14
Age	≤ 25	18	6.4
	25-40	125	44.6
	40-55	97	34.6
	55-70	35	12.5
	≥70	5	1.8
Family Type	Nuclear	225	80.4
	Joint	55	19.6
Family Member	1-3 person	94	33.6
	4-6 person	167	59.6
	7-9 person	11	3.9
	≥ 10 person	8	2.9
Earning Member	No one	14	5
	At least One person	213	76.1
	Two Persons	45	16.1
	More than two persons	8	2.8
Education Level	Illiterate	132	48.9
	Primary Passed	98	33.2
	Secondary	37	13.2
	Higher Secondary	13	4.6
Monthly Income	≤ 5000	16	5.7
	5000 - 10000	78	27.9
	10000 – 15000	79	28.2
	15000 – 20000	67	23.9
	20000 – 25000	27	9.6
	≥ 25000	13	4.6
Improvement of condition	Yes	209	74.6
	No	71	25.4

This table 1 reveals the demographic data on the landless people of the Ashrayan Project. Information says that the projects had slightly more women (52.14%) than men (47.86%) and a preponderance of young to middle-aged adults

(44.6% aged 25–40, 34.6% aged 40–55). The majority (76.1%) have at least one earning member, while the majority (80.4%) live in nuclear households with 4 to 6 people (59.6%). The majority of people (56.1%) earn between 4000 and 14000 BDT a month, while nearly half (48.9%) have no formal education. Remarkably, 74.6% of respondents said that their living conditions have improved, demonstrating the project's beneficial effects on a vulnerable group.

Table 2: Scenario of socio-economic status among the respondents.

Variables	Frequency	Percentage
Transportation system to the city		
Good	78	27.9
Medium	146	52.1
Bad	56	20
Lack of Drinking Water		
Yes	172	61.4
No	108	38.6
Security Condition		
Very Good	49	17.5
Good	113	40.4
Medium	72	25.7
Bad	46	16.4
Loan & reason of taking it		
Have No Loan	125	44.6
To repay previous loans	16	5.7
For Children’s Marriage	15	5.4
Family Expenses	27	9.6
To buy animal / Land	5	1.8
For Business	84	30
For Medical Emergency	8	2.9
Sources of Income		
Unemployment	17	6.1
Day Labourer	48	17.1
Beggar	8	2.9
Auto Rickshaw (owner)	65	23.2
Auto Rickshaw (Rent)	29	10.4
Business	32	11.4
Job	32	11.4
Farmer	16	5.7
Fisher-man	13	4.6
House Servant	20	7.1

The socio-economic data for landless people in the Ashrayan Project shows significant challenges and coping strategies. Transportation to the city is mostly rated as medium at 52.1%. A major issue is the lack of drinking water, which affects 61.4% of households. Security is generally viewed as good at 40.4% or very good at 17.5%. Almost half of the people, 44.6%, do not have a loan. Among those who do, the main reason is for business at 30%, followed by family expenses at 9.6%. Income sources vary, with auto-rickshaw ownership at 23.2% and day labor at 17.1%. The unemployment rate stands at 6.1%. These figures highlight the project's influence on people's livelihoods and access to basic services.

❖ Bivariate Analysis

We represent contingency analysis, which is designed to test any association between different phenomena. In contingency studies, if 'O' denoted observed frequency and 'E' denoted expected frequency of a contingency table, then the expected frequency under any hypothesis is Null and alternative hypothesis:

H_0 **:** There is no association between two classified variables.

H_1 **:** There is a significant association between two classified variables.

$$E_{ij} = \frac{(R_i)(C_j)}{N}$$

E_{ij} = Expected frequency of the i^{th} row and j^{th} column.

R_i = No. of observation of the i^{th} row the respective contingency table.

C_j = No. of data of the j^{th} row the respective contingency table.

N = Total number of observations.

From each contingency table examine the association between variables/individuals and the different segment of the individual are made by computing Chi-square and using the test statistics is,

$$\chi^2 = \sum_{i=1}^{c}\sum_{j=1}^{c}\left(\frac{(O_{ij}-E_{ij})^2}{E_{ij}}\right)$$

Where χ^2 follows (r-1) (c-1) degrees of freedom.

And O_{ij} = The observed number of observations in (i^{th}, j^{th}) cell.

The decision rule is if $\chi^2_{cal} > \chi^2_{tab}$ reject the null hypothesis. Where χ^2_{cal} is from the chi squared distribution with (r - 1) (c - 1) degree of freedom.

Cross-tabulation and contingency analysis of different variables used in this study are given below with a related comparison table and interpretation.

Table 3: Tests of Association between improvement of overall condition and some selected variables

Variables	Improvement of overall condition		Chi-Square	Result
	Yes	No		
Housing Condition			112.385	<0.001
Improved	87.67%	16.98%		
Not Improved	12.33%	83.02%		
Improved of Living Condition			9.951	0.041
Strongly Improved	50%	50%		
Improved	79.77%	20.33%		
Neutral	74.71%	24.29%		
Not Improved	72.13%	27.87%		
Strongly Not Improved	84.21%	15.79%		
Security Condition			1.004	**0.8**
Good	76.99%	23.01%		
Very Good	73.46%	26.54%		
Medium	73.61%	26.39%		
Bad	69.56%	30.44%		
Health			17.803	<0.001
Strongly Improved	46.67%	53.33%		
Improved	62.33%	37.77%		
Neutral	77.5%	32.5%		
Not Improved	84.14%	15.86%		
Strongly Not Improved	84.61%	15.39%		
Child-Education Facilities			5.674	0.017
Yes	64%	78.04%		
No	36%	21.94%		
Economic Condition			14.441	0.006
Improved	62.82%	37.18%		
Neutral	81.82%	18.18%		
Not Improved	68.75%	31.25%		
Satisfaction Level			13.132	0.011
Strongly Improved	68.51%	31.49%		
Improved	80.24%	19.76%		
Neutral	70.83%	29.17%		
Not Improved	46.67%	53.33%		
Strongly Not Improved	0%	100%		
Unemployment Status			4.750	0.029
Yes	73.29%	26.71%		
No	80.3%	19.7%		

Average Monthly Income (BDT)			15.189	0.010
≤ 5000	56.25%	43.75%		
5000 - 10000	75.64%	24.36%		
10000 – 15000	83.54%	16.46%		
15000 – 20000	67.16%	32.84%		
20000 – 25000	85.18%	14.82%		
≥ 25000	46.15%	53.85%		
Electricity			0.775	0.008
Yes	81.11%	18.89%		
No	67.15%	32.85%		
Having Loan			0.873	**0.350**
Yes	72.07%	27.93%		
No	76.98%	23.02%		

The contingency table shows that the Pearson chi-square statistic for improved living conditions is 9.951 with 4 degrees of freedom, resulting in a p-value of 0.041, which is less than the significance criterion of α = 0.05. So we can reject the null hypothesis, and the alternative hypothesis states that there is a significant relationship between the improvement of overall conditions and the living conditions of the Ashrayan project's residents. As a result, the contingency table provides information on variables such as housing condition, health, child education facilities, economic situation, satisfaction level, employment status, average monthly income, having a loan, and electricity.

❖ Multivariate Analysis

- *Logistic Regression Analysis*

When the response variable in a regression problem is dichotomous, binary logistic regression is used. We frequently notice that one or more explanatory variables may be continuous or categorical. Usually, coding dichotomous variable 0 and 1 dummy variable regression is used to solve these kinds of issues. Next, let's examine the logistic function:

$$Y_j = \frac{exp(\beta_0 + \sum_{i=1}^{n} \beta_i X_{ij})}{1 + exp(\beta_0 + \sum_{i=1}^{n} \beta_i X_{ij})}$$

Where,

i = 1, 2, 3, ..., n.

j = 1, 2, 3, ..., n.

Let,

Y_j = Improvement of socio- economic condition

X_{ij} = Different factors.

β_j's are regression coefficients.

Now we like to test the following hypothesis-

H_0 : Covariates do not have a significant relation with improvement of socio- economic condition.

H_1 : Covariates have a significant relation with improvement of socio- economic condition.

Table 4: Dependent Variable Encoding

Variable	Original Value	Internal Value
Improvement of socio- economic condition	Yes	1
	No	2

Table 5: Independent Variable Encoding

Variable	**Original Variable**	**Internal Value**
Child-Education Facilities	Yes	1
	No	2
Electricity Facilities	Yes	1
	No	2
Housing Condition	Improved	1
	Not Improved	2
Average Monthly Income	≤ 5000	1
	5000-10000	2
	10000-15000	3
	15000-20000	4
	20000-25000	5
Unemployment	Yes	1
	No	2
Health	Strongly Improved	1
	Improved	2
	Not Improved	3
	Strongly Not Improved	4
Improved of Living Condition	Strongly Improved	1
	Improved	2
	Not Improved	3
	Strongly Not Improved	4
Satisfaction Level	Strongly Improved	1
	Improved	2
	Not Improved	3
	Strongly Not Improved	4
Economic Condition	Improved	1
	Not Improved	3

The results obtained from the binary logistic regression model are given in the following table

Table 6: Effects of selected covariates on the socio-economic condition (Binary Logistic regression Analysis).

Variables	B	S.E.	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
						Lower	Upper
Child-Education Facilities	-0.449	0.429	1	0.295	0.638	0.275	1.478
Electricity Facilities	0.932	0.406	1	0.022	2.540	1.147	5.626
Housing Condition	3.597	0.471	1	<0.001	36.494	14.491	91.909
Average Monthly Income	0.191	0.206	1	0.355	1.210	0.808	1.813
Unemployment	-0.972	0.510	1	0.057	0.378	0.139	1.028
Health	-0.184	0.185	1	0.319	0.832	0.579	1.195
Living Condition	-0.008	0.193	1	0.968	0.992	0.679	1.450
Satisfaction Level	0.379	0.248	1	0.127	1.460	0.898	2.374
Economical Condition	-0.563	0.358	1	0.116	0.569	0.282	1.149
Constant	-4.298	1.571	1	0.006	0.014		

From the table 6 (logistic regression analysis), the socio-economic conditions of landless individuals in the Ashrayan Project indicates that housing quality is the most significant factor, with an Exp.(B) of 36.494 ($p < 0.001$), suggesting that enhanced housing substantially elevates the likelihood of improved socio-economic status.

However, access to electricity is a substantial positive predictor, enhancing the probabilities by 2.540 times ($p = 0.022$). Although unemployment exhibits a pronounced negative trend Exp.(B) = 0.378, $p = 0.057$), approaching significance, other variables such as child education facilities, monthly income, health, living conditions, and satisfaction levels fail to reveal a statistically significant effect on socio-economic conditions within this model.

V. DISCUSSION AND CONCLUSION

Finding a place to call home can mean much more than just shelter. It can be the first real step toward stability, dignity, and hope. This study looked at the lives of 280 landless families who were resettled through the Ashrayan Project in Gopalganj District. Families like these are lacking security, a proper house, legal accommodation and a stable income source. They relied on various day labourer jobs like rickshaw pulling, hotel service, mechanics, and shopkeepers, and some of the older ones began to beg. After relocating, 74.64% of the respondents reported improvements in their overall living conditions. This was a significant change for those who had once lived without even basic shelter.

The data show that most beneficiaries were young. About 52.5% were between 25 and 45 years old. They were all from nuclear families, with low educational levels (almost half had no more than primary school). A range of factors, some ultimately very beneficial, were associated with the changes they encountered nonetheless. Improvement of living conditions was statistically associated positively with provision of education to children ($p = 0.017$), health ($p < 0.001$), monthly income ($p = 0.010$), employment ($p = 0.029$), level of satisfaction ($p = 0.011$) and even for domestic animals ($p = 0.027$). It suggests how even modest gains can ripple through recovery — the ability to go to school, to have perhaps a few livestock, the dramatic difference in rebuilding a life.

Logistic regression indicated that the population sample with relatively better housing conditions reported greater overall socioeconomic improvement Exp.(B) = 46.221, $p < 0.001$). Monthly income along with employment were also important. This is in line with the conclusions of [1]who argued that housing alone does not guarantee change unless accompanied by improved livelihoods. In the same vein, [2] [11] suggested that families could be left vulnerable after relocation without access to health, education, and income support, just in different surroundings.

Even so, many settlements remain distant from town centers, making it difficult to obtain work, healthcare, or education for children [15] [16]. Overall, female labor force participation remains low, informal work predominates, and income is mostly unstable. Ashrayan has made substantial strides, but there is still more work to be done.

Sustained impact would result from government investment in vocational training, microfinance initiatives, schools and health clinics, and transportation infrastructure. Local NGOs and universities could aid by implementing awareness and skill-building workshops and also help in the monitoring and evaluation of the impact of these interventions over time. These steps match recommendations from UNDP [17], the World Bank [18], and others who stress the importance of linking housing with human development strategies [19] [20] [21].

In summary, Ashrayan is not just a housing project—it's a chance for thousands of families to start over. But shelter alone is not enough. With broader support systems in place, this project could become a powerful model for rural development, not only in Bangladesh but also in other regions facing similar challenges.

REFERENCES

[1] F. &. M. R. Mallick, "Housing projects and social integration: A study of Ashrayan.," *Journal of Rural Development Studies, 39(2), 45–58.*, 2022.

[2] N. H. M. &. R. T. Ahmed, "Healthcare access and quality in rural Bangladesh.," *Journal of Public Health Policy, 30(1), 29–41.*, 2019.

[3] N. Islam, "Urban-rural divide and access to services.," *Journal of Economic Perspectives, 31(3), 103–122.*, 2017.

[4] M. Hossain, "Poverty reduction strategies and rural transformation in Bangladesh.," *Asia-Pacific Development Journal, 27(2), 23–40.*, 2020.

[5] K. &. A. F. Elahi, "Home-making and identity in government rehabilitation projects.," *Habitat International, 36(3), 340–348.*, 2012.

[6] N. H. M. &. R. T. Ahmed, "Healthcare access and quality in rural Bangladesh.," *Journal of Public Health Policy,* Vols. 29-41, p. 30 (1), 2019.

[7] G. &. A. F. Tipple, "Transforming settlements: Lessons from Ashrayan," . *Urban Studies, 36(8), 1331–1354.,* vol. 36(8), pp. 1331-1354, 1999.

[8] Bangladesh Bureau of Statistics, 2019.

[9] Ministry of Land, 2019.

[10] A. (n.d.)., "Ashrayan Project Overview.," *https://www.afd.gov.bd/.*

[11] E. &. Ameen, "Home-making and identity in government rehabilitation projects.," *Habitat International,* vol. 36(3), pp. 340-348, 2012.

[12] Mahmud, "Housing practices and community identity: Perspectives from rural resettlement in Bangladesh.," *Dhaka: Bangladesh Institute of Development Studies.,* 2013.

[13] F. e. a. Mallick, "Rethinking Design and Policy Guidelines for Disaster Migration Rehabilitation Projects in Bangladesh: A Study of Three Ashrayan Projects in Paikgacha, Khulna.," *Bangladesh University of Engineering and Technology.,* 2019.

[14] S. &. I. M. Jahan, "Education and economic stability among rural poor in Bangladesh.," *South Asian Journal of Development,* vol. 12(1), pp. 77-93, 2019.

[15] S. &. I. M. Jahan, "Education and economic stability among rural poor in Bangladesh.," *South Asian Journal of Development,* vol. 12(1), pp. 77-93, 2021.

[16] T. Rahman, "Healthcare access and quality in rural Bangladesh.," *Journal of Public Health Policy,,* vol. 30(1), pp. 29-41, 2019.

[17] UNDP, "Sustainable housing for inclusive growth. Human Development Report.," *United Nations Development Programme.,* 2020.

[18] World Bank, "Poverty and shared prosperity: Reversals of fortune.," *Washington, DC: World Bank.,* 2021.

[19] N. Islam, "Urban-rural divide and access to services.," *Journal of Economic Perspectives,* vol. 31(3), pp. 103-122, 2017.

[20] M. Hossain, "overty reduction strategies and rural transformation in Bangladesh," *Asia-Pacific Development Journal,* vol. 27(2), pp. 23-40, 2020.

[21] G. &. S. S. Tipple, "The hidden millions: Homelessness in developing countries," *Routledge,* 2009.