



Impact Evaluation Study
on
Construction of 600 Flats (Having Plinth Area 1000 sft-160 Nos, 800 sft-260 Nos & 500 sft-180 Nos) for Selling to Limited Income Group of People on Hire Purchases basis for Residential Accommodation to Govt. Employees in Dhaka City (Revised)



Carried out by
Evaluation Sector
Implementation Monitoring and Evaluation Division (IMED)
Ministry of Planning
Government of the People's Republic of Bangladesh

Conducted by
International Training & Management Consultants (ITMC)

June 2013

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ACRONYMS

ACI	:	American Concrete Institute
ADB	:	Asian Development Bank
BCR	:	Benefit Cost Ratio
BDLG	:	Bangladesh Local Government
BNBC	:	Bangladesh National Building Code
BUET	:	Bangladesh University of Engineering and Technology
DESCO	:	Dhaka Electricity Supply Company
DG	:	Director General
DPEC	:	Departmental Project Evaluation Committee
DPP	:	Development Project Proposal
ECNEC	:	Executive Committee of National Economic Council
ERD	:	Economic Relation Division
FGD	:	Focus Group Discussion
H&SD	:	Housing and Settlement Division
IMED	:	Implementation Monitoring and Evaluation Division
ITMC	:	International Training and Management Consultants
KII	:	Key Informant Interview
MT	:	Metric Ton
NGO	:	Non-Government Organization
NHA	:	National Housing Authority
NHB	:	National House Building
OTM	:	Open Tender Method
PCD	:	Project Coordinating Director
PCR	:	Project Completion Report
PD	:	Project Director
PDB	:	Power Development Board
PEC	:	Project Evaluation Committee
PIU	:	Project Implementation Unit
PPR	:	Public Procurement Rules
PRA	:	Participatory Rural Appraisal
PWD	:	Public Works Department
PWD	:	Public Works Department
RCC	:	Reinforced Cement Concrete
RDPP	:	Revised Development Project Proposal
RHD	:	Roads and Highway Department
RPP	:	Revised Project Proforma
SC	:	Steering Committee
SMART	:	Specific, Measurable, Attainable, Realistic and Timely
SRS	:	Simple Random Sampling
ST	:	Supplementary Tender
SWOT	:	Strength, Weakness, Opportunity and Threat
TA	:	Technical Assistance
TC	:	Technical Committee
TOR	:	Terms of Reference
WASA	:	Water and Sewerage Authority

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EXECUTIVE SUMMARY

Project Background

The assignment is intended to conduct an impact evaluation study for the “Construction of 600 flats for selling to limited income group of people on hire purchase basis/ for residential accommodation to Govt. employees in Dhaka city (revised)” under Implementation Monitoring and Evaluation Division (IMED) of the Ministry of Planning of the Government of the People’s Republic of Bangladesh. The National Housing Authority (NHA) under the Ministry of Housing and Public Works (MOHPW) executed the project from July 1998 to June 2009 with the financial support of the Government of Bangladesh with a cost of 5448.97 lakh taka aiming to provide shelter to the limited income group of people those who are unable to purchase a piece of land and construct house with their limited income and handed over the flats to the 600 target people on hire purchase basis for 25 years. The impact evaluation is a four (4) months assignment commencing from 22 January 2013 under the IMED. The consulting services have been provided by the International Training and Management Consultants (ITMC), Dhaka, Bangladesh to assess the project implementation status and its impact on the livelihood of the project beneficiaries.

Objectives of the evaluation study

- To review the implementation status of the project in respect of financial aspect and the major components related to construction works of these multistoried buildings/flats.
- To review the rationale of the project in respect of concept, design, location, mechanism for affordability, cost recovery and overall cost benefit analysis of the project.
- To assess about the present situation of the inmates of the flats on overall environment and facilities of residential area.
- To identify the strengths, weaknesses and threats of the project.
- To recommend appropriate measures for more improved management of these residential areas and suggest for effective sustainability and more replication of these type of activities in other metropolitan areas of the city in future.

Target groups: The evaluation study has been conducted by the physical visit of project area, individual survey, Focus Group Discussion (FGD) and Key Informant Interview (KII) in all three categories of flats for both quantitative and qualitative findings. The physical visit has been conducted by the expert team to identify the implementation status of the construction works. For quantitative information, the individual survey has been conducted through a pre-tested questionnaire upon all 600 flat allottees and 300 control respondents. For qualitative information, the six (6) FGDs have been conducted using pre-designed FGD guidelines upon 120 allottees to identify the impact of the project activities. The KII has also been conducted upon 40 senior level officials and Project Management Personnel of NHA with a semi-structured questionnaire to obtain information about the design, quality control, management, strengths and weaknesses of the project, as well as suggestions for improved future similar project planning in Bangladesh.

1. Concept, design, economic return and affordability of the project:

1.1. **Concept:** The concept of the project have been partially fulfilled by the construction of 600 flats and allotted those to the people on hire purchase basis for 25 years and provided the shelter of 600 families. This project also improved the livelihood of the beneficiaries, ensured secured life, economic benefit as well as improved the social integrity among the beneficiaries. The flats had been allotted to the Grade 1 government employees too, who are not low/middle income people. Therefore, the targeted concept of the project has not been completely fulfilled.

- **Design of the project:** No visible structural deformation and cracks had been found during physical inspection in the columns and beams of all buildings under the project. The size of the columns and beams for all buildings had been found same as per structural drawing during physical inspection. But the arrangement of some columns for most of the buildings

under 1000 sft flat category had been changed during construction works as compared with structural drawing. The punch in front of the stairs of all buildings under 1000 sft flat category had been changed due to installation of lift. The provision of lift was not included in the plan; therefore, the arrangement of the column for lift had not been designed during the construction of those buildings. As a result, it is not clear to understand about the impact of the installation of lift vibration and lift self load. Sunshades of windows and high windows of all buildings had been modified as found during physical inspection, where slope of shades had been changed as compared with architectural design. Foundation of the buildings is not visible, so it can't be find out the actual size and reinforcement detail as per design.

- Occurrence of water leaching from roof of the top floor of some buildings was found during physical inspection particularly in the buildings NHB-1 and NHB-8. In case of NHB-1, five potholes had been found on the roof and those had been repaired with CC by the flat owners; whereas in case of NHB-8, whole roof had been repaired by CC on which several cracks also found during physical inspection. All the components of floors of the flats had been completed as per plan, but some modifications had been done by the owners of flats for room sizes.

1.2. **Economic return of the invested cost:** The economic return of the invested cost in the project is good, where about 90.0% installments of the allottees have been returned and these installments have been paid in the month January 2013 to April 2013, of which 10.0% allottees paid their installments up to January 2013, 40% allottees paid up to February 2013, about 32.5% paid up to March 2013, 5% up to April 2013. On the other hand, 7.5% allottees paid their installments up to December 2012. Few cases, the return of the invested cost were not satisfactory (5%) where the allottees had paid their installments up to November-December 2011.

1.3. **Affordability of the project:** The prices for each flat having plinth area of 1000 sft, 800 sft and 500 sft are Taka 11,69,212/-, 9,48,606/- and 6,17,697/-, respectively. The down payments were Taka 2,92,303/-, 2,37,152/- and 1,54,425/-, respectively. Considering the 13% interest as mentioned in the RDPP, the monthly installments for 25 years are Taka 7,688.79, 6,238.07 and 4,062/- for three categories of flats respectively. This type of installment for 25 years is much more affordable for the limited income people, who are allotted with the flats under this project.

2. The implementation status of the construction works

The status of the civil works of flats, stairs and railings, fittings for sanitary, gas, electrical works, water supply etc; construction of roads and drains etc had been found in good conditions in many flats; simultaneously, bad condition with severe damaged condition had also been found in other flats. The flat category wise implementation status of the construction works for flats are presented below:

2.1. **Construction of 600 flats:** Out of 600 flats, 160 flats had been constructed in a cluster form under 1000 sft flat category at Mirpur-2, Dhaka. Whereas 260 flats under 800 sft flat category and 180 flats under 500 sft flat category had been constructed in scattered distribution on the lands of old BDLG colony areas at Mirpur-14, Dhaka. Each of the buildings under this project is six (6) storied, where ground floor is open for community space and used as garage by the flat allottees of the respective building and other five floors from first to fifth floor provided with 10 flats. Thus, 600 flats constructed under this project had been found similar during physical visit of the project areas as found in RDPP and IMED Evaluation Report.

2.2. **Boundary wall:** The area of 1000 sft flat category is surrounded by the boundary wall with proper height and found in good condition. But no wall had been constructed in 800 sft and 500 sft flat areas.

2.3. **Construction of roads:** The condition of roads constructed in 1000 sft flat area was found in more or less good condition during physical visit, but the level of roads were same and or lower than the ground level. The pavement of some portions of the roads had been found in

- damaged condition and formed potholes. But proper roads had not been constructed in the areas of 800 sft and 500 sft flat categories.
- 2.4. **Construction of drains and culverts:** The drains constructed at the bases of each building and surrounding areas were found in more or less good conditions in all three categories of flats. In case of 800 sft and 500 sft flat categories, drains of the southern sides of the building have been occupied by the unauthorized temporary shops and markets that created dumping of garbage on the drains. The culverts constructed in the 800 sft and 500 sft flat categories have been found in good condition during physical visit.
 - 2.5. **Installation of lift:** No provision of lift was included in the project, but the lifts had been installed after the completion of the project only for the buildings under 1000 sft flat category and all the lifts had been found in good and operating condition.
 - 2.6. **Stair and railing:** The stairs of most of the buildings were found in bad condition, where the plasters of stairs had been damaged and some were found in good condition. In many cases, the damaged stairs had been repaired, modified and replaced using ceramic tiles by the owners of the flats of the respective buildings. All the railings of all buildings under 1000 sft, 800 sft and 500 sft flat categories were made of wood and found in good condition. Few of these had been found in damaged condition.
 - 2.7. **Civil works of the flats:** The overall workmanship of the flats was poor. The plasters of walls and floors for most of the flats under all three categories of buildings had been found in damp and damaged condition. In many cases the damaged plasters had been repaired using new materials by the owners of the respective flats. Some flat owners had replaced these damaged plasters of walls and floors using ceramic tiles by their own cost.
 - 2.8. **Status of doors and windows:** The doors of the flats under all flat categories had been made of wood. But the plastic doors had been installed only in the bath rooms of all flats under 1000 sft flat categories. Some wooden main doors, doors of bed rooms, bath rooms had been damaged by cracks and rotten. Many of those had been damaged by making holes due to wood boring beetle (an insect) infestation. The windows used in all 600 flats are made of iron grill and these windows had been found in good condition.
 - 2.9. **Utility fittings:** The sanitary fittings in the flats were found in more or less good condition. The electric fittings particularly electric wires and switches used in the flats had been found good except few cases. The gas line and related fittings used in the flats had been found in good condition in almost all flats.
 - 2.10. **Construction of mosque:** No provision of mosque/prayer place was included in the project, but a mosque/prayer place had been constructed only on the land of the 1000 sft flat area by the flat owner welfare association by their own cost.
 - 2.11. **Office for flat owner welfare association:** No provision of office for flat owner association was included in the project, but an office for flat owner association has been constructed only under 1000 sft flat category by their own cost on the roof top of the mosque building.
 - 2.12. **Power station:** One sub-station had been established for power supply in the flats under 1000 sft flat category and one sub-station for each nine (9) buildings under 800 sft and 500 sft flat categories. These power sub-stations had been found in good and running condition. There was also a generator installed in the building of sub-station for emergency power supply in the flats under 1000 sft flat category and this generator had also been found in good condition during physical inspection.
 - 2.13. **Pump house and water supply line:** One water reservoir had been constructed along with one pump for each of the 60 buildings under all three categories of flats. All the 60 reservoirs and 60 water pumps had been found in good condition. The water supply lines connected with water tank installed in the roof of all buildings found in good condition.
 - 2.14. **Play ground:** There was a play ground for children found in good condition only in the flat area under 1000 sft flat category.

3. Impact of the construction works on the beneficiaries

- 3.1. **Demographic characteristics of the flat allottees:** Out of 600 flat allottees, 447 males and 153 females had been allotted with the flats, whereas 571 allottees were married, only

- 10 allottees unmarried, 15 widows and 4 widowers. Considering the religious status, 573 allottees were Muslim, 26 Hindus and only 1 Christian.
- 3.2. **Status of ownership living in the flats:** Among 600 allottees, 454 allottees had owned the flats by hire-purchase basis, 102 by transfer, 6 owned by donation and 38 residents living in the flats as rental basis. Out of 600 flat allottees, none of them had another land or house or any flat in Dhaka city.
- 3.3. **Professional category for flat allotment:** Majority (245) of the allottees were government employees, 151 private employee, 134 allottees businessmen, 38 housewife, 8 engineer, 7 lawyer, 7 doctor, only 4 allottees non-residents and 6 other professionals.
- 3.4. **Economic status of the flat allottees:** Out of 250 government employees, the highest number (43) of them had drawn salary under the national scale grade 4 during the allotment of flats, 40 allottees belong to the grade 3, 36 belong grade 5, 35 belong grade 2, 26 belong grade 1, 19 belong grade 6, 10 belong both grades 8 & 10, 7 belong grade 7, 5 belong both grades 9 & 11, 4 belong grade 20, 3 belong grade 13 & 16, 2 belong grade 12 and 1 allottee belongs to both grades 15 & 18. Conversely, out of 350 flat allottees other than government employees, the highest number (124) of them had earned monthly Tk 15001 to more than 20000, 79 allottees earned monthly Tk 10001 to 15000, 21 allottees earned monthly Tk 5001 to 10000 and only 2 allottees had earned less 5000 Tk monthly.
- 3.5. **Economic benefit by the purchase of the flats:** Out of 600 flat allottees, almost all allottees had been benefited by the allotment of the flats. The highest (1.39) benefit cost ratio (BCR) had been achieved by the 1000 sft flat category, 0.67 BCR by the allottees of 800 sft flat category and the lowest BCR (0.31) had been achieved by the allottees of 500 sft flat category, whereas mean BCR was for all three categories of flats 0.61.
- 3.6. **Mode of the payment for the flats:** Majority (276) of allottees pay their installments for 25 years, 123 for 20 years, 110 for 15 years, 34 for 10 years, 24 for 5 years and 33 allottees pay their monthly installment at a once.
- 3.7. **Quality of the construction materials used in the flats:** The construction materials used in the allotted flats were more or less good to bad as responded by 449 (74.8%) allottees out of 600. Other allottees said good, very bad and very good
- a. **Quality status of utility fittings:** As responded by the majority of the allottees, the status of sanitary fittings was more or less good to bad. The status of gas and electrical line and fittings as well as water supply line and fittings were also more or less good as responded by majority of allottees.
 - b. **Quality of supplied water:** The majority (442) of the allottees (73.7%) expressed their opinion that the quality of supplied water in the flat areas was very good for drinking and suitable for use.
 - a. **Status of roads and drains in the flat areas:** The proper roads had been constructed in the 1000 sft flat areas, but not in 800 sft and 500 sft flat areas. The existing old roads in 800 sft and 500 sft flat areas were broken and cause regular water stagnant during rainy season and some roads had been occupied by the unauthorized constructions. The roads in 1000 sft flat area were same or lower than the ground level which cause water stagnant during rainy season
- 3.8. **Operation and maintenance for flats and flat areas:** The services for operation and maintenance of flats and flat areas procured by the own cost of the flat allottees, some cases provided by flat owner association, but no organization provided these services.
- 3.9. **Flat owner welfare association:** The flat owner welfare association was present in all three categories of flat areas and these associations play role about security related tasks, sanitation works, disciplinary activities, solution of nuisance related problem, repair and maintenance of roads and drains as well as cooperation in social program. An office for flat owner welfare association was present in 1000 sft flat area, which have been constructed by

the own cost of flat owner welfare association. But no office for flat owner association has been constructed in the 800 sft and 500 sft flat areas.

3.10. Current status of boundary wall and overall security of life in the flat areas: The boundary wall was not present in both 800 sft and 500 flat areas, but present in 1000 sft flat area. The status of overall security of life in the flat areas was more or less good in 1000 sft flat areas, but the security status was risky to not good in both 800 sft and 500 sft flat areas. The security services in the flat areas were being provided by flat owner welfare association.

3.11. Impact of the flat allotment on the livelihood of the allottees

- a. **Problem faced without flat allotment:** All 600 flat allottees faced several problems without flat allotment, expensed excess house rent, no permanent address in Dhaka city, social disgracefulness, unsecured social environment and communication problem.
- b. **Change in improvement of livelihood by the flat allotment:** The livelihood of all flat allottees had been improved or changed because of flat allotment such as the allottees became owner of the flat, economic benefits, improved social status, permanent address in Dhaka city, achieved pollution free environment and advantage for children’s education. By the allotment of flats, the educational and medical facilities for the children had also been improved.
- c. **Financial savings by the respondents:** All 600 flat allottees had been achieved the advantage for financial savings due to allotment of the flats.

3.12. Social facilities in the flat areas

- a. **Play ground facilities for children:** Adequate play ground facility in the flat areas for children was present in 1000 sft flat area but not in other two flat categories.
- b. **Educational institution for children:** Adequate number of educational institution for children was present near all three categories of the flat as responded by the flat allottees. But no maktab available for children in the flat areas.
- c. **Mosque/prayer place in the flat area:** The mosque for pray was present in the flat area all three categories of flat as responded by the allottees. But the existing mosques had been established in 1000 sft flat area by the own cost of the flat owner association.
- d. **Community center in the flat area:** There was no community center in the flat areas.

3.13 Social integrity status among the inmates of the flats: The status of social integrity among the inmates of the flats was very good to more or less good as responded by the 99.7% allottees.

- a. **Overall environment of the residential area:** The environment pollution had not been created by the household garbage in the flat areas as responded by the 81.17% allottees and the status of garbage elimination system in the flat areas was very good to good. The garbage from the flat areas were being eliminated by the own effort as well as by the help of flat owner welfare association. Most (558) of the flat allottees (93.0%) expressed their opinion that the harmful effect had not been occurred by the construction of flats under the project.

3.14 Management system of the authority

- a. **Transparency of the authority during flat distribution:** The distribution of flats to the applicants by the authority was quite transparent and satisfactory.
- b. **Problem faced obtaining flat allotment from the authority:** Most of the flat allottees (86.0%) did not face any problem to obtain allotment from the authority. Some allottees had faced problem to obtain flat allotment and they had transacted excess money to obtain flat allotment, some allottees had faced problem of official harassment, some allottees had faced problem of delayed transfer of contract papers from the authority.

3.15 Sustainability of the project

- a. **Economic viability of the project for future:** The construction of flats for selling to the limited income people is quite economically viable for future similar project planning for other metropolitan cities in Bangladesh.
- b. **Justification of the construction of six (6) storied building:** The construction of six (6) storied building on the skyscraping land price of Dhaka city was not justifiable as responded by the most (77.8%) the flat allottees. They also stated that the construction of flat buildings comprising at least 10-15 storied will be justifiable for future project planning in Bangladesh.

3.16 Suggestions for improved management for future similar project planning:

According to the responses expressed by the flat allottees, suggestions for improved management for future project planning are given below:

- a. Quality construction materials should be used in the construction works,
- b. The strong monitoring should be maintained to ensure quality construction works,
- c. The quality fittings for sanitary and electrical works in the flat should be used,
- d. The boundary wall should be constructed in the flat area,
- e. The office for flat owner welfare association should be provided in the flat area,
- f. Improved quality roads, strong drainage system should be constructed in the flat area,
- g. The amusement spaces/play ground for children should be provided,
- h. The mosque, maktab for children, community center, departmental store, community clinic should be constructed in the flat area,
- i. The improved design and plan for the project should be adopted,
- j. The lift and generator for emergency power supply should be provided in the flat area.

4. Strengths of the project

- **Construction of 600 new flats:** There were 600 flats comprised with 160 flats each having plinth area of 1000 sft, 260 flats each having plinth area 800 sft and 180 flats each having plinth area of 500 sft had been constructed by the utilization of unused lands in Section-2 and 14, Mirpur, Dhaka, Bangladesh by the project. Thus, 600 target people had been benefited by the allotment of 600 flats.
- **Suitable place for the buildings:** All 600 flats had been constructed in the suitable area within the Dhaka city, of which 1000 sft flat category at Section-2, Mirpur, Dhaka and both 800 sft flat category and 500 sft flat category located Section-14, Mirpur, Dhaka, where more or less all the facilities of citizen were available. All the buildings had been constructed at open and well ventilated places with sufficient space among the buildings that ensured the healthy environment for the residents of the flats.
- **Consideration of building code/regulations:** The construction of flats had been maintained as per economic design, drawing and building code such as ACI (American Concrete Institute) and BNBC (Bangladesh National Building Code) had been followed for the design of these buildings under this project.
- **Assurance of economic return:** All 600 flat allottees had become owner of the flats by the purchase of flats from NHA. As well as, any of the flat allottees has full freedom to sell his/her allotted flat at any time with competitive and higher market price rate by the permission of proper authority. Therefore, the economic return of flat allottees has been assured by the purchase of the flats against their invested money.
- **Provision of community and garage facilities:** The ground floors of each building have been provided for common community space protected by the collapsible gates. These open spaces of the ground floor have been utilized by the allottees of all flats of the respective building.
- **Well protected flat colony for 1000 sft flat category:** Out of 600 flats, 160 flats having plinth area of 1000 sft located at Section-2, Mirpur, Dhaka had been constructed within a boundary wall area. Thus, the colony of these 160 flats has become well protected and ensured security of life for the residents.

5. Weaknesses of the project implementation process

- **Delayed implementation of the project:** The original implementation period of the project was July 1998 to June 2001. The project proforma (DPP) had been revised at an estimated amount of 5448.97 lakh Tk. considering the implementation period from July 1998 to June 2006. But within this revised and stipulated time frame the project had not been implemented and ultimately the implementation of the project activities had been completed in the year of 2009. This delayed project implementation had increased the project costs too.
- **Delayed transfer of the flats:** The applications for flat had been submitted by the applicants in the year 2005. The lottery for the allotment of flats had been done in 2006, but the flats had been allotted to the beneficiaries in October 2008. No organized procedure had been followed to hand over the keys of the flats to the allottees, where individual allottee collected his/her flat's key from the respective authority by his/her own communication that created administrative harassment for the allottees too.
- **Ambiguous about the definition of low and middle income people:** Many of the flats had been allotted to the people who were belonging to the Grade 1, Grade 2, Grade 3, Grade 4 government employees and soon. Are they belonging to the low and middle income group of people? Conversely, the low and middle income group of people neither clearly defined in the prospectus nor in the DPP. Therefore, the main concept of the project was not fulfilled in terms of the allotment of the flats to the low and middle income group of people.
- **Ambiguous about the interest on the invested cost:** The interest on the invested cost was 13% as mentioned in the RDPP, whereas it was mentioned 11% in the prospectus of the application guideline, but the NHA are collecting the installments from the allottees at the rate of 13% interest on the invested cost. These kinds of ambiguity are not expected.
- **Duplication of flat allotment:** The respondents of 1000 sft flat category expressed that the duplication of flat allotment had been occurred at least for 13 allottees that also created administrative harassment for the respective allottees.
- **Lack of boundary wall for 800 sft and 500 sft flat buildings:** The boundary wall for 800 sft and 500 sft flat buildings had not been incorporated in the project plan and thus the wall had not been constructed. The outsiders had also occupied the back side (southern side) of the flat areas by the illegal and unauthorized establishment of the shops/markets and completely covered the drains of the buildings that creating continuous water stagnant. Not only that the outsiders had also constructed illegal and unauthorized club between two flat buildings of many cases and threaten the residents of the flats.
- **Scattered distribution of 800 sft and 500 sft flat buildings:** All 44 buildings under these categories comprised with 26 buildings for 800 sft flat category and 18 buildings for 500 sft categories had been constructed scatteredly within the open lands of the old buildings of BDLG colony located at Mirpur-14, Dhaka.
- **Delayed connection of the utility facilities:** The connections of different utility facilities required for the implementation of the works were carried out through various Government Departments like DESCO/PDB for electricity supply line, WASA for water supply line, Titas Gas Transmission and Distribution Company for gas line and other local bodies. The delay in connections for utility facilities also delayed the implementation of the project.
- **Repeated transfer of management staff:** No management staff had been recruited for the project. Revenue staffs had been involved in the project by deputation to complete the construction works. Besides these, within the implementation period of the project at least 30 PDs (Executive Engineer) had been transferred from the project and re-deputed by other ones. Thus the difficulties were faced by the management team and the implementation of the project works was delayed.

- **Designing of the project:** National Housing Authority (NHA) had no strong setup for design wing during the implementation period of the project. As a result, quick change of design would not be possible that inferred the smooth implementation of the project.
- **Lack of lift provision:** The provision of lifts was not incorporated in the project plan. Though, the lifts had been installed only in the buildings of 1000 sft flat category after the completion of flat allotment by the own cost of the flat allottees and executed by the NHA.
- **Illegal occupation of the land:** The lands acquired for the construction of flats had been illegally occupied by the unauthorized people. In addition, there were some lower court cases at Dhaka Metropolitan Magistrate Court, which interfered the project activities. The colony people of BDLG buildings in the area of 800 sft and 500 sft flat categories also hampered the entrance of construction materials and goods into the project site. These constrains also delayed the implementation of the project.
- **Lack of proper roads in 800 sft and 500 sft flat areas:** The buildings for 800 sft and 500 flats had been constructed on the lands of old BDLG buildings area, but proper roads had not been constructed in these flat areas. As a result, the residents of the 800 sft and 500 sft flat area were facing problem due to unsuitability of the old damaged roads of BDLG colony during the rainy seasons.
- **Demarcation problem of lands for 800 sft and 500 sft flat buildings:** The scattered construction of the buildings for 800 sft and 500 sft flat had been implemented on the lands acquired from the lands of old BDLG colony located at Mirpur-14. Therefore, lands for the buildings of 800 sft and 500 sft flat buildings had not been demarcated. Thus the ownership of the respective building area had been created serious social problem with the residents of old BDLG buildings and outsiders of the project areas.
- **Establishment of sub-station of power:** The electrical lines for the flats under the project had not been connected directly with the PDB lines. Instead of this, a sub-station had been established for each of the nine (9) buildings and the huge amount of unseen electric bills in addition of individual flat’s bills had created burden for the allottees. Any kinds of repair and maintenance of the sub-station should have borne by the flat allottees.
- **Administrative complexity for the monthly payment of installment for flats:** The flat allottees should have maintained a procedure for the payment of their monthly installment for flats. At first they submit the “Chalan” to the NHA office at Segunbagicha, Dhaka for approval. After the approval, allottees collect the copy of Chalan and pay the money to BASIC Bank. Again flat allottees need to submit the receipt copy of the Chalan to the NHA office at Segunbagicha. Thus an allottee needs to go NHA office for three times and the flat allottees face harassment by this type administrative complexity. Direct payment of the monthly installment to BASIC bank located near the project area can resolve this problem.
- **Lack of service by the authority after completion of the project:** The project areas are being looked after by the office of the Executive Engineer, Mirpur H&SD-2, NHA, Dhaka. After the completion of the project a series of unauthorized temporary shops have been constructed at the adjacent to the southern walls of the buildings of 800 sft and 500 sft flat categories and occupied the drains from eastern to western directions. Some unauthorized clubs have also been constructed by the outsiders between two buildings of many cases. Some cases, unauthorized shops have been established within the open spaces of the ground floor of the buildings by the unauthorized people, but nobody can protect it. These types of illegal construction and occupation are not being prohibited by the concerned authority.

6. Sustainability of the construction works

Considering the ever increasing population in the metropolitan cities of Bangladesh, this type of project is substantially sustainable.

- a. **Design of the building:** All 60 buildings constructed under this project are six (6) storied. Therefore, the construction of six (6) storied building on the skyscraping land price is not sustainable for future similar project planning. Thus at least 10 to 15 storied buildings should be constructed with lift and other all community facilities.
 - b. **Plinth area of the flats:** Three categories of flats such as 1000 sft, 800 sft and 500 sft had been constructed, where the construction of 500 sft flat is one kind of inhumanity. Therefore, 500 sft flat should not be included in similar future project planning and the plinth area of a flat must be considered not less than 800 sft.
 - c. **Materials of the construction works:** The good quality and sufficient quantity of iron rods, quality bricks, perfect ratio of cement-sand-concrete in RCC and plaster of walls and floors, quality woods for doors, quality fittings and items for sanitary, electrical, gas and water supply line should be used in the construction works.
 - d. **Management of the construction works:** Strong monitoring for quality control of the constructions works should be ensured. For this purpose expert panel from specialized organization like BUET and representative of the flat allottees should be incorporated in the monitoring team.
- **Cost-effectiveness of the works:** Due to the allotment of the flats at low price, resulted to enhance the economic savings of the flat allottees and gaining of assets. The price of the assets is increasing continuously in open market. Thus the economic returns against the invested money have been ensured by the project.

7. Recommendations

- **Concept of low and middle income group:** The low and middle income group of people should be clearly defined nationally, where the certain limit of the annual income should be fixed and flat must be allotted to that target group of people.
- **Restriction for transferring flats:** Many cases the allotted flats have been transferred either by selling or by donation by the approval from authority, but it is controversial to the concept of the project. Therefore, this transferring system should be restricted for a certain period and it may be 10 to 15 years.
- **Avoidance of delay implementation:** To get the benefits from the project, delay of the project implementation should be avoided and it should be implemented within the stipulated time and work frame.
- **Design of the works:** The construction of flats having plinth area of 500 sft should be omitted from the future similar project in Bangladesh. The flats should be constructed not less than 800 sft plinth area.
- **Selection of qualified contractor:** The qualified contractors should be selected as per Public Procurement Rules of Bangladesh and their performance must be ensured for the fulfilling of all technical specifications of the contract.
- **Monitoring and quality control of the materials:** To ensure the quality construction works, the project activities must strongly be monitored by the expert team. The renowned expert members from reputed organization like BUET should be incorporated in the expert team. As well as the representative from the flat owners should also be incorporated in the monitoring team to ensure quality works. The field laboratory tests for the construction materials according to the technical specifications should also be done by the contractor and or client and random challenges for field laboratory tests should also be offered by the client. In case of non-conformance by the contractor, punishment must be ensured.
- **Timely release of the fund:** Sufficient amount of funds should be released timely to implement the project within stipulated time and work frame.
- **Use of quality construction materials and fittings:** To ensure the durability and to check any unwanted accident and occurrence, quality construction materials such as good quality and sufficient quantity of iron rods, quality bricks, perfect ratio of cement-sand-concrete in RCC and plaster of walls and floors, quality woods for doors, quality fittings and items for sanitary, electrical, gas and water supply line should be used in the construction works.
- **Provision of boundary wall:** The boundary walls for 800 sft and 500 sft flat categories is essential for security of life of the residents. Thus a new project should be planned to

construct this boundary wall. For future similar project planning boundary walls must be included and constructed to ensure security of life for the residents.

- **Construction of sufficient roads and drains:** The sufficient roads and strong drainage system should be constructed with quality construction materials in the flat areas and the roads should be constructed elevated above the ground level.
- **Installation of lift:** Lift for multistoried building comprising at least 10 to 15 storied building should be included in the future similar project planning in Bangladesh and that lift should be installed during the construction of flats with generator facilities for emergency power supply.
- **Provision of independent water supply facility:** To ensure quality and sufficient quantity of water, the independent deep tube well and tank should be installed in the flat area.
- **Provision of social facilities:** The social facilities such as construction of mosque, maktab for children, community center, departmental store, community clinic and school, gymnasium etc should be included in the future similar project planning in Bangladesh and these facilities should be provided during the construction of flats.
- **Connection of electricity line with PDB line:** The sub-station of the flat areas should be removed and the electricity line should be connected directly with the PDB line to avoid unseen billing harassment from the sub-station. For future similar project planning the provision of sub-station in the flat area should be omitted.
- **Coordination among utility service authorities:** Cooperation and coordination should be maintained among different service providing agencies like City Corporation, DESCO/PDB, WASA, NHA etc.
- **Easy system for the payment of monthly installment:** One stop banking system should be provided for the payment of monthly installment by the allottees. The booth of ONE BANK is available in the NHA head office, Segunbagicha, Dhaka. Therefore, all the payments for monthly installment should be transferred to the ONE BANK instead of BASIC Bank including all the liabilities of BASIC Bank.
- **Reduction of ambiguity about the interest on the invested cost:** The interest on the invested cost was 13% as mentioned in the RDPP, whereas it was mentioned 11% as mentioned in the prospectus of the application guideline, but the NHA are collecting the installments from the allottees at the rate of 13% interest on the invested cost. This kind of ambiguity should be removed from the documents for future project.
- **Sustainability of the project:** The construction of six (6) storied building on the skyscraping land price of Dhaka city is not justifiable. Therefore, the construction multistoried buildings considering at least 15 storied with lifts and other community facilities should be included in future similar project planning.
- **Establishment of satellite town:** In the present days, selling of limited area of land to the citizen of Bangladesh is common phenomenon like Purbacha, Uttara Model town etc. For ever increasing population of Bangladesh this type land selling project not justifiable. Instead of it satellite town many be established where the multistoried buildings comprising at least 15 storied with lift and all community facilities such as own water supply system, community center, community clinic, mosque, school, college, super store/departmental stores, amusement facilities for children, gymnasium etc should be included. This type of satellite town should be established adjacent to metropolitan cities but not within the metropolitan cities of Bangladesh. This type of town should be established by the GoB funding but developed by the private sector, where the construction works should be managed and monitored by both GoB and developer. The flats of this town will be sold to the citizen of Bangladesh on hire purchase basis or at a time by the transparent lottery system.

SECTION-1 BACKGROUND AND OBJETIVES

The impact evaluation study for the “Construction of 600 flats for selling to limited income group of people on hire purchase basis/ for residential accommodation to Govt. employees in Dhaka city (revised)” is a four (4) months assignment commencing in 22 January 2013 under the Implementation Monitoring and Evaluation Division (IMED) of the Ministry of Planning of the Government of the People’s Republic of Bangladesh. The consulting services have been provided by the ***International Training and Management Consultants (ITMC)***, Dhaka, Bangladesh to assess the project implementation status and its impact on the livelihood of the project beneficiaries.

1.1. Background of the project

The availability of land within the metropolitan city of Dhaka has become extremely scarce and it has become so difficult for a person with limited income to purchase a piece of land due to its skyscraping prices. The situation is worsening rapidly. At the present, the population of Dhaka metropolitan area exceeds more than ten millions. But with the increasing number of population, the area is not proportionately being extended. This project has been formulated so as to accommodate more number of people through construction of multistoried buildings. The major objective of this project has been to construct multi-storied buildings through optimum utilization of scarce lands and handover the flats to the low and middle income group people on or hire purchase basis for 25 years.

1.2. Summary of the project

The summary of the project executed by the National Housing Authority (NHA) are given below:

Table 1.1 Summary of the project for construction of 600 flats

1.	Name of the project	:	Construction of 600 flat (having plinth area 1000 sft-160 nos, 800 sft-260 nos & 500 sft -180 nos) for selling to limited income group people on hire purchase basis/for residential accommodation to Govt. employees in Dhaka city (Revised)
2.	Sponsoring ministry/division	:	Ministry of Housing and Public Works
3.	Source of fund	:	GoB through ADP
4.	Executing agency	:	National Housing Authority
5.	Operation and maintenance	:	Allottees themselves/Co-operative society of Allottees
6.	Location of the project	:	Mirpur, Dhaka
7.	Estimated cost (in Lakh taka)	:	
	i) Original	:	4953.77
	ii) Actual expenditure (revised)	:	5448.97
8.	Implementation period	:	
	a) Original	:	July' 1998 - June 2001
	b) Last revised	:	July 1998 - June 2006
	c) Actual	:	July' 1998 - June 2009
	(As per IMED evaluation report)	:	

1.3. Objectives of the project

The main objective for the construction of 600 flats having plinth area 1000 sft, 800 sft, and 500 sft (without stair case) is to provide shelter to the limited income group of people those who are unable to purchase a piece of land and construct house with their limited income.

Provision has been made in this project for allotment of flats to the limited income group of people on hire purchase basis. The allottees will pay the cost of flat in monthly installment during the period of within 25 years and also at a time.

1.4. Rationale for revision of the project

The main DPP was approved by ECNEC on 02 June 1999 at an estimated amount of 4,953.77 lakh Tk. The PP was revised due to increase of the cost of ‘Pile’ foundation of 800 sft and 500 sft flats of 44 buildings under construction in Mirpur-14 and the increase of PWD Schedule rate/2004. Therefore, the DPP was revised at an estimated amount of 5,448.97 lakh Tk. on 08.06.2005 in DPEC meeting held in the Ministry of Housing and Public Works and recommended to approve by the ECNEC. Finally, the Revised Project Proforma (RPP) had been approved by ECNEC on 12.10.2005 at the cost of Total Tk. 5,448.97 lakh (As per DPP and IMED evaluation report).

1.5. Objectives of the current assignment

The main objectives of the evaluation study are:

- To review the implementation status of the project in respect of financial aspect and the major components related to construction works of these multi-storied buildings/flats.
- To review the rationale of the project in respect of concept, design, location, mechanism for affordability, cost recovery and overall cost benefit analysis of the project.
- To assess impact of the project on the livelihood of low and middle income earning group of people who are allotted with the flats.
- To assess about the present situation of the inmates of the flats on overall environment and facilities of residential area.
- To identify the strengths, weaknesses and threats of the project.
- To recommend appropriate measures for more improved management of these residential areas and suggest for effective sustainability and more replication of these type of activities in other metropolitan areas of the city in future.

1.6. Scope of services under the evaluation study

According to the Terms of Reference (TOR), the consultant firm has prepared the study design and plan of field works considering the 100% area coverage of the components of the project. Sampling of the evaluation study had been made on the basis of coverage of work and area mentioned below:

1.7. Professionals for the evaluation works

According to the TOR, the consultant firm has arranged the required professionals eligible for the evaluation study are given below:

Table 1.2 Expert team of the evaluation study

No.	Name of the Professionals	Type of Professionals	Educational Qualification
1.	Prof. Dr. Md. Razzab Ali	Team Leader/ Evaluation Specialist	Ph.D
2.	Engineer Md. Shamim Akhter	Civil Engineer	B.Sc. in Civil Engineering
3.	Architect Md. Majibur Rahman	Architect	B. Sc. in Architecture
4.	Prof. Dr. Azmeri Khan	Statistician/ Data Analyst	Ph.D. in Statistics

SECTION-2 METHODOLOGY OF THE STUDY

The sub-section covers the approaches and design of the evaluation study; preparation of the study tools; implementation of the evaluation study including review of secondary documents, primary data collection through field visits and discussions, and survey of beneficiaries and other stakeholders; holding a field level stakeholder workshop; data processing and analysis; report preparation.

2.1. Understanding of the project and assignment

For the purpose of understanding of the project and assignment, the evaluation team has reviewed the Technical proposal prepared and submitted by ITMC for the bidding, TOR provided by evaluation wing (EW) of IMED, DPP, IMED Evaluation Report etc. In addition, the evaluation team led by the Team Leader has visited the project areas in Mirpur, Section-2, Dhaka and Mirpur, Section-14, Dhaka to inspect the project components and has made the discussions with the NHA Officials and flat owner welfare associations and allottees of the flats.

2.2. Approaches to the evaluation study

- The approaches for the evaluation study were very specific in achieving the outputs and outcome of the study as expected and specified by the client (i.e. IMED). The IMED expected the outputs specific to relevance, efficiency, effectiveness, impact and sustainability instead of lumpy discussions and storytelling around the central focus.
- Precisely, the IMED wanted to conduct an evaluation study and prepare evaluation report considering the objectives of the current assignment.
- The consultants' approach to assess the implementation status of the project have included physical visit of all components of the project. That included the assessment of development works, construction components of 600 flats, roads facilities, water pump house and supply lines, works of electricity and gas lines, drainage and culvert facilities in the project areas.
- The approach of the consultants was to assess the rationale of the project performance, consultant has included the assessment of the concept, design, location, mechanism for affordability; cost recovery and overall cost benefit analysis of the project.
- The approach of consultants was also to assess the impact of the project has included the improvement of livelihood of the people who are allotted with the flats as well as the present situations of the inmates of the flats on overall environment and facilities of residential area and all benefits from the project.
- The consultants' approach has also included the assessment of strengths, weaknesses and threats of the project activities as well as included the suggested the recommendations to overcome those threats for future project in other metropolitan areas of Bangladesh.

2.3. Strategies to the evaluation study

The consultants in order to fulfill the objectives of the evaluation study using the proposed approaches as above have adopted certain strategies. Considering the objectives covering the wide-range of outputs and outcomes, different strategies have been adopted to achieve the objectives for each activity. Accordingly, evaluation study involves the use of (i) formal and informal interviews; (ii) semi-structured interviews by means of focus group discussions (FGDs) and (iii) field survey through structured questionnaire. Collection of primary and secondary information, reviewing the available reports and a series of reconnaissance field visits by a team of consultants carried out to the project area. The reconnaissance field visits cover substantial

part of the project area. During the field visit the consultants interacted with the project target respondents and others concerned personnel of the project.

The specific methodologies for different activities such as study design, review of secondary documents, field visits by experts and field survey by field investigators, field level workshop with all stakeholders for participatory evaluation, and processing of primary survey data and analysis of all relevant data and report writing are summarized in the following sub-headings:

2.4. Sources of data

The evaluation study has been conducted to generate the stipulated primary data. Prior to generation of primary data, the relevant secondary information on the project including DPP, PCR have been collected from the IMED and reviewed. To develop the study instruments accurately and to reveal the inherent characteristics of various dimensions of the project and comparison with major indicators of the project, the secondary data have carefully been scanned and collated with the project situation. For generating the desired primary data, the proposed sample study has been conducted using an appropriate sampling design and a study instrument/questionnaire.

2.5. Design of the evaluation study

The consultants have developed the design for the evaluation study and submitted this inception report to the client for approval. Prior to the design the questionnaires and checklists, the consultants have finalized the list of indicators and measurements of all indicators in detail such as implementation status of the project components, economic benefits of the project, impact on the improvement of the livelihood of the beneficiaries, bottlenecks and suggestions for future improvement in other project.

2.5.1. Sample design

Two types of analysis of the data have been made to gather information for the evaluation study such as quantitative and qualitative analysis.

(i) Quantitative analysis

In order to ensure representativeness of the data and information, the consultants have proposed a probabilistic sampling strategy to collect the data and it is delineated below:

The population under the evaluation study is constituted to review the project design and management; evaluate the implementation status of major components of the project; identify strengths, weaknesses and threats of the project, and suggest appropriate measures for more improved management of the residential flats under the project as well as effective recommendations for future plan in other metropolitan areas of Bangladesh. The study also assessed the impact of the project on the livelihood of the low and middle income earning group of people who are allotted with the flats in the project area and other socio economic improvement. Thus, it was appropriate to determine a representative sample size. For such purpose consultants have adopted a sound statistical formula as given below;

$$n = \frac{NPQZ^2}{(N-1)e^2 + Z^2PQ}$$

Where,

n = sample size

P = probability of a dichotomous event

Q = 1-P

Z = value of standard normal variety

N = population size

e = allowable margin of error.

Sampling size for program group beneficiaries

According to the TOR of the evaluation study, 100% works of the project areas have been covered. However, in order to reach 100% area coverage, no sampling size was required for the evaluation study. This 100% area coverage indicated that all components of the construction works have been considered for the study. The evaluation team has considered the flat allottees as sample unit. Thus, 100% beneficiaries i.e., the whole 600 allottees for 600 flats and 100% construction works of the project components have been considered as sample size.

Sampling size for control group respondents

Based on the suggestions coming from the Technical Committee held on 07 February 2013, the sample size for control group respondents would be 50% of the program group beneficiaries (i.e. 50% of 600 flat allottees). Therefore, no statistical formula was also required for sampling herein. Accordingly, 300 respondents have been considered as the sample size for control group. The participants for the control group have been selected using simple random sampling technique from the adjacent to the project areas, where the participants have not flats in Dhaka city but have more or less similar economic status.

(ii) Qualitative analysis

Qualitative methods are being increasingly used in social assessments as credible and reliable method of data collection. Qualitative techniques have been used to collect in depth information on selected indicators related to the study. In this analysis the most appropriate tools that have been used are delineated as follows:

- a) Focus Group Discussion (FGD)
- b) Key Informant Interviews (KII)
- c) Observation Checklist for Physical Verification

(a) Sample size for FGD respondents

According to the decision taken by the Technical Committee, six (6) focus group discussions (FGD) for 3 categories of flats have been considered, comprising 2 FGDs for each category of flat (i.e., 1000 sft, 800 sft and 500 sft) for qualitative analysis. Each FGD comprised with 20 participants from the allottees of the flats. Thus, 120 (i.e. 6 x20) respondents have been considered for 6 FGDs.

(b) Sample size for KII respondents

In addition, the information about project related personnel, contractors, suppliers and management have also been considered in this study and for this purpose 20 project related engineers/personnel, 20 contractors, 20 suppliers and 20 key personnel/engineers at head office level have been interviewed. Thus, the number of respondents for KII of the study under consideration was **n = 80**. Therefore, the total sample respondents' number has been interviewed for qualitative data under the present evaluation study was 200 (i.e. 120 + 20 + 20 + 20 + 20).

Total sample size

The total sample respondents' number has been interviewed for both qualitative and qualitative data under the present evaluation study was 1100 (i.e. 900 + 200).

2.5.2. Instruments for data collection and respondents

According to the TOR, all 600 flats have been covered under the study. Therefore, all 600 flat allottees/ beneficiaries have been considered as respondents for the survey study. However, selection of respondents has been made on 100% coverage basis so as to cover all the project

area and all types of project activities. But the control respondents have randomly been selected from the people, who are not allotted with the flats of project, but they are living adjacent to the project area and their economic status is more or less similar with flat allottees.

- (a) **Project beneficiaries (program group):** Each of all 600 flat allottees has filled a set of pre-designed and pre-tested questionnaire encompassing issues about the benefits of the constructed flats such as economic benefits, quality aspects of flat and other construction works, overall environment of the present situation, facilities of residential areas, improvement of living standard, security of life, maintenance of the residential area, social status of the allottees, durability of the construction works, sustainability aspects of the project activities, socio-economic benefits offered by the project.
- (b) **Control group:** In addition of the interview of the project beneficiaries, survey has also been conducted with the same questionnaire in the adjacent areas of the project, where the project activities did not intervene. The participants for this control group have been selected using simple random sampling technique from the households who are living adjacent areas of the project, and they did not benefited by the project activities, total 300 household have been surveyed as the control group respondents.
- (c) **Focus Group Discussion (FGD):** The respondents who are allotted with the flats by project have been participated in the FGD. The participants have been randomly chosen from different flats, which are currently living in the project area. Each FGD have been conducted at a venue, which was convenient for the participants of each category of flats and they were allowed to speak freely in the discussion meeting. The FGDs have been conducted to collect the information using a pre-designed questionnaire encompassing issues about the construction works of the flats such as quality, durability, sustainability of the construction works, economic benefits of the flats, facilities of residential area, security of life in the residential area, overall environment of the present situation, social status of the allottees, cooperative attitude of the beneficiaries.
- (d) **Key Informants Interview (KII):** Engineer and senior level officials of NHA who were directly related with the project implementation and management have been consulted about the project concept & design, project component wise performance, procurement and duration of project implementation, cost effectiveness of the project, management of the project as against the designing system, quality, durability, sustainability flats and other construction works, cost-effectiveness of flats, strength of the protect activities, maintenance works of the project, weakness and threats of construction works, suggestions and recommendations for future planning.

Summary of the data and information collection is presented below:

Table 2.1 Number and types of respondents

A. Physical visit at project area

Activity	Location	Sample Size	Purpose
Discussed and inspected through visit	Mirpur-2 & Mirpur-14, Dhaka	All components of 600 flats	Component wise physical verification for the present status, quality of goods and construction works.

B. Qualitative and quantitative data by interviews and discussions

Activity	Participants/ Respondents	No. of Respondents	Respondents' Category
A. Direct interviews with questionnaire i. Field survey	Beneficiaries (Program group)	600	All allottees

ii. Field Survey	Control group respondents	300	All categories of respondents who are living adjacent areas of flats
B. FGD	Beneficiaries (3x2x20)	120	All categories of beneficiaries
C. KII (Interview of project related personnel)	a. Project Management Personnel	20	Senior Officials of NHA at head office level related to project management and planning
	b. Project related Engineers	20	Engineers of NHA related to project implementation
Total		1,060	

2.5.3. Variables covered

The consultants have considered the following variables during development of questionnaire for data collection from the respondents.

1. Demographic : Sex, religion, marital status
2. Social : Profession
3. Economic : Employment, salary scale/income, price of the flats,
4. Project related indicators:
 - assessing the implementation status of the project components;
 - reviewing the rationale of the project in respect of concept, design, location, affordability, cost recovery, and overall cost benefit analysis of project;
 - assessing the outcome of the project in terms of improvement of the livelihood of the people who are allotted with the flats;
 - assessing the present situation of the inmates of the flats;
 - identifying major strengths, weaknesses and threats of the project and suggest appropriate measures to overcome those; and
 - recommending appropriate measures for more improvement management and effective sustainability of these type of project in future.

It is noted that retrospective information on some variables have been collected using the method of ‘program group respondents’ and ‘control group respondents’.

2.5.4. Development of study tools/questionnaire

The questionnaire have been prepared (**Appendix-1**) based on the objectives, scope of work, needs and indicators for the evaluation study as indicated in the TOR, proposed approach and methodologies, and the experience of the consulting firm and consultants in similar type of assignments. The study questionnaire have been developed through further review of the draft questionnaire by the consultants, discussion with the client, field-testing and moderation etc to cover all the required indicators. The study questionnaire have been pre-tested in the study location and have been finalized with due care to include appropriate questions for collection of necessary information from different levels and types of respondents to reflect the indicators relevant to the objectives of the study as well as the consistency with the scope of work.

The pretest on questionnaire have been done in order to test of suitability of the study questionnaire and to determine the time and skill needed. Interview for pre-testing the questionnaires have been conducted in several flats, which met the set criteria for project target beneficiaries. After analysis of the pre-tested questionnaires, the final questionnaires have been prepared, printed and used for the study.

2.6. Method of data collection

Four types of data have been collected for the evaluation study of the assignment and these are given below:

2.6.1. Review of secondary documents and discussions

- Evaluation of a project involves in-depth review of secondary documents related to project design, implementation and changes overtime, DPP and evaluation reports of the IMED. The consultants will take the help of the implementing agencies (National Housing Authority), IMED and concerned consulting firms/consultants of the project (if any), and concerned officials.
- The consultants have conducted an in-depth review of the secondary documents related to project design, DPP and evaluation reports of IMED with the help of the implementing agencies (NHA), IMED and implementation activities in terms of physical and financial achievements and compare with project targets and milestones.
- The consultants have reviewed the rationale of the project in respect of concept, design, mechanism of affordability and overall cost benefit analysis of the project.

2.6.2. Physical verification and field inspection by consultants

- The consultants have visited the project 100% components of the project area. For the physical verification and field inspections, the Team Leader and Civil Engineer had extensively visited the fields and inspected all the components of the project activities and finally carried a major task using the observation checklists for physical visit to collect data related to present status of the project activities particularly implementation status of the construction works of flats, quality of roads, water pump houses and supply lines, electricity and gas lines, drainage and culvert facilities and present status of repair and maintenance works.
- The consultants along with Architect and Civil Engineer had reviewed the structural drawing and designs of the respective components as well as inspected throughout the whole components of the project and compared with present condition of the components of the construction works during physical visit.

2.6.3. Interview of project beneficiaries

- Direct personal interview approaches have been adopted for collection of primary data. The field enumerators have personally contacted with the flat allottees/respondents and obtained desired information by explaining the objectives of the study to the respondents.
- Each enumerators have been provided with an identity card (hanged outside the front pocket of the shirt), a set of guideline for code and data collection system and overall administration of the study, a check list to ascertain the target beneficiary and, the designed and pre-tested questionnaire for data collection and administration of the study.
- The enumerators reaching the target area have selected an allottee of a flat in a building of the project area for program group respondents. Then the enumerator described the purpose of the interview and objectives of the study as well as the benefits of the project, and lastly filled up the questions of the data sheet.
- After the completion of filling up of one questionnaire by one allottee, then the enumerator had moved to the next allottee of the nearest flat of the same building. When found, he should sit with the allottee and started data enumeration as per guideline and the set questionnaire following the techniques, procedures, and instructions of the training and demonstration of the field pre-testing. Following this procedure, enumerators have

completed the interview of the allottees of one building and so on. Thus, all 600 allottees of 600 flats have been interviewed by the data enumerators through the pre-tested questionnaire.

- The enumerators have recorded data only after fully being satisfied that he has been able to make the respondent understand the question, and the respondent offered any of the probable answers in his own perception. All questions for each questionnaire have been asked one by one, and data have been filled up on the spot and put signature in the space provided and preserved carefully for submission.
- The completed questionnaires have been packed and sealed as per building and type of flats and submitted to the supervisors by flat category after completing the study of the respective flat type.
- Similar procedure for the flat allottees have been followed for the control group respondents, who were living adjacent to the project area but not benefited with the flat allotment and filled up questionnaire to collect the data.

As per TOR, the 100% allottees/beneficiaries have been interviewed by the enumerators comprising 600 questionnaires for 600 flat allottees/project beneficiaries and 300 questionnaires of 300 control group respondents.

2.6.4. Focus Group Discussion (FGD)

- The consultants conducted FGDs with the participation of the beneficiaries who are currently living in the flats of the project areas, where 2 FGDs have been conducted for each type of flats. Therefore, for 3 categories of flats, 6 FGDs have been conducted of which each FGD has been organized with maximum 20 participants. Thus, for 6 FGDs altogether 120 respondents have been participated in the evaluation study.
- The FGD has been conducted at a venue, which has been convenient for the participants and allowed them to speak freely. The FGD session has been guided by a facilitator or moderator and has been encouraged to talk freely and spontaneously about the issues of investigation.
- The FGD has been conducted to collect qualitative in-depth information especially focusing on the benefits of the project, present situation of the residential area in respect of overall environment and facilities of the flats, quality and durability of the construction works, socio-economic improvement of living standard, participation in cooperative issues, security of life, pollution aspects of the environment etc. One experienced facilitator of the team has recorded the key points covered in course of discussions using a FGD guideline (**Annex-3**).

2.7. Recruitment, orientation and training of field staff

2.7.1 Recruitment: Three field supervisors and the 12 data enumerators had been recruited from among these candidates. The data enumerators had at least a bachelor's degree or a master's degree in social science. Out of 3 field supervisors, one had Diploma in Civil Engineering and the rest two field supervisors had master's degree. And all of field supervisors and data enumerators had sufficient work experience in field-research and data collection. An effort had been made to recruit all the data enumerators from among eligible female candidates to get advantages for the easy entrance into the flats of the respondents in the project areas.

2.7.2 Orientation and training: After the recruitment, a 3-days intensive training of the data enumerator and field supervisors including field demonstration has been organized at the conference room of **International Training & Management Consultants (ITMC)**, Niketan, Gulshan-1, Dhaka-1230, Bangladesh. The first day was engaged for class room training, second day for pre-test of the questionnaire at project locations and third day for refreshment to finalize the

questionnaire. The training of the field staff has been designed and imparted so as to make the trainees (field staff) conversant with the procedures of data collection. The training programs were two types such as (a) Basic training and (b) Advanced training. Where the basic training has been conducted for both field staff and supervisors and the advanced training has been designed for the field supervisors. The training has also included classroom lectures as well as field practice to the trainee in actual interview situation. Broadly, the training program has aimed for generating definite skill and enthusiasm among the field staff.

2.8. Field level workshop with all stakeholders for participatory evaluation

The consultants have organized a participatory evaluation workshop in one location of project area during data collection under the evaluation study. The purpose of the workshop was to share with the stakeholders regarding various issues relating to the project. The location of the Field Level Workshop was selected in consultation with the IMED and arranged and managed by the consultants. The workshop has been held under some structured programs such as registration of the participants, opening session, power point presentation of the background, objectives, methodology and current status of the evaluation study by the Team Leader, open discussion session with stakeholders and panel session with closing remarks. This local level workshop was organized at the location adjacent to the 1000 sft flat category but convenient for the participants of 800 sft and 500 sft flat categories also. The Syed Md. Haider Ali, DG, Evaluation Sector of IMED attended the workshop as Chief Guest (Plate-1); Md. Abdul Quyum, Quamrun Nessa, Directors of IMED and Executive Engineer of H&SD-2, Mirpur, NHA attended the workshop as special guests. Mr. Md. Mosharaf Hossain, Assistant Director of IMED, Sub Divisional Engineers of H&SD, Mirpur, NHA, ITMC officials, representatives of flat allottees also attended in the workshop (Plate-2).



Plate-1: Honorable DG, Directors of Evaluation Sector of IMED and Executive Engineer, Mirpur H&SD-2 attended the local level workshop



Plate-2: Portion of participants enjoying the presentation of local level workshop of the evaluation study

2.9. Field operation/data collection from the study area

- The field placement of the study personnel had started after completion of their training. The trained study enumerators/investigators and supervisors have been placed to cover the collection of data in each of the study locations. The study supervisors have also been placed for supervising the data collection and responsible for monitoring, data checking and field verification of collected data. All the field staffs have been reached the study area with required number of questionnaires, checklists, and daily progress reports, manual of data collection, and other documents and articles necessary for field studies.
- The work of the enumerators have been constantly monitored and supervised by the supervisors. The supervisors have checked all completed questionnaires in the field and re-interviewed some of the respondents to sure about the quality of data. The supervisors have also conducted the focus group discussions.

- The consultants including the Team Leader have made random visits to ensure quality control of data collection and also to encourage respondents, data enumerators and supervisors. The consultants have also conducted the field visit to discuss with beneficiaries/respondents, and project field personnel for co-operation and assistance in the evaluation study.
- Each enumerator has collected the data from their respective flats and households assigned by the consultant team management for the target areas. Each supervisor supervised the data collection work for each category of flat as well as monitored the data checking and field verification of collected data. The filled up questionnaires have also been checked and verified properly by the field supervisors and have been transported to the ITMC office every day.
- In addition to the data collection, the consultants have also conducted physical verification and technical inspection of the allotted flats in the project area to evaluate the implementation status of major components of the project and its strengths, weakness and threats.

2.10. Quality control mechanism

The Team Leader with other consultants have kept in touch with field supervisors and test administrators so that field enumerators can seek instructions on the concepts, definitions and difficulties encountered in carrying out the fieldwork under the actual operational conditions. All the members of the consultant team monitored the field study activities at randomly selected places to ensure quality of the study. All the specialists have visited in selected areas at random to verify and confirm the study findings with the actual situation. In addition, quality of data collection by the investigators has been monitored over mobile communication to the team as well as the target beneficiaries. To ease the data collection activities, IMED, NHA and ITMC have arranged necessary letters as well as ITMC has issued identity card for each enumerator and supervisor, so that the data enumerators can collect required information easily from the field.

2.11. Data management, processing and analysis

2.11.1. Data management

Data management, processing and analysis include registration of the questionnaires, coding, data verification and quality control, data punching, data processing and finally the analysis to facilitate the required output generation. As soon as the reception of the filled up questionnaires from the field, the questionnaires have been recorded in a registration book with their identification numbers. The registration of questionnaires has been facilitated the storing and handling during the data processing stage.

2.11.2. Data processing

The data process has involved two important steps. The first step was to categorize the individual question of the questionnaire and the second step was to allocate the individual answers to them. The set of frames covering all the information has been abstracted from the questionnaires. Another step of data processing was the data entry into computer using SPSS software designed for the purpose and obtaining output according to the requirement by running the program by the computer programmer to be assigned by the consultant.

2.11.3. Data analysis

All the necessary analysis has been done using the software SPSS and MS Excel. In line with the requirements of the TOR, the Team Leader and other consultants of the **EVALUTAION STUDY**

have designed dummy tables, which have been used by the specialist in Data Analyst for data analysis. For the analysis of the data, descriptive statistical tools such as frequency distribution, measures of central tendency, dispersion, graphs, correlation and regression have been used, if required.

2.12. Limitation of the evaluation study

- **Unavailability of Key Personnel, contractors and supplier:** It was very much hard to take interview with the proper number of key personnel or senior level officials, engineers of NHA, who were directly involved with implementation of project, because of the transfer in various locations of Bangladesh, retirement etc. On the other hand, contractors and suppliers were not also found available under study. Thus, the interview of contractors and suppliers were not done.
- **Lack of quality testing provision for construction materials:** Due to the absence of provision for laboratory testing of the materials for quality in TOR of evaluation study, the laboratory testing of the materials used in the construction works was not possible and the quality testing of the materials used was not done.

SECTION-3 FINDINGS OF THE STUDY

This Draft Final Report is a contractual requirement after the completion of the assignment on the “Impact evaluation study of the construction of 600 flats for selling to limited income group of people on hire purchase basis for residential accommodation to Govt. employees in Dhaka city (Revised)”. The study was a four months assignment signed between Implementation Monitoring and Evaluation Division (IMED) of the Ministry of Planning of the Government of the People’s Republic of Bangladesh and International Training and Management Consultants (ITMC) on 22 January 2013 for conducting this evaluation study.

The consulting services have been provided by the ITMC, Dhaka, Bangladesh to assess the project implementation status and its impact on the livelihood of the project beneficiaries. The study team consists of four senior level experts, field and office level support staffs and the evaluation study was conducted during 16 March, 2013 to 30 March 2013. Four types of analysis have been conducted for the evaluation study such as physical observation for the implementation status of the construction works through observation checklist, impact evaluation through questionnaire, Focus Group Discussion (FGD) and Key Informant Interview (KII). The findings of the evaluation study have been discussed with interpretations and furnished under the following sub-headings:

3.1. Physical verification of the construction works

The physical verification includes the analysis of the component wise implementation status of the construction works of the project as compared with the secondary records of the project such as DPP, RDPP, IMED evaluation report as well as the present condition of the implementation status of the construction of all 600 flats through the physical visit. The findings of the physical verification of study have been furnished below:

3.1.1 Component wise output of the construction works as targeted by the project

All construction works implemented under the project have been found similar during physical visit of the project areas as records found in DPP and IMED Evaluation Report (Table 3.1).

Table 3.1 Project components in physical and financial terms

Sl. No	Components as DPP	Unit	Planned target		Actual implementation	
			4	5	6	7
			Quantity	Cost (in Lakh)	Quantity	Cost (in Lakh)
A. Components directly related with construction						
1.	Land acquisition	Acre	4.37	209.76	4.37 (100%)	209.76 (100%)
2.	Land development	CM	3330.36	7.26	3330.36 (100%)	7.26 (100%)
3.	Construction of Flat building	m ² Nos.	45896.20	4723.67	45896.20 (100%)	4723.67 (100%)
a.	Construction of 1000 sft flat 160 nos.					
b.	Construction of 800 sft flat 260 nos.					
c.	Construction of 500 sft					

“Impact evaluation study of the construction of 600 flats for selling to limited income group of people on hire purchase basis/for residential accommodation to Govt. employees in Dhaka city (revised)”

Sl. No	Components as DPP	Unit	Planned target		Actual implementation	
			4	5	6	7
			Quantity	Cost (in Lakh)	Quantity	Cost (in Lakh)
	flat 180 nos.					
4.	Road works	m ²	3868.00	32.91	3868.00 (100%)	32.91 (100%)
5.	Water reservoir with pump	Nos.	60	14.70	60 (100%)	14.70 (100%)
6.	Water supply pipe line	Meter	3300.00	10.20	3300.00 (100%)	10.20 (100%)
7.	External Electrification	Lump-sum	-	185.08	-	185.08 (100%)
8.	Gas line	Meter	4371.84	62.82	4,371.84 (100%)	62.82 (100%)
9.	Pucca surface drain	Meter	1219.14	6.59	1,219.14 (100%)	6.59 (100%)
10.	12" dia RCC pipe culvert	Meter	58.52	0.33	58.52 (100%)	0.33 (100%)
B.	Supporting Components					
11.	Survey & Soil investigation	Lump-sum	-	2.00	-	3.53 (176.50%)
12.	Jeep purchase	No.	1	26.14	1 (100%)	26.14 (100%)
13.	Motor cycle	No.	4	2.76	4 (100%)	2.76 (100%)
14.	Maintenance	Lump-sum	-	14.00	-	14.00 (100%)
15.	Manpower	Lump-sum	-	50.77	-	50.77 (100%)
16.	Contingency	Lump-sum	-	10.80	-	10.80 (100%)
17.	Overhead	Lump-sum	-	89.58	-	89.58 (100%)
	Total	-	-	5,448.97	-	5,448.97 (100%)

Source: *Evaluation Report, IMED, Ministry of Planning, Government of the Peoples Republic of Bangladesh*

3.1.2. Assessment of the concept, design and affordability of the project

According to fulfill the objectives of the current assignment, the consultants along with Civil Engineer and Architect have reviewed the RDPP, structural drawing and designs of the respective components as well as they also inspected throughout the whole components of the project and compared the concept and design of the project with present condition of the physical structure of the construction works. The observation found during physical visit as compared with structural design and drawings of the respective components have been summarized as follows:

- i. **Concept of the project:** The concept of the project have been partially fulfilled by the construction of 600 flats and allotted those to the people on hire purchase basis for 25 years and provided the shelter of 600 families. This project also improved the livelihood of the beneficiaries, ensured secured life, economic benefit to the allottees as well as improved the social environment among the beneficiaries. But one of the major concepts of the

project was the flats would be allotted to the low and middle income group of the people, whereas the flats had been allotted to the Grade 1 government employees too, who are not low/middle income people. Therefore, the targeted concept of the project has not been fulfilled completely.

- ii. **Design of the project:** No visible structural deformation and cracks were found in the columns of the buildings, and the size of these columns such as 20" x 10" for 1000 sft flat buildings and 15" x 10" for both 800 sft and 500 sft flat buildings were found same as per structural drawing during physical inspection. But the arrangement of some columns for most of the buildings under 1000 sft flat category had been changed as compared with structural drawing. This kind of change had not been done for the buildings under 800 sft and 500 sft flat categories.
- Beam sizes such as 20" x 10" and 15" x 10" for all buildings of three categories have been found similar as per structural drawing and no visible deformation and cracks were found in the columns of the buildings during physical inspection.
 - The punch in front of the stair of all buildings under 1000 sft flat category have been changed due to installation of lift. The provision of lift was not included in the plan therefore, the arrangement of the column for lift had not been designed during the construction of those buildings. As a result, it was not clear to understand that the impact of the installation of lift vibration and lift self load. Therefore, in-depth investigation is needed in this regard and necessary measurement should be taken if necessary to avoid any kind of unexpected accidents.
 - Sunshades of all windows and high windows of all buildings under all three flat categories have been modified as found during physical inspection, where slope shades have been changed as compared with architectural design.
 - All components of the floors of flats have been completed as per plan, but some modifications been done by the owners of flats for room sizes.
 - Occurrence of water leaching from roof of the top floor of many buildings is found for many buildings particularly the buildings NHB-1 and NHB-8. In case of NHB-1, five potholes have been identified which have been repaired with CC by the owners; in case of NHB-8, repairing of whole roof have been done by CC on which several cracks also found during physical inspection.
 - Foundation is not visible, so it can't be find out the actual size and reinforcement detail as per design.
 - Overall workmanship of the flats is poor; it might be occurred due to improper ratio of materials of plaster, use of low quality materials or improper curing. But the proper quality can't be done because of the lack of provision for laboratory testing of the materials in this evaluation study for quality analysis.
- iii. **Affordability of the project:** The prices for each flat having plinth area of 1000 sft, 800 sft and 500 sft are Taka 11,69,212/-, 9,48,606/- and 6,17,697/-, respectively. The down payments are Taka 2,92,303/-, 2,37,152/- and 1,54,425/-, respectively. Considering the 13% interest as mentioned in the RDPP, the monthly installments for 25 years are Taka 7,688.79, 6,238.07 and 4,062/- for three categories of flats respectively. This type of installment for 25 years is much more affordable for the limited income people, who are allotted with the flats under this project.
- iv. **Major items of the investment cost:** The total cost of the project was 5448.97 lakh Taka as revised. The major items of the project and their investment cost as recorded in the RDPP are given in the following Table 3.2.

Table 3.2 Major items of the investment cost

Sl. No.	Description of items	Investment cost (Tk in lakh)
A.	Components directly related with construction	
1.	Land acquisition	209.76
2.	Land development	7.26
3.	Construction of Flat building	4723.67
a.	Construction of 1000 sft flat - 160 nos.	
b.	Construction of 800 sft flat - 260 nos.	
c.	Construction of 500 sft flat - 180 nos.	
4.	Road works	32.91
5.	Water reservoir with pump	14.70
6.	Water supply pipe line	10.20
7.	External Electrification	185.08
8.	Gas line	62.82
9.	Pucca surface drain	6.59
10.	12" dia RCC pipe culvert	0.33
B.	Supporting Components	
11.	Survey & Soil investigation	2.00
12.	Jeep purchase- 1 no.	26.14
13.	Motor cycle-4 nos.	2.76
14.	Maintenance	14.00
15.	Manpower staffing	50.77
16.	Contingency	10.80
17.	Overhead	89.58
Total		5,448.97

Source: RDPP, August 2005, Prepared by Planning & Design Division, NHA, Segunbagicha, Dhaka

- v. **Number and expenditure of flats having different plinth area:** The total expenditure of the project was 5448.97 lakh Taka, total plinth areas of all 600 flats is 4,94,000 sft, cost of each sft flat area was 1103.03 Taka and related cost analysis as recorded in the RDPP are given in the following Table 3.3.

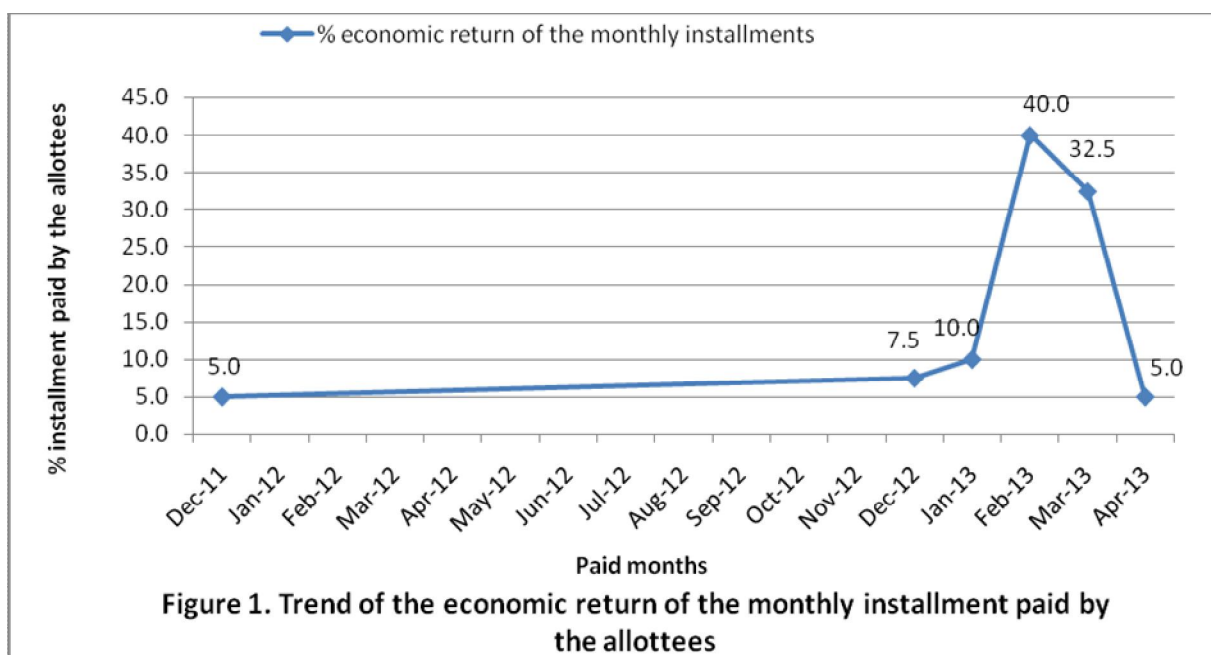
Table 3.3 Number and expenditure of flats having different categories of plinth area

SL. No.	Items	Amount
1.	Total expenditure of 600 flat project	5448.97 in lakh Taka
2.	160 flat each having 1060 sft including stair	169600 sft
3.	260 flat each having 860 sft including stair	223600 sft
4.	180 flat each having 560 sft including stair	100800 sft
	Total area of 600 flats including stair	494000 sft
5.	Cost of each sft flat area (5448.97 lakh Taka ÷ 494000 sft)	1103.03 Taka
6. a.	Cost of each flat having 1000 sft plinth area (1060 sft x 1103.03 Taka)	11,69,212.00 Taka
b.	Cost of each flat having 800 sft plinth area	9,48,606.00 Taka

	(860 sft x 1103.03 Taka)	
c.	Cost of each flat having 500 sft plinth area (560 sft x 1103.03 Taka)	6,17,697.00 Taka
7. a.	Total cost of 160 flats each having 1000 sft area (160 x 11,69,212.00 Taka)	1870.74 lakh Taka
b.	Total cost of 260 flats each having 800 sft area (160 x 11,69,212.00 Taka)	1870.74 lakh Taka
c.	Total cost of 180 flats each having 500 sft area (160 x 11,69,212.00 Taka)	1870.74 lakh Taka
	Total cost of 600 flats of the project	5448.97 lakh Taka

Source: RDPP, August 2005, Prepared by Planning & Design Division, NHA, Segunbagicha, Dhaka

- vi. **Economic return of the invested cost:** The economic return of the invested cost in the project is good, where about 90.0% installments of the allottees have been returned and these installments have been paid within January 2013 to April 2013, of which 10.0% allottees paid their installments up to January 2013, 40% allottees paid up to February 2013, about 32.5% paid up to March 2013, 5% up to April 2013. On the other hand, 7.5% allottees paid their installments up to December 2012. Few cases, the return of the invested cost were not satisfactory (5%) where the allottees had paid their installments up to November-December 2011 (Figure 1).



3.1.3. Implementation status of the construction works

- The implementation status of the construction of 600 flats at Mirpur, Section-2 and Mirpur, Section-14, Dhaka has been studied by the evaluation team in the project areas through the physical visit of all 600 flats as well as reviewed secondary records and files. The visit has been conducted among 600 flats at project areas, where 160 flats having plinth area of 1,000 sft located at Mirpur, Section-2 as well as 260 flats having plinth area of 800 sft and 180 flats having plinth areas of 500 sft both located at Mirpur, Section-14, Dhaka (Plate-3).



Plate-3: External view of buildings having 800 sft (left), 800 sft (middle) and 800 sft (right) flats located in Mirpur-2 and Mirpur-14, Dhaka

- Data regarding on the implementation status of the construction works such as civil works of the building walls, floors, stairs, roof, drains, culverts etc; wooden works of doors, railing of stairs; sanitary, gas and electrical line fittings; construction of roads and drains; water reservoir with pumps etc of the project have been collected and recorded as per design of the assignment.
- The overall workmanship of the flats is poor; it might be occurred due to improper ratio of materials such as cement and sand for plaster, use of low quality building materials such as bricks, cement, sand etc or improper curing. However, the status of the civil works of flats, stairs with railings, fittings for sanitary, gas, electrical works, water supply etc; construction of roads and drains etc has been found in good conditions in many flats under the project; simultaneously, bad condition with severe damaged condition have also been found in other flats. The building and component wise status of the construction works have been discussed below:

The flat category wise status of the construction works

The project activities comprised construction of 600 flats, roads, drains, culverts, water reservoir with pumps, connection of water, electricity, gas lines etc. The category wise present status of the flats constructed under this project has been furnished below:

- **1,000 sft (160 nos) flat**
- **800 sft (260 nos) flat**
- **500 sft (180 nos) flat**

3.1.3.1. Implementation status of construction works under 1000 sft flat category

- Total number of buildings constructed under 1,000 sft flat category is sixteen (16), each of which comprised with 10 flats from first floor to fifth floor was found similar during physical visit under the construction works as recorded found in RDPP and IMED evaluation report. Each building under this category is six (6) storied, where underground floor is open for all allottees of the respective building. Thus, the total number of flats under 1,000 sft flat category is one hundred sixty (160).
- The implementation status of the construction works of 1,000 sft flat category found and recorded during physical visit by the expert team is furnished below:

Table-3.4 Observation checklist for component wise implementation status of the construction works of 1000 sft flat category

Name of works/materials	Unit	Quantity implemented	Present status of construction work	Remarks
1. Construction Works				
a. Plaster of the walls			Plaster of walls of most of the flats are not good in condition; in many cases plasters have been replaced by tiles	Low quality materials have been used
b. Doors	Nos.	12x160	Wooden and plastic doors in many cases have been damaged by cracking, rotting or making holes caused by insect pest	Low quality woods & plastic doors have been used
c. Windows	Nos.	8x160	All the windows are made of iron grills and found in good condition	Good quality materials have been used
d. Floors			Plaster of floors of most of the flats are found in more or less good condition, but in many cases found in damaged condition	Low quality materials have been used
e. Stair			Stair of almost all buildings are found in damaged condition; in many cases stairs have been replaced by tiles	Low quality materials have been used
f. Railing of the stair			Railing of all buildings are made of woods and found in more or less good condition	More or less good quality woods have been found
g. Collapsible gate of the building	Nos.	160	Collapsible gates of all buildings have been found good condition	Good quality materials have been used
2. Sanitary Works				
a. Commode	Nos.	1x160	All 160 commodes for 160 flats under 1000 sft flat category have been found in good condition	More or less good quality materials have been used
b. Long pan	Nos.	1x160	All 160 long pans for 160 flats under 1000 sft flat category have been found in good condition; some cases pans have been damaged	More or less good quality materials have been used
c. Wash hand basin	Nos.	2x160	All 320 wash hand basin used in 160 flats under 1000 sft flat category have been found in good condition	More or less good quality materials have been used
d. Sink tray	Nos.	1x160	All 160 sink tray used in 160 flats under 1000 sft flat category have been found in good condition	More or less good quality materials have been used
3. Electrical Fittings and Materials	LS	LS	Electrical fittings and materials used in the flats under 1000 sft flat category have been found in more or less good condition, but electrical wires can't bear the high load of electricity	Quality of electrical fittings and materials are not up to the mark
4. Construction of Roads	Sqm		Roads constructed in the area of 1000 sft flat category have been found in more or less good condition	Quality roads have been constructed
5. Underground water reservoir	Nos.	16	All 16 underground water reservoirs constructed for 16 buildings under 1000 sft flat category have been found	Quality water reservoirs have been constructed

Name of works/materials	Unit	Quantity implemented	Present status of construction work	Remarks
			in good condition	
5. Water pump	Nos.	16	All 16 water pumps installed for 16 buildings under 1000 sft flat category have been found in good condition	Quality pumps have been installed
6. Gas line and fittings	M		Gas line with other fittings have been found in good condition	Quality gas line and other fittings have been installed
7. Pucca surface drain	M		All pucca surface drains constructed in 1000 sft flat category have been found in good condition.	Quality drains constructions have been done

Remarks:

- 1. Construction of 1,000 sft flat building:** Out of 600 flats, 160 flats having plinth area of 1,000 sft flat have been constructed under 1,000 sft flat category in a cluster form. There are six storied 16 buildings under this category provided with 160 flats, where ground floor for open space used as garage by the flat allottees of each building and other five floor from first to fifth floor have been provided with flats. Thus, each building provided with ten (10) flats. The buildings having plinth area of 1,000 sft are located at Section-2, Mirpur, Dhaka.
- 2. Boundary wall:** The area of 1,000 sft flat category is surrounded by the security wall with proper height regulated by entrance gates. This boundary wall has been found in good condition.
- 3. Construction of roads:** The present condition of roads constructed in the 1000 sft flat area is found good. But the pavement of some portions of the roads has been damaged and formed potholes (Plate 4 & 5). The roads have been constructed at ground level, which cause regular water stagnant during rainy season.



Plate-4: Damaged pavement on the road at the eastern side of the building no. 11 in 1000 sft flat area



Plate-5: Damaged pavement on the road in front of the building no. 13 in 1000 sft flat area

- 4. Construction of drains:** The drains constructed at the bases of each building are found in more or less good conditions, but the plasters of wall bases near the drains of some buildings have been found in damped and damaged conditions particularly for the building number NHB-1, 2, 4, 7, 9 (Plate 6 & 7).



Plate-6: Wall base near drain of NHB-7 found in damp and damaged condition in 1000 sft flat area



Plate-7: Wall base near drain of NHB-9 found in damp and damaged condition in 1000 sft flat area

5. Installation of lift: The lift for each building of 1000 sft flat has been installed, and all the lifts have been found in good and running condition. These lifts were not included in the RDPP. As a result, these lifts have not been installed properly (Plate 8), some cases outer supporting construction structure have been remodeled and improved (Plate 9) by the owners of the flats of the respective building.

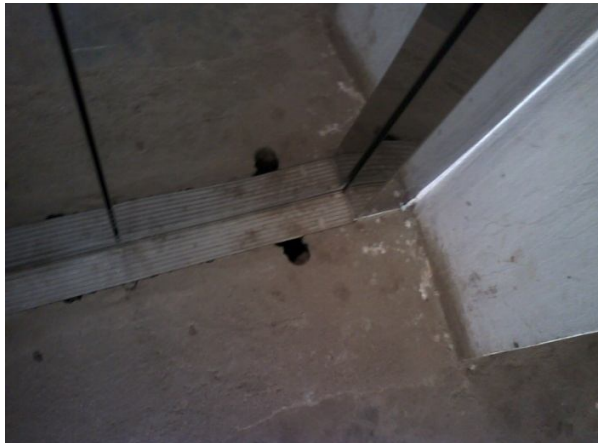


Plate-8: Weak condition of lift showing hole at the base of the lift of the building NHB-11



Plate-9: Remodeled and improved condition of outer construction structure of lift in building NHB-1

6. Stair and railing: The stairs of most of the buildings are found in bad condition, where the plasters of stairs have been damaged (Plate 10).

- Some cases the stairs are found in good condition particularly in building no. NHB-7, NHB-11, NHB-16 (Plate 11).
- In many cases, the damaged stairs have been repaired, modified and replaced using ceramic tiles by the owners of the flats of the respective buildings particularly in building NHB-1, NHB-2, NHB-3, NHB-6, NHB-9 (Plate 12, 13 & 15).
- All the railings of all buildings under 1000 sft flat category are made of wood and found in good condition (Plate 14 & 15).



Plate-10: Plaster of stairs of building NHB-4 showing damaged condition



Plate-11: Stairs of building NHB-16 showing good condition

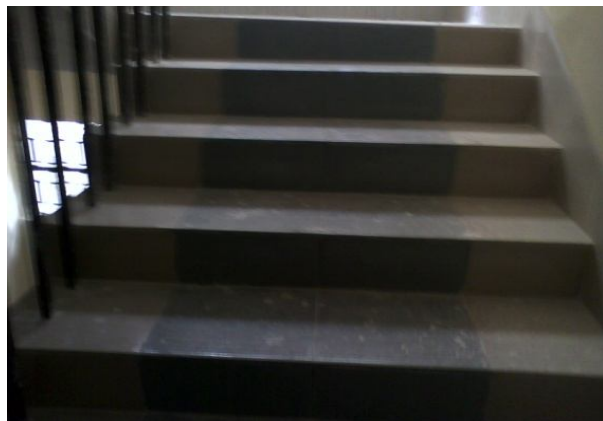


Plate-12: Modified and improved stairs of NHB-6 using ceramic tiles under 1000 sft flat category

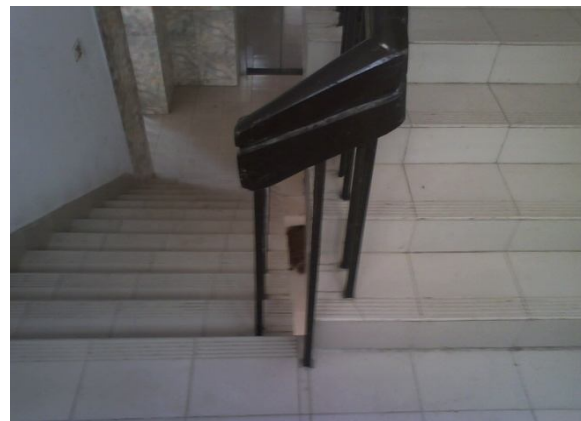


Plate-13: Modified and improved stairs of NHB-9 using ceramic tiles under 1000 sft flat category

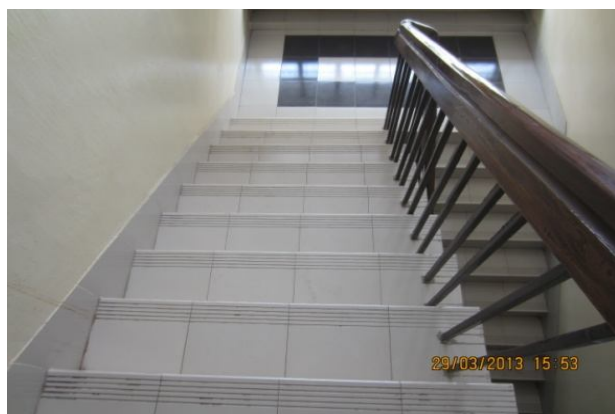


Plate-14: Wooden railing of NHB-1 showing good condition under 1000 sft flat category

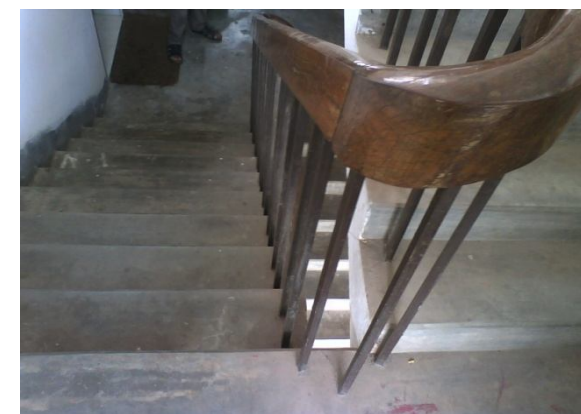


Plate-15: Wooden railing of NHB-16 showing good condition under 1000 sft flat category

7. Roof of the buildings: The roof of all buildings under 1,000 sft flat category are found in good condition except NHB-1 and NHB-8, where five (5) potholes are found on the eastern side

of the roof of NHB-1 through which water are being leached during rainy season. These potholes have been repaired by the owners of the flats of the respective building (Plate 16).



Plate-16: Repaired potholes on the roof of the building NHB-1 under 1000 sft flat category

8. Civil works of the flats: The plasters of walls and floors of the most of flats under this category of buildings have not been constructed with quality materials, where the plasters of walls have been found in damaged condition in almost all flats particularly (Plate 17-26) in flats B-1, A-1, B-2, B-4 of building NHB-1; flat A-1 of NHB-2; flat B-1 of NHB-3; flat A-2 of NHB-4; flat B-2 of NHB-6; flat A-1 of NHB-7.

- In many cases the damaged plasters have been removed and repaired using new materials by the owners of the respective flats particularly in the flat of building NHB-4; flat A-3 of NHB-11; flats A-4, B-5 of NHB-16.
- Some flat owners have replaced these damaged plasters of walls and floors using ceramic tiles by their own cost particularly flat A-1 of NHB-2, flat B-2 of building NHB-3, flat B-2 of NHB-6, flat A-1 of NHB-6, flat A-3 of NHB-11 (Plate-23 - 25).



Plate-17: Damage plaster of bathroom wall in the flat B-1 of NHB-1 under 1000 sft flat category

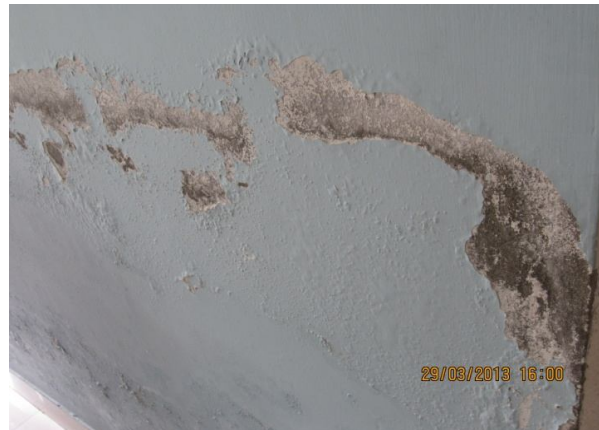


Plate-18: Damage plaster of bed room wall in the flat B-2 of NHB-1 under 1000 sft flat category



Plate-19: Damaged wall of dining room in the flat A-1 of NHB-2 under 1000 sft flat category



Plate-20: Damaged plaster of bed room wall in the flat B-1 of NHB-3 under 1000 sft flat category



Plate-21: Damaged plaster of bed room wall in the flat B-1 of NHB-5 under 1000 sft flat category



Plate-22: Damaged plaster of bed room wall in the flat B-2 of NHB-4 under 1000 sft flat category



Plate-23: Damaged plaster of bed room wall in the flat B-2 of NHB-6 under 1000 sft flat category



Plate-24: Modified floor by replacing with tiles in the flat B-2 of NHB-6 under 1000 sft flat category



Plate-25: Damaged plaster of the bed room wall in the flat A-3 of NHB-11 under 1000 sft flat category



Plate-26: Damaged wall of bed room in the flat A-4 of NHB-16 under 1000 sft flat category

9. Status of doors and windows: The doors of the flats under 1000 sft flat category have been made of wood. Some cases the plastic doors have been installed in the bath rooms. The doors of these flats are found in more or less good condition.

- In some cases these wooden doors have been damaged by cracked, because of the low quality woods have been used in these doors particularly in flat A-3 of building NHB-1 (Plate 27), flat A-2 of building NHB-4 (Plate 28).
- In some cases, the plastic doors used in the bath room have also been damaged particularly found in the flats A-4 & B-4 of building NHB-1 (Plate 29 & 30); flat B-1 of building NHB-5. Besides these, doors in the flat A-1 of building NHB-7; flats A-4, A-5, B-5 of building NHB-16 also found in damaged conditions.
- The windows used in the flats are made of iron grill and these windows have been found in good condition in almost all flats under 1000 sft flat category.

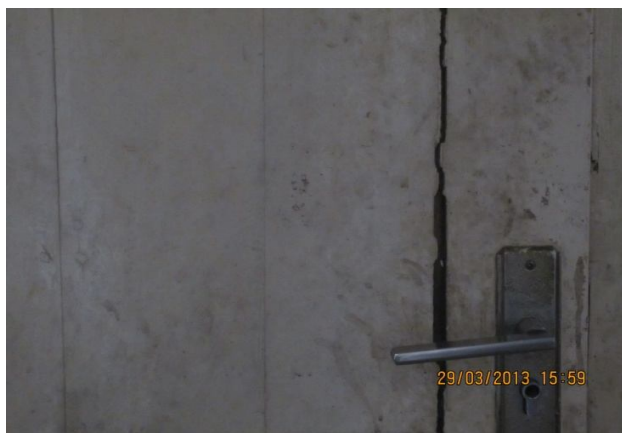


Plate-27: Severely cracked main door in the flat A-3 of building NHB-1 of 1000 sft flat



Plate-28: Severely damaged wooden door of the bath room in the flat A-2 of building NHB-4



Plate-29: Severely damaged plastic door of the bath room in the flat A-4 of NHB-1



Plate-30: Severely damaged plastic door of the bath room in the flat B-4 of NHB-1

10. Utility fittings: The utility fittings such as sanitary, electrical and gas line fittings used in the flats have been found more or good condition during physical inspection.

- The sanitary fittings particularly bathroom (viz. water tap, pan, commode, etc) used in the flats are found in more or less bad condition, where the low quality of sanitary fittings has been used in the flats particularly in the flats A-1 of building NHB-2; flat A-2 of NHB-4; flat B-2 of NHB-6 (Plate 31 & 32); flat A-4 of NHB-16.
- The electric fittings particularly electric wires and switches used in the flats have been reported as low quality by the flat allottees.
- The gas line and related fittings used in the flats have been found in good condition in almost all flats under 1000 sft flat category.

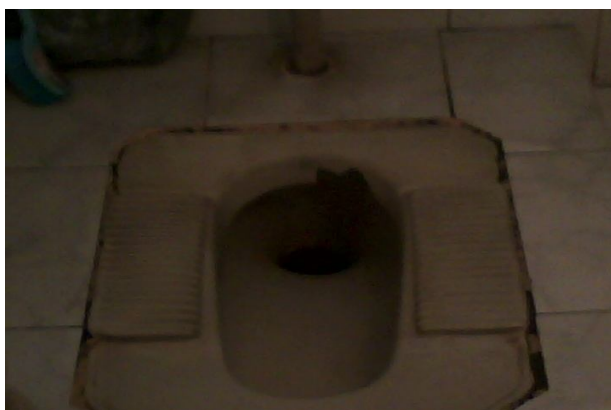


Plate-31: More or less damaged pan in the bath room in the flat B-2 of NHB-6 under 1000 sft flat category



Plate-32: Damaged wall of bath room in the flat B-2 of NHB-6 under 1000 sft flat category

11. Construction of a mosque: The provision of mosque or prayer place was not included in the project. However, a mosque/prayer place has been constructed on the land of the 1000 sft flat area by the flat owner welfare association (Plate-33) by their own cost.

12. Office for flat owner welfare association: The provision of office for flat owner association place was not included in the project. However, an office for flat owner association has been constructed by their own cost on the roof top of the mosque building (Plate-34).



Plate-33: Front view of mosque constructed near the entrance gate of the 1000 sft flat area



Plate-34: Building showing ground floor as mosque & first floor as office of the flat owner welfare association

13. Power station: There is a sub-station (Plate 35) have been established for power supply in the flats under 1000 sft flat category and this power station has been found in good and running condition. There is also a generator (Plate 36) installed in sub-station building for emergency supply of power in the flats and this generator has also been found in good condition.



Plate-35: Sub-station for power supply in 1000 sft flat area



Plate-36: Generator for emergency power supply in the flats under 1000 sft flat category

14. Pump house and water supply line: A water reservoir has been constructed along with one pump for each of the 16 buildings under 1000 sft flat category (Plate-37). All 16 reservoir and 16 water pumps have been found in good and running condition. The water supply lines connected with water tank installed in the roof of all 16 buildings have also been found good condition.

15. Play ground: There is a play ground for children found in good condition in the flat area under 1,000 sft flat category (Plate-38).



Plate-37: Water reservoir and pump of building NHB-16 under 1000 sft flat category

Plate-38: Play ground for the children provided by the NHA in the flat area under 1000 sft flat category

3.1.3.2. Implementation status of construction works under 800 sft and 500 sft flat types

- Total number of buildings constructed under 800 sft and 500 sft flat categories are twenty six (26) and eighteen (18), each of which comprised with 10 flats from first floor to fifth floor have been found similar during physical visit as recorded in RDPP and IMED evaluation report.
- The implementation status of the construction works of 800 sft and 500 sft flat categories found and recorded during physical visit by the expert team is furnished below:

Table-3.5 Observation checklist for component wise implementation status of the construction works of 800 sft and 500 sft flat categories

Name of works/materials	Unit	Quantity Implemented		Present status of construction work	Remarks
		800 sft flat	500 sft flat		
1. Construction works					
a. Plaster of the walls				Plaster of walls of most of the flats are not good in condition	Low quality materials have been used
b. Doors	Nos.	9x260	6x180	Most of the doors have been damaged by cracking, rotting or making holes caused by insect pest	Low quality woods have been used in the doors
c. Windows	Nos.	7x260	4x180	All the windows are made of iron grills and found in good condition	Good quality materials have been used
d. Floors				Plaster of floors of most of the flats are found in more or less good condition, but in many cases found in damaged condition	Low quality materials have been used
e. Stair				Stair of almost all buildings are found in damaged condition	Low quality materials have been used
f. Railing of the stair				Railing of all buildings are made of woods and found in more or less good condition	More or less good quality woods have been found
g. Collapsible gate of	Nos.	260	180	Collapsible gates of all buildings have been found good condition	Good quality materials have

“Impact evaluation study of the construction of 600 flats for selling to limited income group of people on hire purchase basis/for residential accommodation to Govt. employees in Dhaka city (revised)”

Name of works/materials	Unit	Quantity Implemented		Present status of construction work	Remarks
		800 sft flat	500 sft flat		
the building					been used
2.Sanitary works					
a. Long pan	Nos.	2x260	1x180	All 520 long pans used for 260 flats under 800 sft flat category and 180 long pans for 180 flats under 500 sft flat category have been found in good condition	More or less good quality materials have been used
b. Wash hand basin	Nos.	2x260	1x180	All 520 wash hand basin used for 260 flats under 800 sft flat category and 180 wash hand basin for 180 flats under 500 sft flat category have been found in good condition	More or less good quality materials have been used
c. Sink tray	Nos.	1x260	1x180	All 260 sink tray used for 260 flats under 800 sft flat category and 180 sink tray for 180 flats under 500 sft flat category have been found in good condition	More or less good quality materials have been used
3. Electrical fittings and materials	LS	LS	LS	Electrical fittings and materials used in 440 flats under 800 sft and 500 sft flat category have been found in more or less good condition particularly electrical wires can't bear the high load of electricity	Quality of electrical fittings and materials are not up to the mark
4. Construction of roads	m ²			Roads constructed the area under 800 sft and 500 sft flat category have been found in very bad condition	Proper road constructions have not been done
5. Underground water reservoir	Nos.	26	18	All 26 underground water reservoirs constructed for 26 buildings under 800 sft flat category and 18 reservoirs for 18 buildings under 500 sft flat category have been found in good condition	Quality water reservoirs have been constructed
5. Water pump	Nos.	26	18	All 26 water pumps installed for 26 buildings under 800 sft flat category and 18 pumps for 18 buildings under 500 sft flat category have been found in good condition	Quality pumps have been installed
6. Gas line and fittings	M			Gas line with other fittings have been found in good condition	Quality gas line and other fittings have been installed
7. Pucca surface drain	M			All pucca surface drains constructed in both 800 sft and 500 sft flat category have been found in good condition.	Quality drains have been constructed
8. RCC pipe culvert	Nos.	12		All RCC pipe culverts constructed in the area under both 800 sft and 500 sft flat category have been found in more or less good condition.	More or less good quality culverts have been constructed

Remarks:

1. Construction of 800 sft and 500 sft flat buildings: Out of 600 flats, 260 flats having plinth area of 800 sft have been constructed under 800 sft flat category and 180 flats having plinth area of 500 sft have been constructed under 500 sft flat category located in Section-14, Mirpur, Dhaka. Each building of both 800 sft and 500 sft categories is six storied, where ground floor is provided with open space used as garage that has been fenced by collapsible gate (Plate 39) and other five floors from first to fifth have been provided with flats. Thus, each building provided with ten (10) flats. Therefore, altogether 440 flats have been constructed under both 800 sft and 500 sft flat categories.



Plate-39: View of collapsible gates used for fencing the main gate and open space of ground floor of the building NHB-1/1 under 800 sft flat category

2. Boundary wall: No boundary wall is present in the buildings under 800 sft flat category (Plate 40-43). Particularly southern side of these buildings made the area unsecured for flat allottees due to lack of boundary wall and the southern side of the buildings has been occupied by the illegal shops (Plate 42.43) as well as thus the southern drains have been occupied the by garbage (Plate-43).



Plate-40: Southern side of buildings under 800 sft flat lacking boundary wall but occupied by illegal shops

3. Construction of roads: No roads had been constructed by the authority during in 800 sft and 500 sft flat areas (Plate 44-46). Only the approach roads from flat buildings to old roads of BDLG colony have been constructed by the flat owners of the respective buildings, where the old roads of BDLG colony have been found in severely damaged condition. These old roads are now being found either same or depressed below the ground level, which cause water stagnant during rainy season.



Plate-41: Damaged pavement on the road in front of the building NHB-5/2 of 800 sft flat area



Plate-42: Damaged pavement on the road in front of the building NHB-10/2 of 800 sft flat area

4. Construction of drains and culverts: The drains constructed at the bases of each building are found in more or less good conditions (43-47), but drains of almost all buildings are found in filled with garbage which cause regular water stagnant in the drains (Plate 43-45 & 47). The wall bases near the drain of some buildings are also found in damp and damaged condition (Plate 46). The culverts constructed in this area have also been found in more or good condition (Plate 48).



Plate-43: Drain behind the building NHB-6/2 found in filled with garbage in 800 sft flat area



Plate-44: Drain behind the building NHB-3/2 found in filled with garbage in 800 sft flat area



Plate-45: Drain behind the building NHB-3/4 found in filled with garbage in 800 sft flat area



Plate-46: Wall base near the drain of building no. NHB-3/2 found in damp and damaged condition in 800 sft flat area



Plate-47: Drain near the building NHB-10/B-2 of 800 sft flat category found in filled with garbage



Plate-48: Culvert on the road in the 800 sft flat area

5. Stair and railing: The stairs of most of the buildings are found in bad condition, where the plasters of stairs have been damaged (Plate Plate 49-52). In many cases, the damaged stairs have been repaired by the owners of the flats of the respective buildings.

- All the railings of all buildings under 800 sft and 500 sft flat categories are made of wood and most of them have been found in good condition (Plate 53). Some cases the wooden railings have been found in damaged condition (Plate 54).



Plate-49: Plaster of stairs of the building NHB-5/2 showing damaged condition



Plate-50: Plaster of stairs of the building NHB-5/1 showing severely damaged condition



Plate-51: Plaster of stairs of the building NHB-6/2 showing damaged condition



Plate-52: Plaster of stairs of the building NHB-15/5 showing damaged condition



Plate-53: Railing of the building NHB-1/1 showing good condition



Plate-54: Railing of building NHB-5/1 showing damaged condition under 800 sft flat type

6. Civil works of the flats: The plasters of walls and floors of the most of the flats have not been constructed with quality materials, where the plasters of walls have been found in damaged condition in most of the flats particularly (Plate 55-64) in flats B-2 of building NHB-1/1; flat A-2, B-1 of building NHB-3/2; flat A-1, B-1 of building NHB-5/1; flat A-2 of building NHB-5/2; flat B-2 of building NHB-6/2; flat B-1 of building NHB-10/B-2 under 800 sft flat category.

- Similarly, damaged plaster of walls of the flats have been found in flat A-4, A-5 of building NHB-13/3; flat A-1 of building NHB-15/4; flats A-1, A-3, B-3 of building NHB-15/5 under 500 sft flat category.
- Some cases the damaged plasters have been removed and repaired using new materials (Plate 65) by the owners of the respective flats such as the flat A-2 of building NHB-3/1 under 800 sft flat category; flat A-3 of building NHB-15/5 under 500 sft flat category.
- Some flat owners have replaced the damaged plasters of walls and floors using ceramic tiles by their own cost particularly in flat A-1 of building NHB-3/2 (Plate 66).



Plate-55: Damage plaster of bed room wall in the flat B-2 of building no. NHB-1/1 of 800 sft flat



Plate-56: Damaged wall of bathroom in the flat B-1 of building NHB-3/2 of 800 sft flat



Plate-57: Damaged plaster of bathroom in the flat A-2 of building NHB-5/2 of 800 sft flat



Plate-58: Damaged plaster of bathroom wall in the flat B-2 of building NHB-6/2 of 800 sft flat



Plate-59: Damaged wall of bed room in the flat A-1 of building no. NHB-5/1 of 800 sft flat



Plate-60: Damaged wall of bathroom in the flat B-1 of building NHB-10/B-2 of 800 sft flat



Plate-61: Damaged wall of dining room in the flat A-5 of building NHB-13/3 of 500 sft flat



Plate-62: Damaged wall of bathroom in the flat A-1 of building no. NHB-15/4 of 500 sft flat type



Plate-63: Damaged wall of bed room in the flat A-1 of building NHB-15/5 of 500 sft flat type



Plate-64: Damaged wall of dining room in the flat A-4 of building NHB-13/3 of 500 sft flat type



Plate-65: Repaired plaster of wall of dining room in the flat A-2 of building NHB-3/1 of 800 sft flat



Plate-66: Damaged plaster of bed room wall in the flat A-1 of building NHB-3/2 of 800 sft flat

7. Status of doors and windows: The doors of the flats under 1000 sft flat category have been made of wood. The doors of these flats are found in more or less good condition.

- In some cases these wooden main doors, bed room doors, bath room doors have been damaged by cracked and rotten (Plate 69-70), because of the low quality woods used in these doors.
- In many cases, the wooden main doors, bed room doors and bath room doors have been severely damaged by making holes due to wood boring beetle (an insect) infestation particularly found in the flats B-2 & B-3 of building NHB-1/1 (Plate 67-68); flat A-1 of building NHB-3/3 (Plate 71); flat B-2 of building NHB-6/2 (Plate 72); flat B-1 of building 5/1 (Plate 73); flat A-1 of building 5/1 (Plate 74) under 800 sft flat category. Besides these, doors in these, the flat A-3, B-3 of building 15/4 (Plate 75 & 76) under 500 sft flat category also found in damaged conditions caused by wood boring beetle (an insect) infestation.
- The windows used in the flats are made of iron grill and these windows have been found in good condition in almost all flats under 800 sft and 500 sft flat category.



Plate-67: Severely damaged main door showing holes caused by wood boring beetle (insect) in the flat B-2 of building NHB-1/1 of 800 sft flat



Plate-68: Damaged wooden main door showing holes caused by wood boring beetle (insect) in the flat B-3 of building NHB-1/1 of 800 sft flat type



Plate-69: Cracked wooden door in the flat B-1 of building NHB-3/2 of 800 sft flat type



Plate-70: Damaged wooden door of bathroom in the flat B-1 of building NHB-3/2 of 800 sft flat



Plate-71: Damaged wooden door of bed room in the flat A-1 of building NHB-3/3 of 800 sft flat



Plate-72: Damaged wooden door of bed room in the flat B-2 of building NHB-6/2 of 800 sft flat



Plate-73: Damaged wooden door of bed room in the flat B-1 of building NHB-5/1 of 800 sft flat



Plate-74: Cracked door in the flat A-1 of building NHB-5/1 under 800 sft flat category



Plate-75: Damaged wall of bed room in the flat A-3 of building NHB-15/4 of 500 sft flat category



Plate-76: Damaged wooden door of bed room in the flat B-3 of building NHB-15/4 of 500 sft flat

8. Utility fittings: The utility fittings such as sanitary, gas and electrical line etc used in the flats have been found in more or less good conditions and these are presented below:

- The sanitary fittings viz. water tap, basin, sink, pan etc particularly the bathroom, kitchen room, dining room etc used in the flats are found in more or less good condition.
- The gas line and related fittings used in the flats have been found in good condition in almost all flats under 800 sft and 500 sft flat categories.
- The electric fittings particularly electric **wires** and switches used in the flats have been reported as low quality by the flat allottees.

9. Office for flat owner welfare association: No office has been constructed or allotted for flat owner welfare association under 800 sft and 500 sft flat categories. The flat owner associations in the flat areas usually use the open space of ground floor of the building for their official activities (Plate 77 &78).



Plate-77: Office of the flat owner welfare association in the building NHB-13/3 for 500 sft flat category



Plate-78: FGD of the evaluation study conducted in the office for 500 sft flat association at NHB-13/3

10. Pump house and water supply line: A water reservoir has been constructed along with one pump for each of the 28 buildings under 800 sft flat category and 18 buildings under 500 sft flat category. All 44 reservoirs and 44 water pumps have been found in good and running condition (Plate 79 & 80).



Plate-79: Water reservoir and pump of the building NHB-1/1 under 800 sft flat category



Plate-80: Water reservoir and pump of the building NHB-15/4 under 800 sft flat category

3.2. Findings of the survey from project target group

The impacts of the construction works on the major expected output- especially with respect to professions, economic status of allottees, economic benefit of the project activities, quality of construction works, repair and maintenance of the works, utility services, social cooperation, security of life, improvement of livelihood of the flat allottees, social facilities, social integrity among the inmates of the flats, management system of the authority, sustainability of project activities and suggestions for improved management for future planning of the similar projects have been studied and evaluated by the collection of information from the respondents comprised with respondents of program group (beneficiaries) and control group through same pre-tested questionnaire and through the Focus Group Discussion (FGD). The evaluated findings are given below:

3.2.1 Gender wise allotment of the flat

The results depicted in Table 3.4, out of 600 flat allottees, 447 males (74.5%) and 153 (25.5%) females have been allotted with the flats. Considering the control group respondents, out of 300 respondents, 203 males (67.7%) and 97 females (32.3%) have been interviewed during the

evaluation study. From this information it is revealed that for both program group and control group higher percentages of males have been considered and more than 25% females have been considered.

Table 3.6 Gender of the respondents

Gender	Beneficiary group		Control group	
	Number (N=600)	Proportion (%)	Number (N=300)	Proportion (%)
Male	447	74.5	203	67.7
Female	153	25.5	97	32.3
Total	600	100	300	100

3.2.2 Marital status of flat allottees/respondents

Out of 600 flat allottees, most (571) of the allottees (95.2%) are married, whereas only 10 (1.7%) unmarried, 15 (2.5%) widow and 4 (0.7%) widower have been allotted with the flats. Conversely, out of 300 respondents, 287 (95.7%) married, only 8 (2.7%) unmarried, 4 (1.3%) widow, and only 1 (0.3%) married but separated respondents have been interviewed by the random selection under the evaluation study. From this information it is revealed that for program group higher percentage (95.2%) of allottees and control group respondents (95.7%) are married.

Table 3.7 Marital status of the respondents

Marital status	Program Group		Control Group	
	Number (N=600)	Proportion (%)	Number (N=300)	Proportion (%)
Married	571	95.2	287	95.7
Unmarried	10	1.7	8	2.7
Widow	15	2.5	4	1.3
Widower	4	0.7	0	0.0
Married but separated	0.0	0.0	1	0.3
Total	600	100	300	100

3.2.3 Religious status of the respondents

In case of program group respondents, out of 600 flat allottees, most (573) of the Muslim allottees (95.5%), 26 Hindus (4.3%) and only 1 Christian (0.2%) have been allotted with the flats and they have been interviewed. Conversely, out of 300 respondents in control group, 291 (97.0%) Muslim and only 9 (3.0%) Hindu have been interviewed randomly under the study.

Table 3.8 Religious status of the respondents

Religion	Program group		Control group	
	Number (N=600)	Proportion (%)	Number (N=300)	Proportion (%)
Muslim	573	95.5	291	97.0
Hindu	26	4.3	9	3.0
Christian	1	0.2	0	0.0
Buddhist	0	0.0	0	0.0
Others	0	0.0	0	0.0
Total	600	100	300	100

3.2.4 Types of ownership and living in the flats

In case of program group respondents, out of 600 flat allottees, 454 allottees (75.7%) owned the flats by hire-purchase basis, 102 (17.0%) owned by transfer, 6 (1.0%) owned by donation and 38 (6.3%) residents are living in the flats as rental basis. Conversely, out of 300 respondents in control group, all of them (100%) are living in the flats as rental basis. All the flats under category owner by transfer and owner by donation had been transferred considering the transparent way, where the proper administrative order had been collected before the transfer of the flats.

Table 3.9 Response on the reference for living in the flats

Living status	Program group		Control group	
	Number (N=600)	Proportion (%)	Number (N=300)	Proportion (%)
1. Owner by hire-purchase	454	75.7	-	-
2. Owner by transfer	102	17.0	-	-
3. Owner by donation	6	1.0	-	-
4. Rental	38	6.3	300	100.0
Total	600	100	300	100

3.2.5 Professional category for flat allotment/residents

In case of program group, out of 600 flat allottees, majority (245) of the allottees (40.8%) are government employee, 151 (25.4%) private employee, 134 (22.4%) businessmen, 38 (6.3%) housewife, 8 (1.3%) engineer, 7 (1.2%) lawyer, 7 (1.2%) doctor, only 4 (0.7%) non-residents and 6 (1.0%) are other professionals but did not mention their professions. Conversely, out of 300 respondents in control group, 16 (5.3%) are government employee, 78 (26.0%) private employee, 72 (24.0%) businessmen, 2 (0.7%) non-residents and 132 (44.0%) are other professionals but did not mention their professions.

Table 3.10 Response on the professional category for flat allotment/residents

Allotment category	Program group		Control group	
	Number (N=600)	Proportion (%)	Number (N=300)	Proportion (%)
Govt. employee	245	40.8	16	5.3
Private employee	151	25.2	78	26.0
Businessmen	134	22.4	72	24.0
Non-residents	4	0.7	2	0.7
Lawyer	7	1.2	-	-
Doctor	7	1.2	-	-
Engineer	8	1.3	-	-
House wife	38	6.3	-	-
Other profession	6	1.0	132	44.0
Total	600	100	300	100

3.2.6 Ownership of another land, house or flat in Dhaka city

For both program group respondents (600) and control group respondents (300), all (100%) respondents mentioned they have no another land or house of any flat in Dhaka city.

From this information it is revealed that all (600) flats have been allotted to the people who have no any permanent address in Dhaka city.

Table 3.11 Response on the ownership of another land, house or flat in Dhaka city

Ownership	Program group		Control group	
	Number (N=600)	Proportion (%)	Number (N=300)	Proportion (%)
Yes	0	0.0	0	0.0
No	600	100.0	300	100.0
Total	600	100	300	100

3.2.7 Salary scale of the government employees during flat allotment

According to the opinion by the flat allottees, out of 250 government employee, the highest number (43) of allottees (17.2%) under national scale grade 4, 40 (16.0%) under grade 3, 36 (14.4%) under grade 5, 35 (14.0%) under grade 2, 26 (10.4%) under grade 1, 19 (7.6%) under grade 6, 10 (4.0%) under both grades 8 & 10, 7 (2.8%) under grade 7, 5 (2.0%) under both grades 9 & 11, 4 (1.6%) under grade 20, 3 (1.2%) under grade 13 & 16, 2 (0.8%) under grade 12 and 1 allottee (0.4%) under both grades 15 & 18 (Figure 2). Here, Grade 1 government employee is not the people of low or middle income group, which is controversy with the main concept of the project.

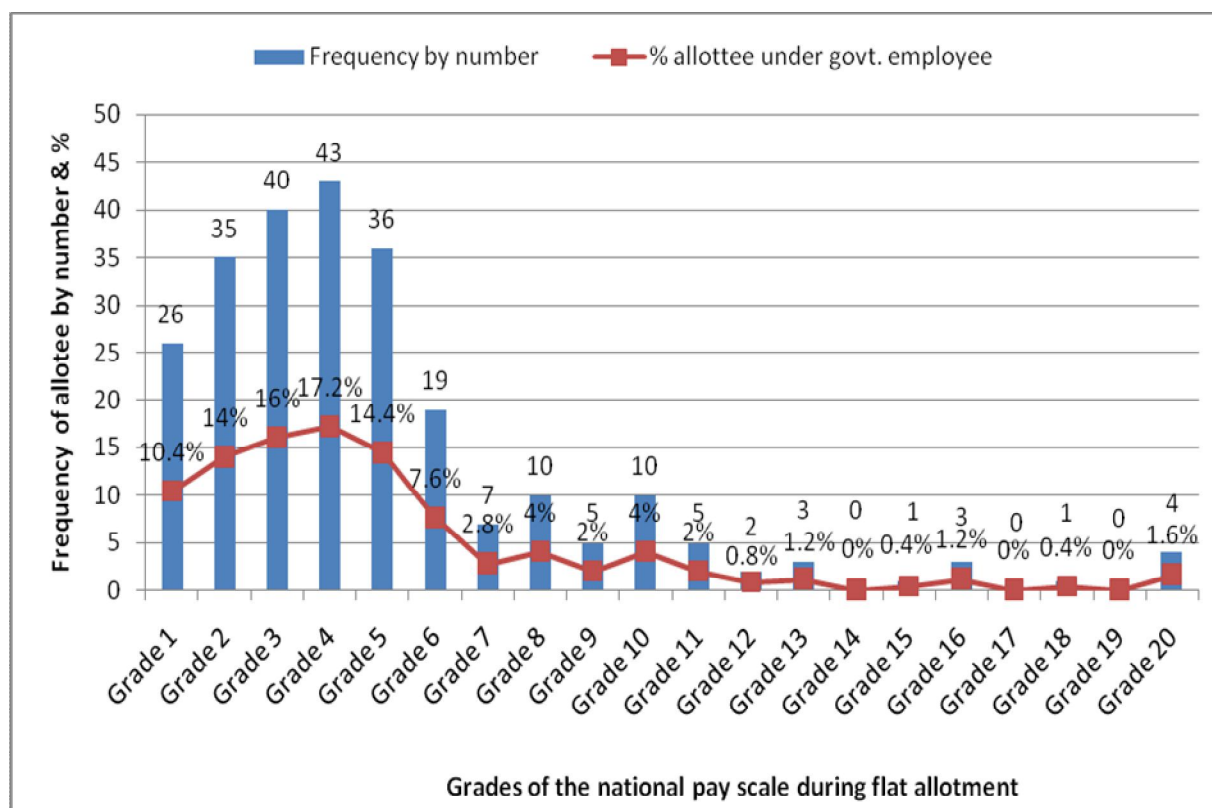


Figure-2: Distribution trend of salary scales for government employees among the flat allottees during allotment

3.2.8 (a) Monthly income of allottees other than govt. employee during flat allotment

Out of 350 flat allottees, the highest number (124) of allottees (35.43%) had earned 15001 to 20,000 taka monthly and more than 20,000 taka monthly for both cases, 79 (22.57%) allottees earned 10,001 to 15000 taka monthly, 21 (6.0%) allottees earned 5001 to 10,000 taka monthly and only 2 allottees (0.57%) had earned less 5,000 taka monthly during the allotment of the flats (Table 3.2.8).

From the above findings it is revealed that out of 350, majority (248) of the flat allottees (70.86%) had earned more than 15,000 Tk. monthly during the allotment of the flats.

Table 3.12 Response on the monthly income of the allottees other than government employee during the allotment of flats

Monthly income (Tk.)	Program Group [N=350]	
	Number (N=600)	Proportion (%)
Less than 5000	2	0.57
5001-10000	21	6.00
10001-15000	79	22.57
15001-20000	124	35.43
More than 20000	124	35.43
Total	350	100

3.2.8 (b) Monthly income of respondents other than govt. employee for control group

In case of control group respondents other than government employee, out of 284 respondents, majority (165) of respondents (58.10%) are earning 10001 to 15,000 Tk. monthly, 60 (21.13%) earning 5001 to 10,000 Tk. monthly, 39 (13.73%) earning 15001 to 20,000 Tk. monthly, and 10 (3.52%) earning both less than 5000 Tk. and more than 20,000 Tk. monthly (Figure-3).

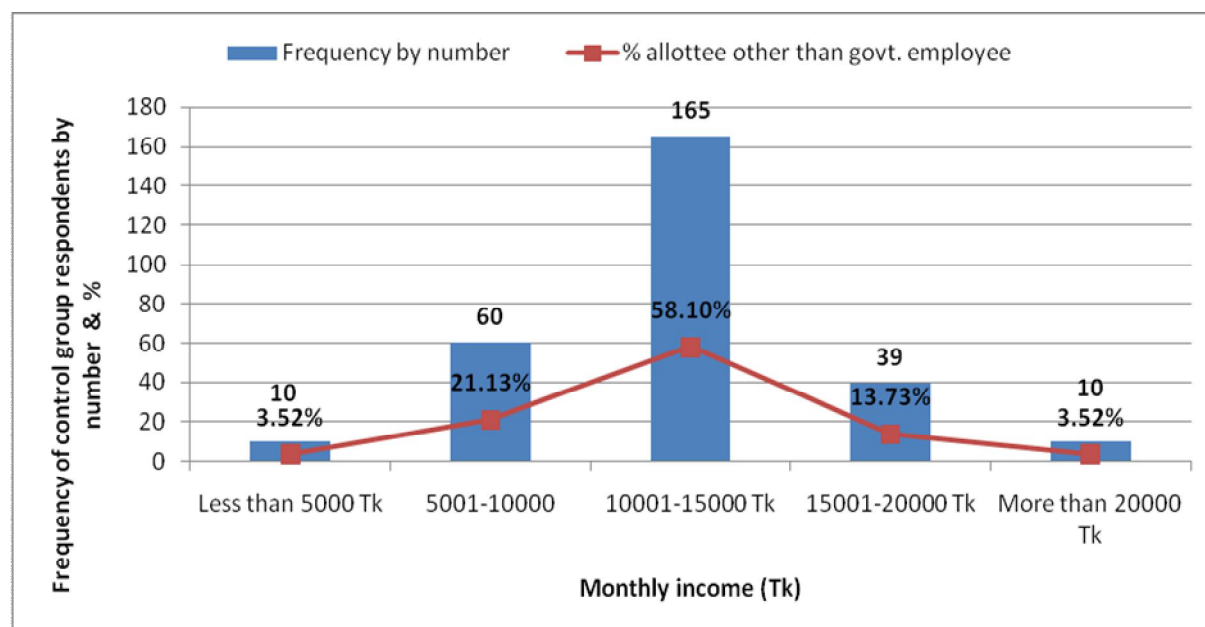


Figure-3: Monthly income of the respondents other than govt. employee under control group

3.2.9 Economic benefit by the purchase of the flats

Out of 600 flat allottees, most (578) of the allottees (96.4%) expressed their opinion that they have been benefited by the allotment of the flats, where only 22 (3.7%) allottees said that they have not been benefited by the flat allotment.

Table 3.13 Response on the economic benefit by the purchase of the flats

Types of response	Program group	
	Number (N=600)	Response (%)
Yes	578	96.4
No	22	3.7
Total	600	100

3.2.10 Economic analysis for benefit cost ratio by the flats

According to the opinion by the flat allottees, the highest current price (4000 Tk) per sft of the flat has been mentioned for 1000 sft category flat, 2,802.27 Tk. per sft for 800 sft category and lowest price (2301.03 Tk.) for 500 sft category flat, whereas mean current price (2,695.31 Tk) has been mentioned per sft flat (a).

As per DPP, the average price per sft flat was 1,103.03 Tk. (b). According to the flat selling prospectus, the interest on initial price was fixed at the rate of 13%. The flat allottees have been allotted with flats in 2009. Meanwhile, four (4) years have been passed. Thus, the average actual current price or cost per sft flat including 13% interest for 4 years is 1,676.61 Tk. (c). Therefore, net benefits (d) have been determined by subtracting the actual current price (c) from market price (a) mentioned by the flat allottees during survey. Accordingly, the calculated highest net benefit for 1000 sft flat is 2323.39 Tk. per sft, 1,125.66 Tk. for 800 sft flat and the lowest net benefit 624.78 Tk. per sft has been calculated for 500 sft flat category, whereas the mean net benefit per sft is 1,018.70 Tk.

Considering all kinds of unit prices (a, b & c) and net benefit (d) per sft flat, the benefit cost ratio (e) has been calculated through dividing the net benefit by the actual current price or cost of unit price. Thus, the highest benefit cost ratio (1.39) has been achieved by the 1000 sft flat category, 0.67 benefit cost ratio achieved by the 800 sft flat category and the lowest benefit cost ratio (0.31) has been achieved by the 500 sft flat category, whereas mean benefit cost ratio is 0.61.

Table 3.14 Economic analysis for benefit cost ratio achieved by the flats

Flat category	Average unit price (Tk./sft) of the flat				Benefit cost ratio
	Current price mentioned by the allottee during survey	Price during allotment as mentioned in RDPP*	Actual current price or cost including interest (@13%** on ‘b’ for 4 years from 2009 to 2013)	Net benefit (Tk/sft)	
	A	B	c	d=(a-c)	
1000 sft flat	4000.00	1103.03	1676.61	2323.39	1.39
800 sft flat	2802.27	1103.03	1676.61	1125.66	0.67
500 sft flat	2301.39	1103.03	1676.61	624.78	0.37
Mean	2695.31	1103.03	1676.61	1018.70	0.61

* RDPP, August 2005, Prepared by Planning & Design Division, NHA, Segunbagicha, Dhaka

** Prospectus and Application Form for allotment and selling having plinth area of 1000 sft, 800 sft and 500 sft flat at Mirpur housing estate of Dhaka under NHA, Ministry of Housing and Public Works

3.2.11 Mode of the payment for the flats

According to the opinion by the flat allottees, out of 600 allottees, majority (276) of the allottees (46.0%) are paying their installments for 25 years, 123 (20.5%) for 20 years, 110 (18.3%) for 15 years, 34 (5.7%) for 10 years, 24 (4.0%) allottees are paying their installments for 5 years and 33 (5.5%) beneficiaries have been paid their payment at a once.

Table 3.15 Response on the mode of the payment for the flats

Sl. No.	Mode of payment	Program Group	
		Number (N=600)	Response (%)
1	5 years installment	24	4.0
2	10 years installment	34	5.7
3	15 years installment	110	18.3
4	20 years installment	123	20.5
5	25 years installment	276	46.0
6	Payment at a once	33	5.5
Total		600	100

3.2.12 Quality of construction materials used in the flats

Out of 600 flat allottees, the highest number (226) of allottees (37.7%) have expressed their opinion that the construction materials used in the allotted flats are bad, 223 (37.2%) said more or less good, 113 (18.8%) said good, 34 (5.7%) said very bad and only 4 (0.7%) beneficiaries expressed that the construction materials used in the flats are very good.

Table 3.16 Response on the quality of the construction materials used in the flats

Sl. No.	Quality status	Program Group	
		Number (N=600)	Response (%)
1	Very good	4	0.7
2	Good	113	18.8
3	More or less good	223	37.2
4	Bad	226	37.7
5	Very bad	34	5.7
Total		600	100

3.2.13 Quality status of sanitary fittings used in the flats

Out of 600 flat allottees, the highest number (231) of allottees (38.5%) have expressed their opinion that the sanitary fittings used in the allotted flats are more or less good, 157 (26.2%) said bad, 121 (20.2%) said good, 86 (14.3%) said very bad and only 5 (0.8%) beneficiaries expressed that the sanitary fittings used in the flats are very good.

Table 3.17 Response on the quality of the sanitary fittings used in the flats

Sl. No.	Quality status	Program group	
		Number (N=600)	Response (%)
1	Very good	5	0.8
2	Good	121	20.2
3	More or less good	231	38.5
4	Bad	157	26.2
5	Very bad	86	14.3
Total		600	100

3.2.14 Construction of necessary roads and drains in the flat areas

Out of 600 flat allottees, the majority (401) of allottees (66.8%) expressed their opinion that the necessary roads and drains have been constructed in the flat areas, whereas 199 (33.2%) allottees said that roads and drains were not constructed as necessary in the flat areas.

Table 3.18 Response on the construction of necessary roads and drains in the flat areas

Sl. No.	Type of response	Program group	
		Number (N=600)	Response (%)
1	Yes	401	66.8
2	No	199	33.2
Total		600	100

3.2.15 Quality status of roads and drains constructed in the flat areas

Out of 600 flat allottees, the highest number (234) of allottees (39.0%) have expressed their opinion that the roads and drains constructed in the flat areas are bad, 229 (38.2%) said more or less good, 97 (17.3%) said good, 31 (5.2%) said very bad and only 9 (1.5%) beneficiaries expressed that the roads and drains constructed in the flat areas are very good.

Table 3.19 Response on the quality of the roads and drains constructed in the flat areas

Sl. No.	Quality status	Program group	
		Number (N=600)	Response (%)
1	Very good	9	1.5
2	Good	97	17.3
3	More or less good	229	38.2
4	Bad	234	39.0
5	Very bad	31	5.2
Total		600	100

3.2.16 Present condition of the constructed roads in the flat areas

Out of 600 flat allottees, maximum 197 beneficiaries (32.8%) expressed that the some roads have been broken in the flat areas, 147 (24.5%) expressed regular water stagnant during rains, 104 (17.3%) said all roads are suitable for use by the allottees, 88 (14.7%) said that the roads have not been constructed properly, 51 (8.5%) said that the constructed roads lower than the ground level as needed, 13 (2.2%) expressed their opinion that some roads in the flat areas have been occupied by the unauthorized constructions.

Table-3.20 Response on the present condition of the constructed roads in the flat areas

Sl. No.	Condition of the roads and drains	Program group	
		Number (N=600)	Response (%)
1	All roads are suitable for use	104	17.3
2	Some roads are broken	197	32.8
3	Water stagnant during rains	147	24.5
4	Not constructed properly	88	14.7
5	Lower than ground level as needed	51	8.5
6	Some roads are occupied by illegal construction	13	2.2
8	Other reasons	-	-
Total		600	100

3.2.17 Quality status of electricity supply line and fittings used in the flats

Out of 600 flat allottees, the maximum number (301) of allottees (50.2%) have expressed their opinion that the quality of electricity supply line and fittings used in the flats are more or less good, 208 (34.7%) are said good, 72 (12.0%) said bad, 14 (2.3%) said very good and only 5 (0.8%) beneficiaries expressed that the quality of electricity supply line and fittings used in the flats are very bad.

Table-3.21 Response on the quality of electricity supply line and fittings used in the flats

Sl. No.	Quality status	Program group	
		Number (N=600)	Response (%)
1	Very good	14	2.3
2	Good	208	34.7
3	More or less good	301	50.2
4	Bad	72	12.0
5	Very bad	5	0.8
Total		600	100

3.2.18 Quality status of gas supply line and fittings used in the flats

Out of 600 flat allottees, the majority (359) of allottees (59.8%) have expressed their opinion that the quality of gas supply line and fittings used in the flats are good, 207 (34.5%) are said more or less good, 23 (3.8%) said bad, and only 11 (1.8%) beneficiaries expressed that the quality of gas supply line and fittings used in the flats are very good.

Table-3.22 Response on the quality of gas supply line and fittings used in the flats

Sl. No.	Quality status	Program group	
		Number (N=600)	Response (%)
1	Very good	11	1.8
2	Good	359	59.8
3	More or less good	207	34.5
4	Bad	23	3.8
5	Very bad	0.0	0.0
Total		600	100

3.2.19 Quality status of water supply line and fittings used in the flats

Out of 600 flat allottees, the maximum (284) allottees (47.3%) have expressed their opinion that the quality of water supply line and fittings used in the flats are good, 277 (46.2%) are said more or less good, 30 (5.0%) said bad, and only 9 (1.5%) beneficiaries expressed that the quality status of water supply line and fittings used in the flats are very good.

Table- 3.23 Response on the quality status of water supply line and fittings used in the flats

Sl. No.	Quality status	Program group	
		Number (N)	Response (%)
1	Very good	9	1.5
2	Good	284	47.3
3	More or less good	277	46.2
4	Bad	30	5.0
5	Very bad	0	0.0
Total		600	100

3.2.20 Quality of supplied water in the flat areas

Out of 600 flat allottees, the majority (442) of the allottees (73.7%) have expressed their opinion that the quality of supplied water in the flat areas are very good for drinking and use, 134 (22.3%) have said that the supplied water are not suitable for drinking and only 14 (4.0%) beneficiaries expressed their opinion that the supplied water in the flat areas are not suitable for use.

Table-3.24 Response on the quality of supplied water in the flat areas

Sl. No.	Quality status	Program group	
		Number (N)	Response (%)
1	Very good for drinking and use	442	73.7
2	Not suitable for drinking	134	22.3
3	Not suitable for use	24	4.0
Total		600	100

3.2.21 Status of utility services in the flat areas

Out of 600 flat allottees, the highest number (287) of allottees (47.9%) have expressed their opinion that the status of electricity, gas and water supply services in the flat area are good, 271 (45.2%) have said that the services are more or less good, 27 (4.5%) said bad, 15 (2.5%) beneficiaries have expressed very good and very bad for both cases.

Table- 3.25 Response on the status of the electricity, gas and water supply services in the flat area

Sl. No.	Quality status	Program group	
		Number (N=600)	Response (%)
1	Very good	15	2.5
2	Good	287	47.9
3	More or less good	271	45.2
4	Bad	27	4.5
5	Very bad	15	2.5
Total		600	100

3.2.22 Operation and maintenance for flats and flat areas

In case of program group response, out of 600 allottee, majority (381) of them (63.5%) expressed their opinion that the services for operation and maintenance of flats and flat areas have been procured by their own cost, 128 (21.3%) allottees provided by flat owner association, 66 (11.0%) expressed that no organization provide this service and 25 (4.2%) allottees said that concerned organization/authority provide the operation and maintenance related services for flats and flat areas. Conversely, according to the control group response, out of 300 respondents, majority (216) of them (72.0%) expressed their opinion that concerned organization/authority provide the operation and maintenance related services for flats and flat areas, 73 (24.3%) respondents expressed that services for operation and maintenance of flats and flat areas have been procured by their own cost, and only 11 (3.7%) respondents said that no organization/authority provide the operation and maintenance related services for flats and flat areas.

Table-3.26 Service provider for operation and maintenance of the flats and flat areas, if needed

Sl. No.	Service provider	Program group		Control group	
		Number (N=600)	Response (%)	Number (N=300)	Response (%)
1	Concerned service providing organization/authority	25	4.2	216	72.0
2	No organization provides services	66	11.0	11	3.7
3	Services procured by own cost	381	63.5	73	24.3
4	Flat owner association	128	21.3	-	-
5	Others	-	-	-	-
Total		600	100	300	100

3.2.23 Existence of flat owner welfare association in the residential area

In case of program group respondents, most (569) of flat allottees (94.8%) have expressed their opinion that the flat owner welfare association is present in their flat areas, whereas only 31 (5.2%) flat allottees expressed that there is no flat owner welfare association in the flat areas. Conversely, in case of control group, all (300) the respondents (100%) have expressed their opinion that there is no flat owner welfare association in their residential areas.

Table-3.27 Response on the existence of flat owner welfare association

Sl. No.	Type of response	Program group		Control group	
		Number (N=600)	Response (%)	Number (N=300)	Response (%)
1	Yes	569	94.8	0	0.0
2	No	31	5.2	300	100.0
Total		600	100	300	100.0

3.2.24 Role of flat owner welfare association in the flat areas

Out of 569 flat allottees, the majority (80.14%) of the beneficiaries have expressed their opinion that flat owner welfare association play role about security related tasks in the flat areas, 400 (70.30%) said about sanitation works, 370 (65.03%) said association play role about disciplinary activities, 366 (64.32%) said about the solution of nuisance related problem, 197 (34.62%) expressed about repair and maintenance of roads and drains, 88 (15.47%) said about cooperation in social program and only 4 (0.70%) allottees expressed that the association play other roles but they did not mention.

Table 3.28 Response on the role of flat owner welfare association in the flat areas

Sl. No.	Role of welfare association	Program group	
		Number (N=569)	Response (%)
1	Security related tasks	456	80.14
2	Sanitation works	400	70.30
3	Nuisance related problem solution	366	64.32
4	Disciplinary activities	370	65.03
5	Repair and maintenance of roads and drains	197	34.62
6	Cooperation in social program	88	15.47
5	Others	4	0.70
Multiple response			

Multiple response = Each respondent expressed his opinion on more than one issue during interview

3.2.25 (a) Current status of overall security of life in the flat areas

Out of 600 flat allottees, the maximum (327) allottees (54.4%) have expressed their opinion that the current status of overall security of life in the flat areas is more or less good, whereas 130 (21.7%) allottees said the security status is risky in the flat areas, 113 (18.9%) said that the security status is not good, and only 30 (5.0%) expressed that the current security status in the flat areas is very good.

Table 3.29 Response on the current status of social security in the flat areas

Security status	Program Group Response							
	Overall response		1000 sft flat area		800 sft flat area		500 sft flat area	
	Number (N=600)	Response (%)	Number (N=160)	Response (%)	Number (N=280)	Response (%)	Number (N=180)	Response (%)
Very good	30	5.0	28	17.5	2	0.8	0	0.0
More or less good	327	54.4	124	77.5	166	63.8	37	20.6
Not good	113	18.9	8	5.0	32	12.3	73	40.5
Risky	130	21.7	0	0.0	60	23.1	70	38.9
Total	600	100.0	160	100.0	260	100.0	180	100.0

3.2.25(b) Comparative status of security of life in three categories of flat areas

In case of 1000 sft flat areas, out of 160 flat allottees, majority (77.5%) of the expressed that the security status is more or less good followed by very good (17.5%), whereas in 800 sft flat area, out of 260 flat allottees majority (63.8%) of them said that the security status is also more or less good followed by risky (23.1%). On the other hand, in case of 500 sft area, out of 180 allottees, maximum 40.5% allottees expressed that the security status is not good at all followed by risky (38.9%) in the flat areas (Figure 3).

From the above findings it is revealed that the security status in 1000 sft flat area is more or less good and very good, but the security status in 800 sft area it is more or less good and risky, whereas in 500 sft area security status is not good and risky.

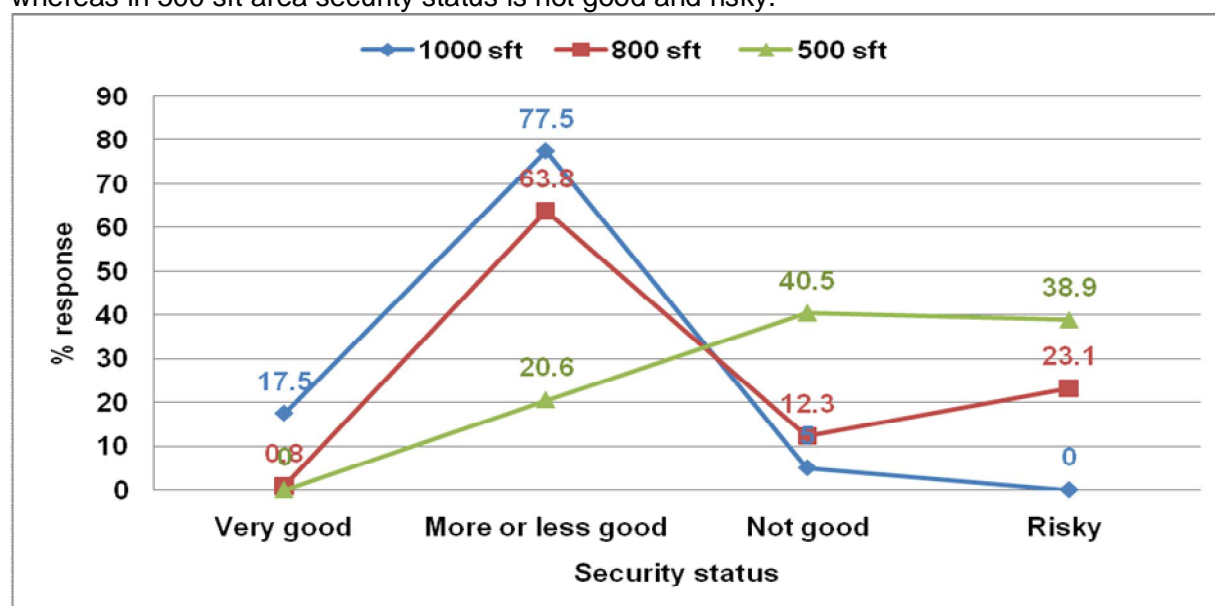


Figure-4: Comparative status of security of life in 1000 sft, 800 sft and 500 sft flat areas

3.2.26 Security provider in the flat areas

In case of program group, out 600 flat allottees, maximum (327) of them (54.5%) expressed that the security services in the flat areas have been provided by flat owner association, 249 (41.5%) expressed their opinion that there is no any security services in the flat areas, whereas only 24 (4.0%) expressed that the security services have been provided in the flat areas by the concerned security forces.

Conversely, in case of control group, out of 300 respondents, majority (261) of them (87.0%) expressed their opinion the there is no security services in their residential areas, whereas rest 39 (13.0%) respondents expressed that security services have been provided in their residential areas by the concerned security forces.

Table 3.30 Response on the security provider in the flat areas

Sl. No.	Security service provider	Program group		Control group	
		Number (N=600)	Response (%)	Number (N=300)	Response (%)
1	Concerned security force	24	4.0	39	13.0
2	Flat owner association	327	54.5	0	0.0
3	No security service	249	41.5	261	87.0
Total		600	100	300	100

3.2.27 Present condition of the boundary wall for security in the flat areas

Out of 600 flat allottees, majority (419) of them (69.83%) expressed their opinion that the boundary wall in the flat area is not present, whereas 160 (26.67%) allottees said that boundary wall in the flat area is present and only 21 (3.50%) allottees expressed their opinion that the boundary wall in the flat area is inadequate.

In case of comparative status of boundary wall, in case of 1000 sft area, out of 160 allottees, all (160) of them (100%) expressed that the boundary wall present in their flat area; in case of 800 sft flat area out of 260 flat allottees, most (246) of them (94.6%) said that no boundary wall is present in their flat area and only 14 (5.4%) allottees expressed that the boundary wall is inadequate. On the other hand, in case of 500 sft area, out of 180 allottees, most (173) of them (96.1%) said that there is no boundary in their flat area and 7 (3.9%) allottees expressed their opinion that the boundary wall is inadequate in their flat area.

Table-3.31 Present condition of boundary wall for security in the flat areas

Status of boundary wall	Program group response							
	Overall condition		1000 sft flat area		800 sft flat area		500 sft flat area	
	Number (N=600)	Response (%)	Number (N=160)	Response (%)	Number (N=280)	Response (%)	Number (N=180)	Response (%)
Boundary wall present	160	26.67	160	100.0	0	0.0	0	0.0
Inadequate boundary wall	21	3.50	0	0.0	14	5.4	7	3.9
No boundary wall	419	69.83	0	0.0	246	94.6	173	96.1
Total	600	100	160	100.0	260	100.0	180	100.0

3.2.28 Problem faced without flat allotment

In case of program group, out of 600 flat allottees, all allottees had faced several problems without flat allotment. Among them most (539) of the allottees (89.8%) expressed their opinion that they had expensed excess house rent without allotment of the flat, 509 (84.8%) allottees said that they had no permanent address in Dhaka city, 462 (77.0%) said that they faced social disgracefulness, 348 (58.0%) faced unsecured social environment, 238 (39.7%) faced communication problem, whereas only 26 (4.3%) faced other problem without flat allotment, but they did not mention.

More or less similar trend of problem also are being faced by the control group without flat allotment. Out of 300 control group respondents, most (295) of the respondents (95.0%) expressed their opinion that they are expensing excess house rent without allotment of the flat, 260 (86.67%) respondents said that they have no permanent address in Dhaka city, 150 (50.33%) said that they are facing social disgracefulness, 135 (45.00%) facing unsecured social environment, whereas only 2 (0.67%) are facing communication problem without flat allotment.

Table-3.32 Response on the problem faced without flat allotment

Sl. No.	Problem faced	Program group		Control group	
		Number (N=600)	Response (%)	Number (N=300)	Response (%)
1	No permanent address in Dhaka city	509	84.8	260	86.67
2	Expense of excess house rent	539	89.8	285	95.00
3	Social disgracefulness	462	77.0	151	50.33
4	Unsecured social environment	348	58.0	135	45.00
5	Communication problem	238	39.7	2	0.67
6	Others	26	4.3	0	0.00
Multiple response					

Multiple response = Each respondent expressed his opinion on more than one issue during interview

3.2.29 Change in improvement of livelihood of the beneficiaries

In case of program group, out of 600 flat allottees, most (598) of them (99.7%) allottees expressed that their livelihood had been improved or changed because of the flat allotment, whereas only 2 (0.3%) said that their livelihood had not been changed or improved by the allotment of flats.

More or less similar trend of responses have been found by the control group respondents who are not allotted with the flat, but living at the adjacent areas of the project. Among 300 control group respondents, all (100.0%) of them expressed their opinion that their livelihood would be changed or improved, if they would be benefited by the flat allotment under this project.

Table 3.33 Response on the change in improvement of livelihood of the beneficiaries

Sl. No.	Type of response	Program group		Control group (would be changed, if allotted)	
		Number (N=600)	Response (%)	Number (N=300)	Response (%)
1	Yes	598	99.7	300	100.0
2	No	2	0.3	-	-
Total		600	100	300	100

3.2.30 Kinds of change in improvement of livelihood by the flat allotment

In case of program group, out of 600 flat allottees, most (558) of the allottees (93.0%) expressed their opinion that they had become owner of the flat, 503 (83.8%) allottees had been

economically benefited by the allotment of the flats, 474 (79.0%) allottees said that their social status had been improved, 390 (65.0%) allottees said that they had got a permanent address in Dhaka city, 253 (42.2%) said that they had got pollution free environment, 145 (24.5%) allottees said that they had got advantage for children education, whereas only 2 (0.3%) allottees said other improvement in livelihood, but they did not mention.

Conversely, out of 300 control group respondents, majority (211) of the respondents (70.3%) expressed their opinion that they would get a permanent address in Dhaka city if they would be allotted with the flats, 184 (61.3%) respondents said that their social status would be changed, 181 (60.3%) would be economically benefited by the flat allotment, 154 (51.3%) would become an owner of the flat, 43 (14.3%) would get pollution free environment, 16 (5.3%) respondents would get the advantage for children education.

Table-3.34 Kinds of change in improvement of livelihood by the flat allotment

Sl. No.	Kinds of change in livelihood	Program Group (already changed)		Control Group (would be changed)	
		Number (N=600)	Response (%)	Number (N=300)	Response (%)
1	Improvement of social status	474	79.0	184	61.3
2	Economic benefit	503	83.8	181	60.3
3	Owner of the flat	558	93.0	154	51.3
4	Permanent address in Dhaka city	390	65.0	211	70.3
5	Pollution free environment	253	42.2	43	14.3
6	Advantage for children education	145	24.2	16	5.3
7	Others	2	0.3	0	0.0
Multiple response					

Multiple response = Each respondent expressed his opinion on more than one issue during interview

3.2.31 Improvement of educational and medical facilities for the children

In case of program group, out of 600 flat allottees, most (525) of them (87.5%) expressed that the educational and medical facilities for the children had been improved by the allotment of the flats, whereas only 75 (12.5%) allottees the educational and medical facilities for the children had not been improved due to flat allotment by the project.

Conversely, out of 300 respondents under control group, all (100.0%) of the respondents did not express any response about the improvement of the educational and medical facilities for the children, because the respondents under the control group were not allotted with flats.

Table 3.35 Response on the improvement of educational and medical facilities for the children

Sl. No.	Type of response	Program group		Control group	
		Number (N)	Response (%)	Number (N)	Response (%)
1	Yes	525	87.5	0	0.0
2	No	75	12.5	0	0.0
3	Did not mention	-	-	300	100.0
Total		600	100	300	100

3.2.32 Financial savings by the respondents

In case of program group, out of 600 flat allottees, most (526) of them (87.3%) allottees expressed that the financial savings have been achieved due to allotment of the flats, whereas

only 74 (12.3%) allottees expressed that no financial savings have been achieved due to allotment of the flats by the project.

Conversely, out of 300 respondents under control group, most (297) of the respondents (99.0%) expressed their opinion that no financial savings are not being achieved, the possible reasons might be the without allotment of flats.

Table 3.36 Response on the financial savings by the respondents

Sl. No.	Type of response	Program group		Control group	
		Number (N=600)	Response (%)	Number (N=300)	Response (%)
1	Yes	526	87.7	3	1.0
2	No	74	12.3	297	99.0
Total		600	100	300	100

3.2.33 Existence of office for flat owner welfare association

In case of program group, out of 600 flat allottees, majority (325) of them (54.2%) expressed their opinion that the office for flat owner welfare association are present in the flat areas, whereas a large number (275) of allottees (45.8%) said that there is no office for the flat owner welfare association in the flat areas under the project.

Conversely, out of 300 respondents under control group, all (100.0%) the respondents expressed their opinion that there is no any office for the flat owner welfare association in their residential areas.

Table 3.37 Response on the existence of office for flat owner welfare association

Sl. No.	Type of response	Program group		Control group	
		Number (N=600)	Response (%)	Number (N=300)	Response (%)
1	Yes	325	54.2	-	-
2	No	275	45.8	300	100.0
Total		600	100	300	100.0

3.2.34 Mode of establishment of the office for flat owner welfare association

Out of 325 flat allottees who had expressed their positive response about the presence of office for flat owner association in their flat areas, all (325) of them (100.0%) expressed their opinion that the office for association have been established by their own cost and no cost have been borne by the national housing authority (NHA).

Table 3.38 Response on the mode of establishment of office for flat owner association

Sl. No.	Mode of establishment	Program group	
		Number (N=325)	Response (%)
1	Construction by NHA	0.0	0.0
2	Own cost by the association	325	100.0
Total		325	100.0

3.2.35 Adequacy of play ground facilities for children

In case of program group, out of 600 flat allottees, 302 (50.3%) allottees expressed their opinion that the there is no adequate play ground facilities in the flat areas for children, whereas 298 (49.7%) allottees said that the adequate play ground facilities for children are present in the flat areas under the project.

Conversely, out of 300 respondents under control group, most (227) of the respondents (75.7%) expressed their opinion that there is no adequate play ground facilities in their residential areas

for children, whereas 73 (24.3%) respondents said that the adequate play ground facilities for children are present in their residential areas.

Table 3.39 Response on the adequacy of play ground facilities for children

Sl. No.	Type of response	Program group		Control group	
		Number (N=600)	Response (%)	Number (N=300)	Response (%)
1	Yes	298	49.7	73	24.3
2	No	302	50.3	227	75.7
Total		600	100	300	100.0

3.2.36 Adequacy of educational institution for children

In case of program group, out of 600 flat allottees, most (588) of the allottees (98.0%) expressed their opinion that the adequate number of educational institution for children is present near their flat areas under the project, whereas 12 (2.0%) allottees said that there is no adequate number of educational institution for children near their flat areas.

Conversely, out of 300 respondents under control group, most (288) of the respondents (96.0%) expressed their opinion that the adequate number of educational institution for children is present near their in their residential areas, whereas 12 (4.0%) respondents said that there is no adequate number of educational institution for children near the residential areas.

Table-3.40 Response on the adequacy of of educational institution for children

Sl. No.	Type of response	Beneficiary group		Control group	
		Number (N=600)	Response (%)	Number (N=600)	Response (%)
1	Yes	588	98.0	288	96.0
2	No	12	2.0	12	4.0
Total		600	100	300	100.0

3.2.37 Existence of maktab for the children

In case of program group, out of 600 flat allottees, most (582) of them (97.0%) expressed their opinion that there is no maktab for children in the flat areas, whereas only 18 (3.0%) allottees said that maktab for children is present in the flat areas under the project.

Conversely, out of 300 respondents under control group, most (254) of them (84.7%) expressed their opinion that there is no maktab for children in their residential areas, whereas only 46 (15.3%) respondents said that maktab for children is present in their residential areas.

Table 3.41 Response on the existence of maktab for the children

Sl. No.	Type of response	Beneficiary group		Control group	
		Number (N=600)	Response (%)	Number (N=300)	Response (%)
1	Yes	18	3.0	46	15.3
2	No	582	97.0	254	84.7
Total		600	100	300	100.0

3.2.38 Existence of mosque/prayer place in the flat area

In case of program group, out of 600 flat allottees, most (465) of them (77.5%) expressed their opinion that the mosque for pray is present in the flat areas, whereas 135 (22.5%) allottees said that there is no mosque for pray in the flat areas under the project.

Table 3.42 Response on the existence of mosque/prayer place in the flat area

Sl. No.	Type of response	Program group	
		Number (N=600)	Response (%)
1	Yes	465	77.5
2	No	135	22.5
Total		600	100

3.2.39 Mode of establishment of the mosque/prayer place in the flat area

According to the response by the beneficiaries, out of 600 flat allottees who had expressed their positive response about the presence of mosque or prayer place in the flat areas under the project, most (389) of them (83.7%) expressed their opinion that the mosque existing in the flat areas have been established by the own cost of flat owner welfare association, whereas 76 (16.3%) flat allottees said that the mosque have been established by the cost borne by the national housing authority (NHA).

Table 3.43 Response on the mode of establishment of the mosque in the flat area

Sl. No.	Mode of establishment	Program group	
		Number (N=465)	Response (%)
1	Construction by NHA	76	16.3
2	Own cost by the association	389	83.7
Total		465	100

3.2.40. Existence of community center in the flat area

In case of program group, out of 600 flat allottees, most (559) of them (93.2%) expressed their opinion that there is no community center in the flat areas, whereas 41 (6.9%) allottees said that the community center is present in the flat areas under the project.

Table 3.44 Response on the existence of community center in the flat area

Sl. No.	Type of response	Program group	
		Number (N=600)	Response (%)
1	Yes	41	6.9
2	No	559	93.2
Total		600	100

3.2.41 Social integrity status among the inmates of the flats

In case of program group respondents, out of 600 flat allottees, the majority (319) of the allottees (53.2%) expressed their opinion that the status of social integrity among the inmates of the flats is good, 225 (37.5%) flat allottees said that the social integrity is more or less good, 54 (9.0%) allottees said that the social integrity is very good, whereas only 2 (0.3%) allottees expressed that the social integrity among the inmates of the flats is not good.

Conversely, out of 300 residents under the control group respondents, the majority (200) of the respondents (66.7%) expressed their opinion that the status of social integrity among the inmates of the residential areas is more or less good, 91 (30.3%) respondents said that the

social integrity is good, 5 (1.7%) respondents said that the social integrity is not good, whereas only 4 (1.3%) respondents expressed that the social integrity among the inmates is very good.

From the above findings it is revealed that the status of social integrity among the inmates is better in flat areas under the project than the control group respondents who are not allotted with the flats.

Table-3.45 Response on the social integrity among the inmates of the flats

Sl. No.	Level of integrity	Program group		Control group	
		Number (N=600)	Response (%)	Number (N=300)	Response (%)
1	Very good	54	9.0	4	1.3
2	Good	319	53.2	91	30.3
3	More or less good	225	37.5	200	66.7
4	Not good	2	0.3	5	1.7
Total		600	100	300	100.0

3.2.42 Creation of environment pollution by the household garbage

In case of program group, out of 600 flat allottees, most (487) of them (81.17%) expressed their opinion that the environment pollution have not been created by the household garbage in the flat areas under the project, whereas 113 (18.83%) allottees said that the household garbage have created environment pollution in the flat areas.

Conversely, out of 300 respondents under control group, majority (178) of them (59.33%) expressed their opinion that the household garbage have created environment pollution in their residential areas, whereas 122 (40.67%) respondents said that the environment pollution have not been created by the household garbage in the residential areas.

From the above findings it is revealed that the environment is better in terms of pollution created by household garbage in flat areas under the project than the residential areas under the control group respondents.

Table 3.46 Response on the creation of environment pollution by the household garbage

Sl. No.	Type of response	Program group		Control group	
		Number (N=600)	Response (%)	Number (N=300)	Response (%)
1	Yes	113	18.83	178	59.33
2	No	487	81.17	122	40.67
Total		600	100	300	100.0

3.2.43 Status of the garbage elimination system

In case of program group respondents, out of 600 flat allottees, most (518) of the allottees (86.33%) expressed their opinion that the status of garbage elimination system in the flat areas is good, 61 (10.17%) flat allottees said that the garbage elimination system is bad, 15 (2.5%) allottees said very good, whereas only 6 (1.0%) allottees expressed their opinion that the status of garbage elimination system in the flat areas is very bad.

Conversely, out of 300 residents under the control group respondents, the majority (161) of the respondents (53.67%) expressed their opinion that the status of garbage elimination system in the residential areas is good, 82 (44.0%) respondents said that the garbage elimination system is bad, 4 (1.33%) respondents said very good and only 3 (1.0%) respondents expressed that the status of garbage elimination system in the residential areas is very bad.

From the above findings it is revealed that the status of garbage elimination system is better in flat areas under the project and the allottees are more organized to eliminate the garbage for the flat areas than the residential areas under the control group respondents who are not allotted with the flats.

Table 3.47 Response on the status of garbage elimination system

Sl. No.	Garbage elimination status	Program group		Control group	
		Number (N=600)	Response (%)	Number (N=300)	Response (%)
1	Very good	15	2.50	4	1.33
2	Good	518	86.33	161	53.67
3	Bad	61	10.17	82	44.00
4	Very bad	6	1.00	3	1.00
Total		600	100	300	100.0

3.2.44 Occurrence of harmful effect of the environment due to construction of flats

Out of 600 flat allottees, most (558) of them (93.0%) expressed their opinion that the harmful effect have not been occurred by the construction of flats under the project, whereas only 42 (7.0%) allottees said that the harmful effect have been occurred or created by the construction of flats under the project.

Table 3.48 Response on the creation of harmful effect of the environment due to construction of flats

Sl. No.	Type of response	Beneficiary group	
		Number (N)	Response (%)
1	Yes	42	7.0
2	No	558	93.0
Total		600	100

3.2.45 Transparency of the authority during flat distribution

Out of 600 flat allottees, most (454) of them (75.6%) expressed their opinion that the distribution of flats to the applications by the authority was quite transparent, 102 (17.0%) allottees said that the transparency of flat distribution was unsatisfactory, whereas 44 (7.3%) allottees expressed their opinion that they had no idea about the transparency of the flat distribution by the authority.

Table 3.49 Response on the transparency of the authority during flat distribution

Sl. No.	Transparency status	Beneficiary group	
		Number (N=600)	Response (%)
1	Quite transparent	454	75.6
2	Unsatisfactory	102	17.0
3	No idea	44	7.3
Total		600	100

3.2.46 Problem faced obtaining flat allotment from the authority

Out of 600 flat allottees, most (516) of them (86.0%) expressed their opinion that they did not face any problem to obtain the allotment of the flats from the authority, whereas 84 (14.0%) allottees expressed their opinion that they had faced problem to obtain the allotment of the flats from the authority.

Table 3.50 Response on the problem faced to obtain flat allotment from the authority

Sl. No.	Type of response	Program group	
		Number (N=600)	Response (%)
1	Yes	84	14.0
2	No	516	86.0
Total		600	100

3.2.47 Kinds of problem faced by the allottees to obtain flat allotment from the authority

Out of 84 flat allottees who faced problem, most (67) of them (79.0%) expressed their opinion that they had transacted excess money to obtain flat allotment from the authority, 15 (17.86%) allottees had been faced problem of official harassment by the authority, 14 (16.67%) allottees expressed their opinion that they faced problem of delayed transfer of contract papers from the authority and only 1 (1.19%) allottee faced other problem to obtain flat allotment from the authority.

Table-3.51 Response on the kinds of problem faced by the allottees to obtain flat allotment from the authority

Sl. No.	Kinds of problem faced	Program group	
		Number (N=84)	Response (%)
1	Delay transfer of contract papers	14	16.67
2	Official harassment by the authority	15	17.86
3	Transaction of excess money	67	79.76
4	Other problem	1	1.19

3.2.48 Economic viability of the project for future similar project planning in Bangladesh

Out of 600 beneficiaries who are allotted with the flats, all (600) of them (100.0%) expressed their opinion that the project comprising the construction of 600 flats for selling to the limited income people in Dhaka city is quite economically viable for future planning of the similar project to be implemented in other metropolitan cities in Bangladesh.

Table 3.52 Economic viability of the project for future similar project planning in Bangladesh

Sl. No.	Type of response	Program group	
		Number (N=600)	Response (%)
1	Yes	600	100
2	No	0	0.0
Total		600	100

3.2.49 Justification of construction of six (6) storied building like this project on high priced land of Dhaka city for future planning

Out of 600 flat allottees, most (467) of them (77.8%) expressed their opinion that the construction of six (6) storied building on the skyscraping price of land of Dhaka city under this project is not justifiable for future similar project planning in Bangladesh, whereas 133 (22.2%) allottees said that the construction six storied building under this project is justifiable.

Table 3.53 Response on the justification of construction of six (6) storied building like this project on high priced land of Dhaka city for future planning

Sl. No.	Type of response	Program group	
		Number (N=600)	Response (%)
1	Yes	133	22.2
2	No	467	77.8
Total		600	100

3.2.50 Justifiable opinion for the construction of multistoried building in future similar project planning in Bangladesh

Out of 467 flat allottees who expressed that the construction of six (6) storied building is not justifiable, majority (300) of them (64.24%) expressed their opinion that the construction of at 10 storied building will be justifiable for future similar project planning in Bangladesh, 124 (26.55%) beneficiaries said that construction of at 15 storied building will be justifiable for future planning, whereas 43 (9.21%) beneficiaries said that the construction of at 20 or more storied building will be justifiable for future similar project planning in Bangladesh.

Table-3.54 Justifiable opinion for the construction of multistoried building in future similar project planning in Bangladesh

Sl. No.	Type of multistoried building	Program group	
		Number (N=467)	Response (%)
1	Construction of at least 10 storied building	300	64.24
2	Construction of at least 15 storied building	124	26.55
3	Construction of at least 20 or more storied building	43	9.21
Total		467	100

3.2.51 Suggestions for improved management for future similar project planning

According to the responses expressed by the flat allottees, out of 600 allottees, most (474) of the respondents (79.0%) expressed their opinion that the quality construction materials should be used in the construction works, 399 (66.50%) allottees said that strong monitoring should be maintained to ensure quality construction works, 386 (64.33%) allottees said that the quality fittings for sanitary and electrical works in the flat should be used, 377 (62.83%) allottees expressed their opinion that boundary wall should be constructed in the flat area, 304 (50.67%) allottees said that office for flat owner welfare association should be provided by construction in the flat area, 301 (50.17%) allottees said that improved and quality roads in the flat area should be constructed, 174 (29.0%) allottees said that the strong drainage system should be constructed, 153 (25.5%) allottees said that the amusement spaces for children should be provided, 121 (20.17%) respondents said that mosque for pray and maktab for children should be constructed, 110 (18.33%) allottees said that community center should be constructed in the flat area, 74 (12.33%) allottees said that improved design and plan for the project should be adopted, 56 (9.33%), 40 (6.67%), 8 (1.33%) and 4 (0.67%) allottees expressed their opinion that the lift particularly for each building of 800 sft and 500 sft flat categories, departmental store, generator for emergency power supply and community clinic should be provided in the flat area.

Table 3.55 Responses on the suggestions for improved management for future similar project planning

Sl. No.	Suggestions for improved management	Program group	
		Number (N=600)	Response (%)
1	Use of quality construction materials	474	79.00
2	Provision of community center	110	18.33
3	Provision of lift	56	9.33
4	Strong monitoring for quality construction works	399	66.50
5	Construction of boundary wall	377	62.83
6	Construction of improved roads	301	50.17
7	Provision of office for flat owner association	304	50.67
8	Quality fittings for sanitary, electrical wiring	386	64.33
9	Provision of amusement spaces for children	153	25.50
10	Construction strong drainage system	174	29.00
11	Improved design and planning for flat	74	12.33
12	Construction of mosque and maktab	121	20.17
13	Provision of departmental store	40	6.67
14	Provision of generator	8	1.33
15	Provision of community clinic	4	0.67
Multiple response			

Multiple response = Each respondent expressed his opinion on more than one issue during interview

3.3 Findings of the Focus Group Discussion (FGD)

The FGD in the project areas covering 1,000 sft, 800 sft and 500 sft flat categories supported by International Training and Management Consultants (ITMC) Limited, Dhaka, Bangladesh has been done as per standard procedure. Two FGDs have been conducted for each category of flats. Thus, six FGDs have been organized comprising FGD-1 and FGD-2 at Section-2, Mirpur, Dhaka for 1,000 sft flat category (Plate 81-82); FGD-3 and FGD-4 at Section-14, Mirpur, Dhaka for 800 sft flat category; FGD-5 and FGD-6 at Section-14, Mirpur, Dhaka for 500 sft flat category (Plate 83-84). One FGD has been organized with 20 participants/respondents. Accordingly, covering three categories of flat areas under the project altogether 120 respondents have been participated to express their opinion regarding the impact of the construction works.

The Focus Group Discussion has been conducted in the study area in order to assess the major impact of the project activities' expected outputs, sustainability of the project activities as well as to assess the quality of construction works as per technical specification of the project, to identify the strengths, weaknesses and threats of the project, and finally to recommend suggestions for future planning in Bangladesh.



Plate-81: Team leader, IMED personnel, members of the flat owner association in the FGD conducted at 1000 sft flat area



Plate-82: Portion of participants in the FGD conducted at 1000 sft flat area located in Section-2, Mirpur, Dhaka



Plate-83: Team leader, IMED & ITMC personnel, members of the flat owner association in the FGD conducted at 500 sft flat area



Plate-84: Portion of participants in the FGD conducted at 500 sft flat area located in Section-14, Mirpur, Dhaka

The major findings of the FGDs comprising focal points are briefly mentioned here for different flat categories:

- i. **Problem faced during flat allotment:** Among the respondents participated in the Focus Group Discussion (FGD) under all six sections of the project areas, all respondents expressed their opinion that they did not face major problem during the allotment of flats. Some problems has been faced commonly and those are as follows:
 - a. **Delayed transfer of the flat:** The applications have been submitted in the year 2005. The lottery has been done in 2006, but the flats have been allotted in October 2008. No organized procedure has been followed to hand over the keys of flats to the allottees, where individual allottee has collected his/her flat's key from the respective authority that created administrative harassment for the allottees.
 - b. **Duplication of flat allotment:** The respondents of 1000 sft flat category expressed that the duplication of flat allotment had been occurred at least for 13 allottees that also created administrative harassment for the respective allottees.
- ii. **Advice to resolve the problems during the allotment of flats:** The advice to be followed during the distribution of flat allotment as respondent by the flat allottees are transparent lottery in presence of judiciary personnel and handover of keys of flats should be done through an organized ceremony in the flat area to avoid any harassment.
- iii. **Steps to be taken to maintain transparency in flat allotment:** The flat allottees expressed their opinion that the transparency can be maintained for flat allotment through extensive publicity and adoption of online system for the submission of application, use of national ID number, drawing of lottery within short period time just after submission of the application, incorporation of judiciary people in the committee for lottery and 100% execution of the existing rules and regulations for flat allotment.
- iv. **Kind of disadvantages faced in the livelihood before flat allotment:** The all respondents expressed their opinion that they faced different disadvantages in their livelihood before flat allotment those were payment of higher house rent, social disgracefulness, no permanent address in Dhaka city.
- v. **Kind of advantages created in the livelihood after flat allotment:** The flat allottees in the FGDs expressed their opinion that several advantages have been created due to flat allotment and these are they become owner of flat, increase social gracefulness, permanent address in Dhaka city, secured environment for life, savings of money, created opportunity to live in a planned area.

- vi. **Facilities needed but not incorporated in the present project:** Office for flat owner association, mosque, community center, departmental store, community clinic and school, sufficient amusement/play ground for the children should be incorporated for flat construction project that were not incorporated in the present project. Boundary wall for flat area, proper roads construction with quality construction materials should also be incorporated, because these facilities were present in the 1000 sft flat category but not in 800 sft flat categories.
- vii. **Role of flat construction in educational facilities for children:** Adequate number of educational institutions has been established adjacent to the flat area due to implementation of the flat construction project.
- viii. **Role of flat construction in health facilities:** Flats under the project had been constructed in the well ventilated place that is suitable for good health as well as the allottees can avail medication from the health related organizations established near the project area.
- ix. **Best quality materials used in the flats:** Allottees participated in the FGDs expressed that no best quality materials had been used in the construction of flats, except very nice out looking views of the building.
- x. **Worst quality materials used in the flats:** Allottees participated in the FGDs expressed that plaster of walls and floors of the flats and stairs were the worst quality materials. Other low quality materials were woods of doors, sanitary fittings and electrical wirings.
- xi. **Suitability of the roads:** The roads constructed in the area of 1000 sft flat category are more or less good and suitable for use in the dry season, but not in rainy season, because the roads had been constructed depressed below or as same as the ground level, which create regular water stagnant during rainy season. Conversely, proper roads were not constructed in the 800 sft and 500 sft flat categories, where the old and damaged roads of BDLG colony are being used by the residents of the flats.
- xii. **Repair and maintenance of the roads in the flat areas:** No regular and maintenance of the roads in the flat areas are being done due to lack of fund.
- xiii. **Occurrence and reasons for water stagnant on the roads:** Water stagnant on the roads is common during rainy season, because of poor drainage system and the levels of existing roads in the flat areas are depressed below or as same as the ground level.
- xiv. **Measures to resolve the problem of water stagnant on the roads:** Proper roads should be constructed, existing roads should be elevated above the ground level by repairing, and drainage system should be improved in the flat areas.
- xv. **Status of service provided for gas, electricity and water supply:** The service for gas supply is good and electricity supply is more or less good but the excess and unseen bill from sub-station of power established in the flat areas is the burden for the flat allottees. The water supply is sufficient and good enough in the areas of 800 sft and 500 sft flat categories, but the pressure of water in the area of 1000 sft flat category is low, because the water supply line had been installed through the western side of the flat area, which side is much lower than the eastern side.
- xvi. **Procurement of services for gas, electricity and water supply:** Services for gas, electricity and water supply are procured by own cost through individual effort or flat owner welfare association.
- xvii. **Flat owner associations and their role:** The flat owner welfare associations are present in all three categories of flats. The main roles of associations are assurance of social security, management for the elimination of garbage and billing of sub-station, solution of social problem,
- xviii. **Security system in flat areas:** The security of life in the flat areas is being ensured by the involvement of flat owner associations and the security status in 1000 sft flat area is good enough, but in 800 sft and 500 sft flat areas the security status is risky due to lack of boundary wall.

- xix. **Way to ensure social security:** In 800 sft and 500 sft flat areas, the concerned security forces may play role to resolve the insecurity and threaten from the outsider.
- xx. **Status of garbage elimination system:** The status of garbage elimination system in 1000 sft flat area is good, but in 800 sft and 500 sft flat areas is not good enough for the residents.
- xxi. **Measures for the protection of environment pollution created by garbage:** Urgent involvement of the concerned department of Dhaka City Corporation is needed to eliminate the household garbage from the flat areas under the project.
- xxii. **Justification of the construction of six (6) storied building:** The construction of six (6) storied building was not justifiable on high priced land of Dhaka city. Therefore, at least ten (10) storied building for flats should be constructed for sustainable future project planning with sufficient free space and ventilation. And 500 sft flat category must be omitted from future project planning.
- xxiii. **Suggestions for improved management for future similar project planning:** The following suggestions should be considered for improved management for future similar project planning in Bangladesh:
 - a. Project must be completed within stipulated time and work frame,
 - b. Special cell for strict monitoring of construction works should be constructed, where the specialized member from specialized authority like BUET and representative of flat allottees should be incorporated,
 - c. Proper building code must be followed for this type of flat construction,
 - d. Midterm evaluation of the project activities should be done to ensure quality works,
 - e. Electricity line should be connected directly with the PDB line, never through sub-station,
 - f. Boundary wall and proper roads should be constructed,
 - g. Quality construction materials for civil works should be used,
 - h. Quality materials for gas line, sanitary and electrical fittings should be used in the flats,
 - i. Office for flat owner association should be constructed in the flat areas,
 - j. Provision of lift should be incorporated in the project planning,
 - k. Mosque, community center, departmental store, community clinic and school should be constructed in the project area,
 - l. Own water supply system should be established to ensure continuous supply of water,
 - m. Cooperation and coordination should be ensured among different service providing agencies like City Corporation, DESCO/PDB, WASA, NHA etc.

Table-3.56: Data/information collection form for Focus Group Discussion (FGD-1 to 6) covering three categories of flats

Sl. No.	Broad Discussion Points	Responses of the Participants at		
		1000 sft flat Category	800 sft flat Category	500 sft flat Category
i.	What kinds of problems did you face during the allotment of flat?	<ul style="list-style-type: none"> No major problem had been faced Delayed transfer of the flats Duplication of flat allotment at least for 13 allottees 	<ul style="list-style-type: none"> No major problem had been faced Delayed transfer of the flats 	<ul style="list-style-type: none"> No major problem had been faced Delayed transfer of the flats
ii.	Give your advice to resolve the problem during the distribution of flats for allotment to the people.	<ul style="list-style-type: none"> Transparent lottery in presence of judiciary personnel Handover of flats' keys through an organized ceremony in the flat area to avoid any harassment 	<ul style="list-style-type: none"> Transparent lottery Handover of flats' keys through a ceremony 	<ul style="list-style-type: none"> Transparent lottery Handover of flats' keys through a ceremony
iii.	What steps should be taken to maintain transparency during the allotment of flats?	<ul style="list-style-type: none"> Extensive publicity Drawing of lottery within short period just after submission of the application Involvement of judiciary people in the committee for lottery 	<ul style="list-style-type: none"> Online system for application 100% execution of existing rules and regulations 	<ul style="list-style-type: none"> Online system for application Extensive publicity Use of National ID number for flat allotment
iv.	What kind of disadvantages did you face in your livelihood before flat allotment?	<ul style="list-style-type: none"> Payment of higher house rent Social disgracefulness No permanent address in Dhaka city 	<ul style="list-style-type: none"> Payment of higher house rent Social disgracefulness No permanent address in Dhaka city 	<ul style="list-style-type: none"> Payment of higher house rent Social disgracefulness No permanent address in Dhaka city
v.	What kinds of advantages have been created after getting allotment of the flat?	<ul style="list-style-type: none"> Become an owner of a flat Increase the social gracefulness Living in a planned area Permanent address in Dhaka city Social security 	<ul style="list-style-type: none"> Owner of a flat Social gracefulness Permanent address in Dhaka city Social security Savings of money 	<ul style="list-style-type: none"> Owner of a flat Social gracefulness Permanent address in Dhaka city Social security Savings of money
vi.	What kinds of facilities should be created that were not incorporated in the present flat construction project?	<ul style="list-style-type: none"> Office for flat owner association Mosque Community center Departmental store Community clinic Amusement facilities for children 	<ul style="list-style-type: none"> Boundary wall for area Provision of lift Construction of roads Office for association Community center Community clinic Amusement facilities for children 	<ul style="list-style-type: none"> Boundary wall Provision of lift Construction of roads Office for association Community center Community clinic Community school
vii.	What kinds of role have been availed due to allotment of flat on the education of your	<ul style="list-style-type: none"> Establishment of adequate number of educational institutions adjacent to the flat area 	<ul style="list-style-type: none"> Establishment of adequate number of educational institutions 	<ul style="list-style-type: none"> Establishment of adequate number of educational institutions

Sl. No.	Broad Discussion Points	Responses of the Participants at		
		1000 sft flat Category	800 sft flat Category	500 sft flat Category
	children?			
viii.	What kinds of role have been availed due to allotment of flat on your health facilities?	<ul style="list-style-type: none"> • Available healthy facilities near the flat area • Open space for good ventilation 	<ul style="list-style-type: none"> • Available healthy facilities near the flat area • Well ventilated space 	<ul style="list-style-type: none"> • Available healthy facilities near the flat area • Well ventilated space
ix.	What are the best quality materials found in your flat?	<ul style="list-style-type: none"> • Out looking of the building is very nice • But no best quality materials has been used in the flat 	<ul style="list-style-type: none"> • Out looking of the building is very nice • But no best quality materials has been used in the flat 	<ul style="list-style-type: none"> • Out looking of the building is very nice • But no best quality materials has been used in the flat
x.	What are the worst quality materials found in your flat?	<ul style="list-style-type: none"> • Plaster of walls of flats and stairs • Woods of doors • Sanitary fittings • Electrical wiring 	<ul style="list-style-type: none"> • Plaster of walls of flats and stairs • Woods of doors • Sanitary fittings • Electrical wiring 	<ul style="list-style-type: none"> • Plaster of walls of flats and stairs • Woods of doors • Sanitary fittings • Electrical wiring
xi.	Do you think that the roads in your flat area are suitable for use round the year? If not, what are reasons?	<ul style="list-style-type: none"> • Roads are suitable in winter but not during rainy season, because • Roads are lower than the ground level • Regular water stagnant due to poor drainage system • Low quality materials have been used for road construction 	<ul style="list-style-type: none"> • Roads are not suitable for use, because • Proper roads have not been constructed • Roads are lower than the ground level <p>Regular water stagnant due to poor drainage system</p> <ul style="list-style-type: none"> • Damaged pavement • Low quality materials have been used for road construction 	<ul style="list-style-type: none"> • Roads are not suitable for use, because • Proper roads have not been constructed • Roads are lower than the ground level <p>Regular water stagnant due to poor drainage system</p> <ul style="list-style-type: none"> • Damaged pavement • Low quality materials have been used for road construction
xii.	Does the regular repair and maintenance of the roads in the flat area do? If not, what are reasons?	<ul style="list-style-type: none"> • No regular repair and maintenance of the roads, because • Lack of fund for repair & maintenance 	<ul style="list-style-type: none"> • No regular repair and maintenance of the roads, because • Lack of fund for repair & maintenance 	<ul style="list-style-type: none"> • No regular repair and maintenance of the roads, because • Lack of fund for repair & maintenance
xiii.	Does the water stagnant on the roads in your flat area occur? If so, what are the possible reasons?	<ul style="list-style-type: none"> • Regular water stagnant occurs during rainy season, because • Poor drainage system • Roads are lower than the ground level 	<ul style="list-style-type: none"> • Regular water stagnant during rainy season, because • Poor drainage system • Roads are lower than the ground level 	<ul style="list-style-type: none"> • Regular water stagnant during rainy season, because • Poor drainage system • Roads are lower than the ground level
xiv.	What measures should be	<ul style="list-style-type: none"> • Repairing of the roads elevated above the 	<ul style="list-style-type: none"> • Proper roads should be 	<ul style="list-style-type: none"> • Proper roads should be

“Impact evaluation study of the construction of 600 flats for selling to limited income group of people on hire purchase basis/for residential accommodation to Govt. employees in Dhaka city (Revised)”

Sl. No.	Broad Discussion Points	Responses of the Participants at		
		1000 sft flat Category	800 sft flat Category	500 sft flat Category
	taken to resolve the problem of water stagnant on the roads in your flat area?	ground level • Improvement of the drainage system	constructed • Improvement of the drainage system	constructed • Improvement of the drainage system
xv.	What are levels of standard for services provided for gas, electricity and water supply?	• Services for gas supply is good • Services for electricity is more or less good, but main problem is for excess bill from sub-station of power • Low pressure of water, therefore new supply line should be installed along the elevated eastern side of the flat area	• Services for gas supply is good • Services for electricity is more or less good, but main problem is for excess bill from sub-station of power • Water supply is sufficient and good enough	• Services for gas supply is good • Services for electricity is more or less good, but main problem is for excess bill from sub-station of power • Water supply is sufficient and good enough
xvi.	How do you get solution if problem for gas, electricity and water supply services occur?	• Services are procured by own cost through individual effort or flat owner welfare association	• Services are procured by own cost	• Services are procured by own cost
xvii.	Is there any flat owner association in your flat area? If so, what are their roles?	• Flat owner association is present • Roles of association are as follows: a. Social security b. Cleaning activities in the flat area c. Social integrity d. Improvement of social environment	• Flat owner association is present • Roles of association are as follows: a. Social security b. Elimination of garbage c. Solution of social problem d. Billing of sub-station	• Flat owner association is present • Roles of association are as follows: a. Social security b. Solution of social problem c. Billing of sub-station
xviii.	How does the social security system in your flat area ensure?	• Through the involvement of flat owner welfare association	• Through the involvement of flat owner association	• Through the involvement of flat owner association
xix.	If there is no definite social security system in your flat area, how can it possible?	• No need	• Concerned security forces may play role to resolve the insecurity and threaten from outsider	• Concerned security forces may play role to resolve the insecurity and threaten from outsider
xx.	What is the status of garbage elimination system in your flat area?	• Status of garbage elimination system in 1000 sft flat area is good	• Status of garbage elimination system in 800 sft flat area is not so good	• Status of garbage elimination system in 500 sft flat area is not so good
xxi.	What measures should be taken to protect the environment pollution created by garbage?	• Urgent involvement of city corporation is needed to eliminate the household garbage	• Urgent involvement of city corporation is needed to eliminate the household garbage	• Urgent involvement of city corporation is needed to eliminate the household garbage

Sl. No.	Broad Discussion Points	Responses of the Participants at		
		1000 sft flat Category	800 sft flat Category	500 sft flat Category
xxii.	Do you think that the construction of six (6) storied building like this project on high priced land of Dhaka city was justifiable? If no, what should be done for sustainability of the project for future planning in Bangladesh?	<ul style="list-style-type: none"> No, the construction of six (6) storied building was not justifiable At least ten (10) storied building for flats should be constructed for sustainable future project with sufficient free space and ventilation 	<ul style="list-style-type: none"> No, the construction of six (6) storied building was not justifiable At least ten (10) storied building should be constructed for future similar project 	<ul style="list-style-type: none"> No, the construction of six (6) storied building was not justifiable At least 10-15 storied buildings should be constructed 500 sft flat category must be omitted from the project for future
xxiii.	Suggestions for improved management for future similar project planning and construction of flats	<ol style="list-style-type: none"> Project must be completed within stipulated time frame Construction of special cell for strict monitoring of construction works incorporating proper authority like BUET Involvement of flat allottees in monitoring activities Midterm evaluation of the project activities Proper building code must be followed Electricity line should be connected directly with the PDB line, never through sub-station Quality construction materials for civil works should be used Quality materials for gas line, sanitary and electrical fittings should be used in the flats Office for flat owner association must be constructed Provision of lift should be incorporated in the project design Mosque should be constructed in the flat area Community center and departmental store should be constructed Own water supply system should be provided in the flat area Cooperation and coordination should be maintained among different service providing agencies like City corporation, DESCO/PDB, WASA, NHA etc. 	<ol style="list-style-type: none"> Boundary wall must be included in the project planning Project must be completed within stipulated time frame Special cell for strict monitoring of the construction works Involvement of flat allottees for monitoring activities Quality construction materials for civil works should be used Proper roads must be constructed Electricity line should be connected directly with the PDB line Quality materials for gas line, sanitary and electrical fittings should be used Office for association Provision of lift should be incorporated in the project design Mosque, community center, community clinic should be included in the project planning 	<ol style="list-style-type: none"> Boundary wall must be included in the project planning Project must be completed within stipulated time frame Special cell for strict monitoring of the construction works Involvement of flat allottees for monitoring activities Quality construction materials for civil works should be used Proper roads must be constructed Electricity line should be connected directly with the PDB line Quality materials for gas line, sanitary and electrical fittings should be used Office for association Provision of lift should be incorporated in the project design Mosque, community center, community clinic should be included in the project planning

3.4. Assessment of Strengths, Weaknesses and Threats of the project

The strengths and weaknesses of the project were assessed and identified by the collection of the information consulted with the senior level officials (**Key Informants Interview-KII**) of National Housing Authority (NHA) related to project management and planning about the implementation, quality, durability, project components wise performance, procurement, project design, duration, cost, financial management of the project and future planning of the similar projects in Bangladesh. The major strengths and weaknesses identified by the KII are discussed below:

3.4.1. Strengths of the project

- **Construction of 600 new flats:** There are 600 flats comprised with 160 flats each having plinth area of 1,000 sft, 260 flats each having plinth area 800 sft and 180 flats each having plinth area of 500 sft have been constructed by the utilization of unused lands in Section-2 and 14, Mirpur, Dhaka, Bangladesh under the construction works of the project. Thus, 600 low and middle income people have been benefited by the allotment of 600 flats.
- **Suitable place for the buildings:** All 600 flats have been constructed in the suitable area within the Dhaka city, of which 1,000 sft flat category at Section-2, Mirpur, Dhaka and both 800 sft flat category and 500 sft flat category located Section-14, Mirpur, Dhaka, where more or less all the facilities of citizen are available. All the buildings have been constructed at open and well ventilated places with sufficient space among the buildings that ensured the healthy environment for the residents of the flats.
- **Consideration of building code/regulations:** The construction of flats have been maintained as per economic design, drawing and building code such as ACI (American Concrete Institute) and BNBC (Bangladesh National Building Code) have been followed for the design of these buildings under this project.
- **Assurance of economic return:** All 600 flat allottees have become owner of the flats by the purchase of flats from NHA. As well as, any of the flat allottees has full freedom to sell his/her allotted flat at any time with competitive and higher market price rate. Therefore, the economic return of flat allottees has been assured by the purchase of the flats against their invested money.
- **Economic benefit of the project:** The 600 low and middle income people of Bangladesh have invested their money with the benefit of maximum 25 years installment at a low price of flat (1,103.03 BDT per sft). According to the opinion by the flat allottees and economic analysis calculated in the Table 3.10, the current prices of the flats were 4,000.0 BDT/sft for 1,000 sft flat category, 2,802.27 BDT/sft for 800 sft flat category, 2,301.39 BDT/sft for 500 sft flat category, 2695.31 BDT/sft for average price of three flat categories. Therefore, the calculated average benefit cost ratio (BCR) of the flats is 0.61, whereas the highest BCR has been achieved by the 1,000 sft flat category (1.39) followed by 800 sft flat category (0.67) and the lowest BCR has been achieved by the 500 sft flat category (0.37).
- **Provision of community and garage facilities:** The ground floor of each building has been provided for common community space protected by collapsible gate and these open spaces of the ground floor have been utilized by the allottees of all flats of the respective building. These spaces have been utilized as garage for car parking, family and community programs, office of the flat owner associations particularly for 800 sft and 500 sft flat categories.
- **Well protected flat colony for 1000 sft flat category:** Out of 600 flats, 160 flats having plinth area of 1,000 sft located at Section-2, Mirpur, Dhaka have been constructed within a

boundary wall area. Thus, the colony of these 160 flats has become well protected area and ensured social security for the residents of this flat category.

3.4.2. Weaknesses of the project implementation process

- **Delayed approval of RDPP and implementation of the project:** The original implementation period of the project was July 1998 to June 2001. Accordingly, the main DPP had been approved by the ECNEC on 02 June 1999 at an estimated amount of 4953.77 lakh Tk. The DPP was revised due to increase of the cost of ‘Pile’ foundation of 800 sft and 500 sft flats of 44 buildings under construction in Mirpur-14 and the increase of PWD schedule rate/2004. Therefore, the revised project proforma (RDPP) had been approved by ECNEC on 12 October, 2005 at an estimated amount of 5448.97 lakh Tk (As per RDPP and IMED evaluation report). Thus, the last revised period for project implementation was July 1998 to June 2006. This revision had delayed the project implementation and increased the project costs too. But within this revised and stipulated time frame the project had not been implemented and ultimately the implementation of the project activities had been completed in the year of 2009.
- **Delayed transfer of the flats:** The applications had been submitted by the applicants in the year 2005. The lottery for the allotment of the flats had been done in 2006, but the flats have been allotted to the beneficiaries in October 2008. No organized procedure had been followed to hand over the keys of the flats to the allottees, where individual allottee had collected his/her flat’s key from the respective authority by his/her own communication that created administrative harassment for the allottees.
- **Ambiguous about the definition of low and middle income people:** Many of the flats had been allotted to the people who were belonging to the Grade 1, Grade 2, Grade 3, Grade 4 government employee and soon. These grades holding employee are not the low and middle income group. Conversely, the low and middle income group of people neither clearly defined in the prospectus nor in the DPP. Therefore, the main concept of the project was not fulfilled.
- **Duplication of flat allotment:** The respondents of 1,000 sft flat category expressed that the duplication of flat allotment had been occurred at least for 13 allottees that also created administrative harassment for the respective allottees. Lack of utilization of National ID number of the applicants had created this problem and ultimately this problem had been resolved.
- **Lack of boundary wall for 800 sft and 500 sft flat buildings:** The boundary wall for 800 sft and 500 sft flat buildings located at Section-14, Mirpur, Dhaka had not been incorporated and constructed that made the respective areas totally unsecured. As a result, outsiders always creating problems and threatening the residents of the flats. The outsiders have occupied the back side (southern side) of the flat areas by the illegal and unauthorized establishment of the shops and markets, which completely covered the back sided drains of the buildings that creating continuous water stagnant. Not only that the outsiders have also constructed illegal and unauthorized club between two flat buildings and do gossip and threatening the residents of the flats. Finally, the lack of boundary wall in the area of 800 sft and 500 flat buildings has created the social environment extremely unsecured and risky.
- **Scattered distribution of the buildings of 800 sft and 500 sft flat categories:** Out of 60 flat buildings, 44 buildings comprised with 26 building for 800 sft flat category and 18 buildings for 500 sft category had been constructed scatteredly within the open lands of the old buildings of BDLG. This scattered distribution of the flats also created the problem for the construction of boundary wall and made the environment unsecured and risky.

- **Lengthy process of fund release:** The lengthy process of fund release from different concerned ministries also enhanced the delayed implementation of the project.
- **Delayed connection of the utility facilities:** The connections of different utility facilities necessary for the implementation of the works was carried out through various Government Departments like DESCO for electricity supply line, WASA for water supply line, Titas Gas Transmission and Distribution Company for gas line and other local bodies. These connections of utility facilities also delayed the implementation of the project.
- **Repeated transfer of management staff:** No of management staff had been recruited for the project. As a result, revenue staffs were involved to complete the construction works by deputation. Besides these, within the implementation period of the project at least 30 PDs (Executive Engineer) had been transferred from the project and re-deputed by other ones. Thus the difficulties were faced by the management team and the implementation of the project works was delayed.
- **Designing of the project:** National Housing Authority (NHA) had no strong setup for design wing during the implementation period of the project, which created problem for any change of project design. As a result, quick change of design would not be possible that inferred the smooth implementation of the project.
- **Lack of lift provision:** All 60 buildings under the project are six (6) storied, whereas lift is obligatory for the allottees of 4th and 5th floors. But the provision of lifts was not incorporated in the project planning. Though, the lifts had been installed only in the buildings of 1000 sft flat category after the completion of the allotment of the flats by the own cost of the flat allottees and executed by the NHA. But lifts had not been installed in the buildings of 800 sft and 500 sft flat category.
- **Illegal occupation of the land:** The lands acquired for the construction of flats had been illegally occupied by the unauthorized people. In addition, there were some lower court cases at Dhaka Metropolitan Magistrate Court, which interfere the project activities. The colony people of BDLG buildings in the area of 800 sft and 500 sft flat categories also hampered the entrance of construction materials and goods into the project site. These constrains also delayed the implementation of the project.
- **Lack of proper roads in 800 sft and 500 sft flat areas:** The buildings for 800 sft and 500 flats had been constructed on the lands of old BDLG buildings area, but proper roads had not been constructed and reconstructed. Only the approach roads of the buildings had been constructed and connected with the old and already damaged roads of the BDLG buildings. As a result, the residents of the 800 sft and 500 sft flat area are facing problem due to unsuitability of the damaged roads especially during the rainy seasons because of the creation of water stagnant.
- **Demarcation problem of the lands for 800 sft and 500 sft flat buildings:** The scattered construction of the buildings for 800 sft and 500 sft flat had been done on the lands acquired from the lands of old BDLG buildings located at Mirpur-14. Therefore, lands for the buildings of had not been demarcated. Thus the ownership of the building area under the project had been created serious social problem with the residents of old BDLG buildings and outsiders of the project areas.
- **Establishment of sub-station of power:** The electrical lines for the flats under the project had not been connected directly with the PDB lines. Instead of this, a sub-station has been established for each of the nine buildings and the huge amount of abnormal electric bills in addition of individual flat's bills had created burden for the low and middle income people

who had been allotted with the flats. Any kinds of repair and maintenance of the sub-station of power are also borne by the flat allottees, which is also a burden for the allottees.

- **Administrative complexity for the monthly payment of installment for flats:** The flat allottees should have maintained a procedure for the payment of their monthly installment for flats. At first they submit “Chalan” to NHA office at Segunbagicha, Dhaka for approval. After the approval, allottees collect the copy of Chalan and pay the money to BASIC Bank. Again the flat allottees need to go to NHA office at Segunbagicha to submit the receipt copy of the Chalan. Thus an allottee needs to go NHA office for three times and the flat allottees face the harassment by this type administrative complexity. Direct submission of installment to the BASIC bank located near the project area can resolve this problem.
- **Lack of service after completion of the project:** The project areas are being looked after by the office of the Executive Engineer, Mirpur H&SD-2, NHA, Dhaka. After the completion of the project a series of unauthorized temporary shops have been established at the adjacent to the southern walls of the buildings of 800 sft and 500 sft flat categories and occupied the drains from eastern to western directions of the buildings. Some unauthorized clubs have also been established by the outsiders between two buildings of many cases. Some cases, unauthorized shops have been established within the open spaces of the ground floor of the building by the unauthorized people in cooperation with some flat allottees, but nobody can protect it. These types of illegal construction and occupation are not being prohibited by the concerned authority.

3.5. Assessment of the sustainability of the construction works

The sustainability of the construction works under the project were assessed by the collection of the information from Project Management Personnel especially Engineers of NHA, Mirpur Housing and Settlement Division-2, Dhaka and head office of NHA through a semi-designed questionnaire interview regarding the quality, durability, sustainability, cost-effectiveness and maintenance works. The major findings of the assessment are discussed below:

- **Management of the project:** The Chief Engineer (H&SD), now the Chairman, NHA was responsible for the overall management of the construction of 600 flats at the head office level and the Project Director (Executive Engineer), Mirpur National Housing Division-2 was entrusted with the responsibility of management of the project at the field level.
- **Designing and planning of the project:** The Executive Engineer (PD) and Chief Engineer (H&SD), NHA was involved in the designing and preparation of the technical specification of the construction of 600 flats of this project and all the buildings had been constructed fulfilling all specifications of the design.
- **Selection and performance of the contractor:** The Open Tender Method (OTM) was used to select the goods and contractors in specific flat category and all the works have been completed fulfilling all the technical specifications of the contract. The performance of the contractor in terms of the compliance of the technical specifications was also good. The contract value was also at par with the schedule price with few variations, which was resolved by the supplementary tender (ST) or variation item method.
- **Monitoring and quality control of the materials:** The Chief Engineer (H&SD) and PD (Executive Engineer), Mirpur H&SD-2, NHA was responsible for monitoring the project implementation at the head office level and the PD (Executive Engineer), Mirpur H&SD-2 was responsible for quality control of materials, management of materials, quantity and timeliness at the field level. The contractor and the client had carried out the field laboratory tests for the construction materials according to the technical specifications, but no challenges were required for field laboratory tests. The PD was responsible for

analyzing the field monitoring reports, but no non-conformance by the contractor was contained in the monitoring reports.

- **Durability of the works:** According to feedback found from the concern officials of the BR, about 50 years durability period for new rails and new steel sleepers; about 15-20 years for new wooden sleepers with related fittings. The durability period for stone ballasting would be about 10 years, after which deep screening and repacking of ballasts would be obligatory to ensure the standard condition of the railway tracks.
- **Sustainability of the works:** The sustainability of the construction of flats depends on the design, materials, and management of the works. Considering the ever increasing in the country, this type of project is substantially sustainable.
 - a. **Design of the building:** All 60 buildings under this project are six (6) storied and constructed on the skyscraping lands of Dhaka city. Therefore, the construction of six (6) storied building on the high price land is not sustainable. Thus at least 10 to 15 storied buildings should be constructed with lift facilities.
 - b. **Plinth area of the flats:** Three categories of flats such as 1000 sft, 800 sft and 500 sft had been constructed, where the construction of 500 sft flat is one kind of inhumanity. Therefore, 500 sft flat should be included in similar future planning and project and the plinth area of a flat must be considered not less than 800 sft.
 - c. **Materials of the construction works:** Durability of the constructions works substantially depends on the quality construction materials. The good quality and sufficient quantity of iron rods, quality bricks, perfect ratio of cement, sand and concrete in the RCC and plaster of walls and floors, quality woods for doors, quality fittings and items for sanitary, electrical and gas line should be used in the construction works.
 - d. **Management of the construction works:** Without strong monitoring quality construction works never be ensured. Therefore, strong monitoring for quality control of the constructions works should be ensured. For this purpose expert panel from specialized organization like BUET should be incorporated in the monitoring team.
- **Cost-effectiveness of the works:** Due to the allotment of the flats at low price, resulted to enhance the economic savings of the flat allottees and gaining of assets. The price of the assets is increasing in open market. Thus the economic returns against the invested money have been ensured by the project.

SECTION-4

MAJOR OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

4.1. Major of findings of the evaluation study

The findings of the impact evaluation study of the construction of 600 flats for selling to the limited income people in Dhaka city.

4.1.1. Assessment of the concept, design affordability of the project

- i. **Concept of the project:** The concept of the project have been fulfilled by the construction of 600 flats and allotted those to the limited income group of people on hire purchase basis for 25 years and provided the shelter of 600 families. This project also improved the livelihood of the beneficiaries, ensured secured life, economic benefit to the allottees as well as improved the social environment among the beneficiaries. Therefore, the targeted concept of the project has been fulfilled.
- ii. **Design of the project:** No visible structural deformation and cracks were found in the columns of the buildings, and the size of these columns such as 20" x 10" for 1000 sft flat buildings and 15" x 10" for both 800 sft and 500 sft flat buildings were found same as per structural drawing during physical inspection. But the arrangement of some columns for most of the buildings under 1000 sft flat category had been changed as compared with structural drawing. This kind of change had not been done for the buildings under 800 sft and 500 sft flat categories.
 - Beam sizes such as 20" x 10" and 15" x 10" for all buildings of three categories have been found similar as per structural drawing and no visible deformation and cracks were found in the columns of the buildings during physical inspection.
 - The punch in front of the stair of all buildings under 1000 sft flat category have been changed due to installation of lift. The provision of lift was not included in the plan therefore, the arrangement of the column for lift had not been designed during the construction of those buildings. As a result, it was not clear to understand that the impact of the installation of lift vibration and lift self load. Therefore, in-depth investigation is needed in this regard and necessary measurement should be taken if necessary to avoid any kind of unexpected accidents.
 - Sunshades of all windows and high windows of all buildings under all three flat categories have been modified as found during physical inspection, where slope shades have been changed as compared with architectural design.
 - All components of the floors of flats have been completed as per plan, but some modifications been done by the owners of flats for room sizes.
 - Occurrence of water leaching from roof of the top floor of many buildings is found for many buildings particularly the buildings NHB-1 and NHB-8. In case of NHB-1, five potholes have been identified which have been repaired with RCC by the owners; in case of NHB-8, repairing of whole roof have been done by RCC on which several cracks also found during physical inspection.
 - Foundation is not visible, so it can't be find out the actual size and reinforcement detail as per design.

- Overall workmanship of the flats is poor; it might be occurred due to improper ratio of materials of plaster, use of low quality materials or improper curing. But the proper quality can't be done because of the lack of provision for laboratory testing of the materials in this evaluation study for quality analysis.
- iii. **Affordability of the project:** The prices for each flat having plinth area of 1000 sft, 800 sft and 500 sft are Taka 11,69,212/-, 9,48,606/- and 6,17,697/-, respectively. The down payments are Taka 2,92,303/-, 2,37,152/- and 1,54,425/-, respectively. Considering the 13% interest as mentioned in the RDPP, the monthly installments for 25 years are Taka 7,688.79, 6,238.07 and 4,062/- for three categories of flats respectively. This type of installment for 25 years is much more affordable for the limited income people, who are allotted with the flats under this project.

4.1.2. Findings of the implementation status of the construction works

The physical visit has been conducted among 600 flats at project areas comprised with 160 flats having plinth area of 1000 sft located at Mirpur, Section-2 as well as 260 flats having plinth area of 800 sft and 180 flats having plinth areas of 500 sft both located at Mirpur, Section-16, Dhaka. The major findings regarding the status of construction works under all three categories of flats under the project have been presented below:

- All construction works implemented under the project have been found similar during physical visit of the project areas as records found in DPP and IMED Evaluation Report
- The status of the civil works of flats, stairs with railings, fittings for sanitary, gas, electrical works, water supply etc; construction of roads and drains etc has been found in good conditions in many flats; simultaneously, bad condition with severe damaged condition have also been found in other flats. The flat category wise implementation status of the construction works for flats are presented below:

4.1.2.1. Implementation status of construction works under 1000 sft flat category

- Total number of buildings constructed under 1000 sft flat category is sixteen (16), each of which comprised with 10 flats from first floor to fifth floor was found similar during physical visit under the construction works as recorded found in RDPP and IMED evaluation report and the present status has been summarized as follows:
1. **Construction of 1000 sft flat building:** Out of 600 flats, 160 flats having plinth area of 1000 sft flat have been constructed in a cluster form under 1000 sft flat category. There are six storied 16 buildings under this category provided with 160 flats, where ground floor of each building is open for community space and garage utilized by the flat allottees of each building and other five floors from first to fifth floor have been provided with flats. Thus, each building has been provided with ten (10) flats.
 2. **Boundary wall:** The area of 1000 sft flat category is surrounded by the security wall with proper height and the boundary wall has been found in good condition.
 3. **Construction of roads:** The present condition of roads constructed in the 1000 sft flat area is found in more or less good condition, but the level of roads is lower than the ground level. The pavement of some portions of the roads has been found in damaged condition and formed potholes.
 4. **Construction of drains:** The drains constructed at the bases of each building are found in more or less good conditions, but the plasters of wall bases near the drains of some buildings have been found in damp and damaged conditions particularly for the building NHB-1, 2, 4, 7, 9.
 5. **Installation of lift:** The lift for each building of 1000 sft flat has been installed after the completion of the flats, and all the lifts have been found in good and running condition. But

these lifts were not included in the RDPP. As a result, these lifts have not been installed properly.

6. **Stair and railing:** The stairs of most of the buildings are found in bad condition, where the plasters of stairs have been damaged. Some cases the stairs are found in good condition particularly in building NHB-7, NHB-11, NHB-16. In many cases, the damaged stairs have been repaired, modified and replaced using ceramic tiles by the owners of the flats of the respective buildings particularly in building no NHB-1, NHB-2, NHB-3, NHB-6, NHB-9. All the railings of all buildings under 1000 sft flat category are made of wood and found in good condition.
7. **Roof of the buildings:** The roof of all buildings under 1000 sft flat category are found in good condition except building NHB-1, where five (5) potholes are found on the eastern side of the roof through which water are being leached during rainy season. These potholes have been repaired by the owners of the flats of the respective building.
8. **Civil works of the flats:** The plasters of walls and floors for most of the flats under this category of buildings have not been constructed with quality materials, where the plasters of walls have been found in damaged condition in almost all flats particularly in flats B-1, A-1, B-2, B-4 of building NHB-1; flat A-1 of building NHB-2; flat B-1 of building NHB-3; flat A-2 of building NHB-4; flat B-2 of building NHB-6; flat A-1 of building NHB-7. In many cases the damaged plasters have been removed and repaired using new materials by the owners of the respective flats particularly in the flat of building NHB-4; flat A-3 of building NHB-11; flats A-4, B-5 of NHB-16. Some flat owners have replaced these damaged plasters of walls and floors using ceramic tiles by their own cost particularly in the flat A-1 of NHB-2, flat B-2 of building NHB-3, flat B-2 of building NHB-6, flat A-1 of NHB-6, flat A-3 of NHB-11.
9. **Status of doors and windows:** The doors of the flats under 1000 sft flat category have been made of wood. Some cases the plastic doors have been installed in the bath rooms. The doors of these flats are found in more or less good condition. In many cases these wooden doors have been damaged by cracked, because of the low quality woods have been used in these doors particularly in flat A-3 of building NHB-1, flat A-2 of building NHB-4. The plastic doors used in the bath room have also been damaged particularly found in the flats A-4 & B-4 of building NHB-1; flat B-1 of building NHB-5. Besides these, doors in the flat A-1 of building NHB-7; flats A-4, A-5, B-5 of building NHB-16 also found in damaged conditions. The windows used in the flats are made of iron grill and these windows have been found in good condition in almost all flats under 1000 sft flat category.
10. **Utility fittings:** The sanitary fittings particularly bathroom viz. water tap, pan, commode, etc used in the flats are found in more or less bad condition, where the low quality of sanitary fittings has been used in the flats particularly in the flats A-1 of building NHB-2; flat A-2 of building NHB-4; flat B-2 of building NHB-6; flat A-4 of building NHB-16. The electric fittings particularly electric wires and switches used in the flats have been reported as low quality by the flat allottees. The gas line and related fittings used in the flats have been found in good condition in almost all flats under 1000 sft flat category.
11. **Construction of a mosque:** No provision for mosque/prayer place was included in the project planning. But a mosque/prayer place has been constructed on the land of the 1000 sft flat area by the flat owner welfare association by their own cost.
12. **Office for flat owner welfare association:** No provision of office for flat owner association was included in the project planning. But an office for flat owner association has been constructed by their own cost on the roof top of the mosque building. But the office of association was not included in the project.
13. **Power station:** There is a sub-station have been established for power supply in the flats under 1000 sft flat category and this power station has been found in good and running condition. There is also a generator installed in the building of sub-station for emergency power supply in the flats and this generator has also been found in good condition.

14. **Pump house and water supply line:** A water reservoir has been constructed along with one pump for each of the 16 buildings under 1000 sft flat category. All the 16 reservoirs and 16 water pumps have been found in good condition. The water supply lines connected with water tank installed in the roof of all 16 buildings have also been found good condition.
15. **Play ground:** There is a play ground for children found in good condition in the flat area under 1000 sft flat category.

4.1.2.2. Implementation status of construction works under 800 sft and 500 sft flat types

- Total number of buildings constructed under 800 sft and 500 sft flat categories are twenty six (26) and sixteen (16), respectively, each of which comprised with 10 flats from first floor to fifth those have been found in similar during physical visit as recorded in RDPP and IMED evaluation report and the present status has been summarized as follows:
 1. **Construction of 800 sft and 500 sft flat buildings:** Out of 600 flats, 260 flats having plinth area of 800 sft have been constructed under 800 sft flat category and 180 flats having plinth area of 500 sft have been constructed under 500 sft flat category located in Section-14, Mirpur, Dhaka. Each building of both 800 sft and 500 sft categories is six storied, where ground floor is open for community space and used as garage that has been fenced by collapsible gate and other five floors from first to fifth have been provided with flats on either sides. Thus, each building has been provided with ten (10) flats. Therefore, altogether 440 flats have been constructed under both 800 sft and 500 sft flat categories.
 2. **Boundary wall:** No boundary wall is present for surrounding the buildings under 800 sft flat categories. Particularly southern side of these buildings had created the area unsecured for flat allottees due to lack of boundary wall and this southern side has been occupied by the illegal shops from eastern to western directions as well as thus the southern drains of the buildings have also been occupied the by garbage.
 3. **Construction of roads:** Proper roads had not been constructed in the 800 sft and 500 sft flat areas. The pavements on almost all roads in this area are found in damage condition and have been constructed at ground level or below the ground level, which cause regular water stagnant during rainy season.
 4. **Construction of drains and culverts:** The drains constructed at the bases of each building are found in more or less good conditions, but drains of almost all buildings are found in filled with garbage, which cause regular water stagnant in the drains. The wall bases near the drain of some buildings are also found in damp and damaged condition.
 5. **Stair and railing:** The stairs of most of the buildings are found in bad condition, where the plasters of stairs have been found in damaged condition. In many cases, the damaged stairs have been repaired by the owners of the flats of the respective buildings. All the railings of all buildings under 800 sft flat and 500 sft flat categories are made of wood and most of them have been found in good condition. Some cases the wooden railings have been found in damaged condition.
 6. **Civil works of the flats:** The plasters of walls and floors of the most of the flats have not been constructed with quality materials, where the plasters of walls have been found in damaged condition in most of the flats particularly in the flats B-2 of building NHB-1/1; flat A-2, B-1 of NHB-3/2; flat A-1, B-1 of NHB-5/1; flat A-2 of NHB-5/2; flat B-2 of building NHB-6/2; flat B-1 of building NHB-10/B-2 under 800 sft flat category. Similarly, damaged plaster of walls of the flats have been found in flat A-4, A-5 of building NHB-13/3; flat A-1 of building NHB-15/4; flats A-1, A-3, B-3 of building NHB-15/5 under 500 sft flat category. In some cases, the damaged plasters have been removed and repaired using new materials by the owners of the respective flats such as the flat A-2 of building NHB-3/1 under 800 sft flat category; flat A-3 of building NHB-15/5 under 500 sft flat category. Some

flat owners have replaced the damaged plasters of walls and floors using ceramic tiles by their own cost particularly in flat A-1 of building NHB-3/2.

7. **Status of doors and windows:** The doors of the flats under 1000 sft flat category have been made of wood. The doors of these flats are found in more or less good condition. In some cases these wooden main doors, bed room doors, bath room doors have been damaged by cracked and rotten, because of the low quality woods used in these doors. In many cases, the wooden main doors, bed room doors and bath room doors have been severely damaged by making holes due to wood boring beetle (an insect) infestation particularly found in the flats B-2 & B-3 of building NHB-1/1; flat A-1 of NHB-3/3; flat B-2 of NHB-6/2; flat B-1 of building 5/1; flat A-1 of building 5/1 under 800 sft flat category. Besides these, doors in these, the flat A-3, B-3 of NHB-15/4 under 500 sft flat category also found in damaged conditions caused by wood boring beetle (an insect) infestation. The windows used in the flats are made of iron grill and these windows have been found in good condition in almost all flats under 800 sft and 500 sft flat category.
8. **Utility fittings:** The sanitary fittings viz. water tap, basin, sink, pan etc particularly the bathroom, kitchen room, dining room etc used in the flats are found in more or less good condition. The gas line and related fittings used in the flats have been found in good condition in almost all flats under 800 sft and 500 sft flat categories. The electric fittings particularly electric wires and switches used in the flats have been reported as low quality by the flat allottees.
9. **Office for flat owner welfare association:** No provision of office for flat owner association was included in the project planning. The associations in the flat areas usually use the open space of ground floor of the building for their official activities.
10. **Pump house and water supply line:** A water reservoir has been constructed along with one pump for each of the 28 buildings under 800 sft flat category and 18 buildings under 500 sft flat category. All 44 reservoirs and 44 water pumps have been found in good and running condition.

4.1.3. Major findings of the survey on impact of the construction works

The impacts of the construction works on the major expected output- especially with respect to professions, economic status of allottees, economic benefit of the project, quality of construction works, repair and maintenance of the works, utility services, social cooperation, security of life, improvement of livelihood of the allottees, social facilities, social integrity among the inmates of the flats, overall environment of the flat area, management system of the authority, sustainability of the project and suggestions for improved management for future planning of the similar projects have been studied and data have been collected through a pre-tested questionnaire and Focus Group Discussion (FGD). The evaluated findings are given below:

1. **Demographic characteristics of the flat allottees:** Out of 600 flat allottees, 447 males (74.5%) and 153 (25.5%) females have been allotted with the flats, whereas most (571) of the allottees (95.2%) are married, only 10 (1.7%) allottees are unmarried, 15 (2.5%) widow and 4 (0.7%) widower. Considering the religious status, out of 600 flat allottees, most (573) of the allottees (95.5%) are Muslim, 26 (4.3%) are Hindus and only 1 (0.2%) Christian.
2. **Status of the ownership living in the flats:** Out of 600 flat allottees, 454 allottees (75.7%) have become owner of the flats by hire-purchase basis, 102 (17.0%) owned by transfer, 6 (1.0%) owned by donation and 38 (6.3%) residents living in the flats as rental basis.
3. **Professional category for flat allotment:** Out of 600 flat allottees, majority (245) of the allottees (40.8%) are government employee, 151 (25.4%) private employee, 134 (22.4%) allottees are businessmen, 38 (6.3%) housewife, 8 (1.3%) engineer, 7 (1.2%) lawyer, 7 (1.2%) doctor, only 4 (0.7%) allottees are non-residents and 6 (1.0%) are other professionals but they did not mention their professions.

4. **Ownership of another land, house or flat in Dhaka city:** Out of 600 flat allottees, none (0.0%) of them have another land or house or any flat in Dhaka city.
5. **Economic status of the flat allottees:** Out of 250 government employee, the highest number (43) of them (17.2%) draw salary under the national scale grade 4, 40 (16.0%) under grade 3, 36 (14.4%) under grade 5, 35 (14.0%) under grade 2, 26 (10.4%) under grade 1, 19 (7.6%) under grade 6, 10 (4.0%) under both grades 8 & 10, 7 (2.8%) under grade 7, 5 (2.0%) under both grades 9 & 11, 4 (1.6%) under grade 20, 3 (1.2%) under grade 13 & 16, 2 (0.8%) under grade 12 and 1 allottee (0.4%) under both grades 15 & 18. Conversely, out of 350 flat allottees other than government employees, the highest number (124) of them (35.43%) had earned 15001 to 20,000 taka monthly and more than 20,000 taka monthly for both cases, 79 (22.57%) allottees earned 10,001 to 15,000 taka monthly, 21 (6.0%) allottees earned 5,001 to 10,000 taka monthly and only 2 allottees (0.57%) had earned less 5,000 taka monthly during the allotment of the flats. From this findings it is revealed that the flat allottees are low and middle income people.
6. **Economic benefit by the purchase of the flats:** Out of 600 flat allottees, most (578) of the allottees (96.4%) expressed their opinion that they have been benefited by the allotment of the flats. As per DPP, the average price per sft flat was 1103.03 Tk. But according to the allottees’ opinion, the highest market price is 4000 Tk/sft for 1000 sft flat category, 2802.27 Tk. per sft for 800 sft flat category and lowest price (2301.03 Tk) for 500 sft flat category, whereas mean current price per sft flat is 2695.31 Tk. According to the flat selling prospectus, the interest on initial price was fixed at the rate of 13%. The flat allottees have been allotted with flats in 2009. Meanwhile, four (4) years have been passed. Considering all kinds of unit prices and interest for four years on initial unit price, the highest benefit cost ratio (1.39) has been achieved by the 1000 sft flat category, 0.67 benefit cost ratio achieved by the 800 sft flat category and the lowest benefit cost ratio (0.31) has been achieved by the 500 sft flat category, whereas mean benefit cost ratio is 0.61.
7. **Mode of the payment for the flats:** According to the opinion by the flat allottees, out of 600 allottees, majority (276) of them (46.0%) are paying their installments for 25 years, 123 (20.5%) for 20 years, 110 (18.3%) for 15 years, 34 (5.7%) for 10 years, 24 (4.0%) for 5 years and 33 (5.5%) allottees have paid their installment at a once.
8. **Quality of the construction materials used in the flats:** Out of 600 flat allottees, the highest number (226) of allottees (37.7%) have expressed their opinion that the construction materials used in the allotted flats are bad, 223 (37.2%) said more or less good, 113 (18.8%) said good, 34 (5.7%) said very bad and only 4 (0.7%) allottees said that construction materials used in the flats are very good.
 - a. **Quality status of sanitary fittings:** Out of 600 flat allottees, the highest number (231) of allottees (38.5%) said that the sanitary fittings used in the flats are more or less good, 157 (26.2%) said bad, 121 (20.2%) said good, 86 (14.3%) said very bad and only 5 (0.8%) allottees said that the sanitary fittings are very good.
 - b. **Quality status of electricity supply line and fittings:** Out of 600 flat allottees, the majority (301) of them (50.2%) expressed their opinion that the quality of electricity supply line and fittings used in the flats are more or less good, 208 (34.7%) are said good, 72 (12.0%) said bad, 14 (2.3%) said very good and only 5 (0.8%) said very bad.
 - c. **Quality status of gas supply line and fittings:** Out of 600 flat allottees, the majority (359) of them (59.8%) expressed their opinion that the quality of gas supply line and fittings used in the flats are good, 207 (34.5%) are said more or less good, 23 (3.8%) said bad, and only 11 (1.8%) said very good.

- d. **Quality status of water supply line and fittings:** Out of 600 flat allottees, the maximum (284) allottees (47.3%) expressed their opinion that the quality of water supply line and fittings used in the flats are good, 277 (46.2%) are said more or less good, 30 (5.0%) said bad, and only 9 (1.5%) allottees said very good.
- a. **Quality of supplied water:** Out of 600 flat allottees, the majority (442) of the allottees (73.7%) expressed their opinion that the quality of supplied water in the flat areas are very good for drinking and use, 134 (22.3%) allottees said that the supplied water are not suitable for drinking and only 14 (4.0%) beneficiaries expressed their opinion that the supplied water in the flat areas are not suitable for use.
9. **Construction of roads and drains in the flat areas:** Out of 600 flat allottees, the majority (401) of them (66.8%) expressed their opinion that the necessary roads and drains have been constructed in the flat areas, others expressed the negative responses.
- a. **Quality status of roads and drains:** Out of 600 flat allottees, the highest number (234) of them (39.0%) expressed their opinion that the roads and drains constructed in the flat areas are bad in condition, 229 (38.2%) said more or less good, 97 (17.3%) said good, 31 (5.2%) said very bad and only 9 (1.5%) allottees said very good.
- b. **Present condition of the roads:** Out of 600 flat allottees, a highest number (197) of them (32.8%) expressed that the some roads have been broken in the flat areas, 147 (24.5%) said regular water stagnant occurs during rainy season, 104 (17.3%) said all roads are suitable for use by the allottees, 88 (14.7%) said that the roads have not been constructed properly, 51 (8.5%) said that the constructed roads are lower than the ground level, 13 (2.2%) said that some roads have been occupied by the unauthorized constructions.
10. **Status of utility services in the flat areas:** Out of 600 flat allottees, the majority (287) of them (47.9%) expressed their opinion that the status of electricity, gas and water supply services in the flat area are good, 271 (45.2%) said more or less good, 27 (4.5%) said bad, 15 (2.5%) said very good and very bad for both cases.
11. **Operation and maintenance for flats and flat areas:** Out of 600 allottee, majority (381) of them (63.5%) expressed their opinion that the services for operation and maintenance of flats and flat areas have been procured by their own cost, 128 (21.3%) said that operation and maintenance are being provided by the flat owner association, 66 (11.0%) expressed that no organization provide this service and 25 (4.2%) allottees said that concerned organization/authority provide the operation and maintenance related services for flats and flat areas.
12. **Flat owner welfare association in the residential area:** Out of 600 flat allottees, most (569) of them (94.8%) expressed their opinion that the flat owner welfare association is present in their flat areas. Conversely, in case of control group, all (300) the respondents (100%) expressed their opinion that the there is no flat owner welfare association in their residential areas. Out of 569 flat allottees, the majority (80.14%) of them expressed their opinion that flat owner welfare association play role about security related tasks in the flat areas, 400 (70.30%) said about sanitation works, 370 (65.03%) said association play role about disciplinary activities, 366 (64.32%) said about the solution of nuisance related problem, 197 (34.62%) said about repair and maintenance of roads and drains, 88 (15.47%) said about cooperation in social program.
13. **Current status of overall security of life in the flat areas:** Out of 600 flat allottees, the maximum (327) of them (54.4%) expressed their opinion that the current status of overall security of life in the flat areas is more or less good, whereas 130 (21.7%) allottees said the security status is risky, 113 (18.9%) said that the security status is not good, and only 30 (5.0%) expressed that the current security status in the flat areas is very good.

- a. **Comparative security status in three flat categories:** As compared with the 1000 sft flat area, the security status is not good and risky in 800 sft and 500 sft flat areas.
 - b. **Security provider in the flat areas:** Out 600 flat allottees, maximum (327) of them (54.5%) expressed that the security services in the flat areas have been provided by flat owner association, 249 (41.5%) said no security service provider in the flat areas, whereas only 24 (4.0%) said that the security services have been provided by the concerned security forces.
14. **Present condition of the boundary wall in the flat areas:** Out of 600 flat allottees, majority (419) of them (69.83%) expressed their opinion that the boundary wall is not present particularly in both 800 sft and 500 flat areas, whereas 160 (26.67%) allottees said that boundary wall is present particularly in 1000 sft flat area and only 21 (3.50%) allottees expressed their opinion that the boundary wall in the flat area is inadequate.
15. **Impact of the flat allotment on the livelihood of the allottees**
- a. **Problem faced without flat allotment:** Out of 600 flat allottees, all (100.0%) of them had faced several problems without flat allotment. Among them, most (539) of the allottees (89.8%) expressed their opinion that they had expensed excess house rent without allotment of the flat, 509 (84.8%) allottees said that they had no permanent address in Dhaka city, 462 (77.0%) faced social disgracefulness, 348 (58.0%) faced unsecured social environment, 238 (39.7%) faced communication problem.
 - b. **Change in improvement of livelihood by the flat allotment:** Out of 600 flat allottees, most (598) of them (99.7%) expressed their opinion that their livelihood had been improved or changed because of flat allotment.
 - c. **Kinds of change in improvement of livelihood of the allottees:** Out of 600 flat allottees, most (558) of them (93.0%) expressed their opinion that they had become owner of the flat, 503 (83.8%) allottees had been economically benefited by the flats, 474 (79.0%) allottees said their social status had been improved, 390 (65.0%) allottees said they got a permanent address in Dhaka city, 253 (42.2%) said they got pollution free environment, 145 (24.5%) allottees said they got advantage for children’s education.
 - d. **Improvement of educational and medical facilities for the children:** Out of 600 flat allottees, most (525) of them (87.5%) expressed that the educational and medical facilities for the children had been improved by the allotment of the flats.
 - e. **Financial savings by the respondents:** In case of program group, out of 600 flat allottees, most (526) of them (87.3%) expressed that the financial savings have been achieved due to allotment of the flats. Conversely, out of 300 respondents under control group, most (297) of the respondents (99.0%) expressed their opinion that no financial savings are being achieved.
16. **Office for flat owner welfare association:** In case of program group, out of 600 flat allottees, majority (325) of them (54.2%) expressed their opinion that the office for flat owner welfare association is present in the flat areas and this office have been established by the own cost of flat owner association and no cost have been borne by the NHA. Conversely, out of 300 respondents under control group, all (100.0%) the respondents expressed their opinion that there is no any office for the flat owner welfare association in their residential areas.

17. Social facilities in the flat areas

- a. **Play ground facilities for children:** Out of 600 allottees, 298 (49.7%) of them expressed their opinion that there is adequate play ground facility in the flat areas for children. Conversely, out of 300 respondents under control group, most (227) of them (75.7%) expressed their opinion that there is no adequate play ground facility in their residential areas for children.
- b. **Educational institution for children:** Most (588) of the flat allottees (98.0%) expressed their opinion that the adequate number of educational institution for children is present near the project areas.
- c. **Maktab for the children:** In case of program group, out of 600 flat allottees, most (582) of them (97.0%) expressed their opinion that there is no maktab for children in the flat areas.
- d. **Mosque/prayer place in the flat area:** Most (465) of the beneficiaries (77.5%) expressed their opinion that the mosque for pray is present in the flat areas. They also expressed that the existing mosque have been established by the own cost of flat owner welfare association.
- e. **Community center in the flat area:** In case of program group, out of 600 flat allottees, most (559) of them (93.2%) expressed their opinion that there is no community center in the flat areas

18. Social integrity status among the inmates of the flats: In case of program group respondents, out of 600 flat allottees, the majority (319) of them (53.2%) expressed their opinion that the status of social integrity among the inmates of the flats is good, 225 (37.5%) said more or less good, 54 (9.0%) allottees said very good, whereas only 2 (0.3%) allottees said the integrity is not good.

19. Overall environment of the residential area

- a. **Creation of environment pollution by the household garbage:** Most (487) of the flat allottees (81.17%) expressed their opinion that the environment pollution have not been created by the household garbage in the flat areas. Conversely, out of 300 respondents under control group, majority (178) of them (59.33%) expressed their opinion that the household garbage have created environment pollution in their residential areas. That is the environment is better in project areas than control areas.
- b. **Status of the garbage elimination system:** Most (518) of the allottees (86.33%) expressed their opinion that the status of garbage elimination system in the flat areas is good, 61 (10.17%) allottees said bad, 15 (2.5%) allottees said very good, whereas only 6 (1.0%) allottees said very bad. Conversely, 53.67% respondents in the control areas expressed that the status of garbage elimination system in their residential areas is good, 82 (44.0%) respondents said bad, 4 (1.33%) said very good and only 3 (1.0%) respondents said very bad. That is the status of garbage elimination system is better in project areas than the control areas.
- c. **Harmful effect of the environment occurred by the construction of flats:** Most (558) of the flat allottees (93.0%) expressed their opinion that the harmful effect had not been occurred by the construction of flats under the project.

20. Management system of the authority

- a. **Transparency of the authority during flat distribution:** Out of 600 flat allottees, most (454) of them (75.6%) expressed their opinion that the distribution of flats to the

applicants by the authority was quite transparent, 102 (17.0%) allottees said satisfactory, whereas 44 (7.3%) allottees expressed their opinion that they had no idea about the transparency of the flat distribution by the authority.

- b. **Problem faced obtaining flat allotment from the authority:** Most (516) of the flat allottees (86.0%) expressed their opinion that they did not face any problem to obtain allotment from the authority. Conversely, 84 (14.0%) allottees had faced problem to obtain flat allotment of the flats from the authority, of which, most (67) of them (79.0%) expressed their opinion that they had transacted excess money to obtain flat allotment from the authority, 15 (17.86%) allottees had faced problem of official harassment, 14 (16.67%) allottees had faced problem of delayed transfer of contract papers from the authority.

21. Sustainability of the project

- a. **Economic viability of the project for future:** Out of 600 beneficiaries who are allotted with the flats, all (600) of them (100.0%) expressed their opinion that the project comprising the construction of 600 flats for selling to the limited income people in Dhaka city is quite economically viable for future planning of the similar project to be implemented in other metropolitan cities in Bangladesh.
- b. **Justification of the construction of six (6) storied building for future planning:** Most (467) of the flat allottees (77.8%) out of 600 expressed their opinion that the construction of six (6) storied building on the skyscraping price of land of Dhaka city is not justifiable for future similar project planning in Bangladesh. Among them, majority (300) of the allottees (64.24%) expressed that at least 10 storied building should be constructed and that will be justifiable for future project planning in Bangladesh, 124 (26.55%) said at least 15 storied building should be constructed, whereas only 43 (9.21%) flat allottees said at least 20 or more storied building construction will be justifiable.

22. Suggestions for improved management for future similar project planning:

According to the responses expressed by the flat allottees, suggestions for improved management for future project planning are given below:

- a. Quality construction materials should be used in the construction works,
- b. The strong monitoring should be maintained to ensure quality construction works,
- c. The quality fittings for sanitary and electrical works in the flat should be used,
- d. The boundary wall should be constructed in the flat area,
- e. The office for flat owner welfare association should be provided by construction in the flat area,
- f. The improved and quality roads in the flat area should be constructed,
- g. The 174 (29.0%) allottees said that the strong drainage system should be constructed,
- h. The amusement spaces/play ground for children should be provided,
- i. The mosque for pray and maktab for children should be constructed,
- j. The community center should be constructed in the flat area,
- k. The improved design and plan for the project should be adopted,
- l. The lift, departmental store, generator for emergency power supply and community clinic should be provided in the flat area.

4.1.3. Major findings of the Focus Group Discussion (FGD)

The Focus Group Discussion has been conducted in the study area in order to assess the major impact of the project activities' expected outputs, sustainability of the project activities as well as to assess the quality of construction works as per technical specification of the project, to identify the strengths, weaknesses and threats of the project, and finally to recommend suggestions for future planning in Bangladesh. The major findings of the FGDs comprising focal points are briefly mentioned here for different flat categories:

- i. **Problem faced during flat allotment:** Among the respondents participated in the Focus Group Discussion (FGD) under all six sections of the project areas, all respondents expressed their opinion that they did not face major problem during the allotment of flats. Some problems has been faced commonly and those are as follows:
 - a. **Delayed transfer of the flat:** The applications have been submitted in the year 2005. The lottery has been done in 2006, but the flats have been allotted in October 2008. No organized procedure has been followed to hand over the keys of flats to the allottees, where individual allottee has collected his/her flat's key from the respective authority that created administrative harassment for the allottees.
 - b. **Duplication of flat allotment:** The respondents of 1000 sft flat category expressed that the duplication of flat allotment had been occurred at least for 13 allottees that also created administrative harassment for the respective allottees.
- ii. **Advice to resolve the problems during the allotment of flats:** The advice to be followed during the distribution of flat allotment as respondent by the flat allottees are transparent lottery in presence of judiciary personnel and handover of keys of flats should be done through an organized ceremony in the flat area to avoid any harassment.
- iii. **Steps to be taken to maintain transparency in flat allotment:** The flat allottees expressed their opinion that the transparency can be maintained for flat allotment through extensive publicity and adoption of online system for the submission of application, use of national ID number, drawing of lottery within short period time just after submission of the application, incorporation of judiciary people in the committee for lottery and 100% execution of the existing rules and regulations for flat allotment.
- iv. **Kind of disadvantages faced in the livelihood before flat allotment:** The all respondents expressed their opinion that they faced different disadvantages in their livelihood before flat allotment those were payment of higher house rent, social disgracefulness, no permanent address in Dhaka city.
- v. **Kind of advantages created in the livelihood after flat allotment:** The flat allottees in the FGDs expressed their opinion that several advantages have been created due to flat allotment and these are they become owner of flat, increase social gracefulness, permanent address in Dhaka city, secured environment for life, savings of money, created opportunity to live in a planned area.
- vi. **Facilities needed but not incorporated in the present project:** Office for flat owner association, mosque, community center, departmental store, community clinic and school, sufficient amusement/play ground for the children should be incorporated for flat construction project that were not incorporated in the present project. Boundary wall for flat area, proper roads construction with quality construction materials should also be incorporated, because these facilities were present in the 1000 sft flat category but not in 800 sft flat categories.
- vii. **Role of flat construction in educational facilities for children:** Adequate number of educational institutions has been established adjacent to the flat area due to implementation of the flat construction project.
- viii. **Role of flat construction in health facilities:** Flats under the project had been constructed in the well ventilated place that is suitable for good health as well as the allottees can avail medication from the health related organizations established near the project area.

- ix. **Best quality materials used in the flats:** Allottees participated in the FGDs expressed that no best quality materials had been used in the construction of flats, except very nice out looking views of the building.
- x. **Worst quality materials used in the flats:** Allottees participated in the FGDs expressed that plaster of walls and floors of the flats and stairs were the worst quality materials. Other low quality materials were woods of doors, sanitary fittings and electrical wirings.
- xi. **Suitability of the roads:** The roads constructed in the area of 1000 sft flat category are more or less good and suitable for use in the dry season, but not in rainy season, because the roads had been constructed depressed below or as same as the ground level, which create regular water stagnant during rainy season. Conversely, proper roads were not constructed in the 800 sft and 500 sft flat categories, where the old and damaged roads of BDLG colony are being used by the residents of the flats.
- xii. **Repair and maintenance of the roads in the flat areas:** No regular and maintenance of the roads in the flat areas are being done due to lack of fund.
- xiii. **Occurrence and reasons for water stagnant on the roads:** Water stagnant on the roads is common during rainy season, because of poor drainage system and the levels of existing roads in the flat areas are depressed below or as same as the ground level.
- xiv. **Measures to resolve the problem of water stagnant on the roads:** Proper roads should be constructed, existing roads should be elevated above the ground level by repairing, and drainage system should be improved in the flat areas.
- xv. **Status of service provided for gas, electricity and water supply:** The service for gas supply is good and electricity supply is more or less good but the excess and unseen bill from sub-station of power established in the flat areas is the burden for the flat allottees. The water supply is sufficient and good enough in the areas of 800 sft and 500 sft flat categories, but the pressure of water in the area of 1000 sft flat category is low, because the water supply line had been installed through the western side of the flat area, which side is much lower than the eastern side.
- xvi. **Procurement of services for gas, electricity and water supply:** Services for gas, electricity and water supply are procured by own cost through individual effort or flat owner welfare association.
- xvii. **Flat owner associations and their role:** The flat owner welfare associations are present in all three categories of flats. The main roles of associations are assurance of social security, management for the elimination of garbage and billing of sub-station, solution of social problem
- xviii. **Security system in flat areas:** The security of life in the flat areas is being ensured by the involvement of the flat owner welfare associations and the security status in 1000 sft flat area is good enough, but in 800 sft and 500 sft flat areas the security status is risky due to lack of boundary wall.
- xix. **Way to ensure social security:** In 800 sft and 500 sft flat areas, the concerned security forces may play role to resolve the insecurity and threaten from the outsider.
- xx. **Status of garbage elimination system:** The status of garbage elimination system in 1000 sft flat area is good, but in 800 sft and 500 sft flat areas is not good enough for the residents.

- xxi. **Measures for the protection of environment pollution created by garbage:** Urgent involvement of the concerned department of Dhaka City Corporation is needed to eliminate the household garbage from the flat areas under the project.
- xxii. **Justification of the construction of six (6) storied building:** The construction of six (6) storied building was not justifiable on high priced land of Dhaka city. Therefore, at least ten (10) storied building for flats should be constructed for sustainable future project planning with sufficient free space and ventilation. And 500 sft flat category must be omitted from future planning.
- xxiii. **Suggestions for improved management for future similar project planning:** The following suggestions should be considered for improved management for future similar project planning in Bangladesh:
- Project must be completed within stipulated time and work frame,
 - Special cell for strict monitoring of construction works should be constructed, where the specialized member from specialized authority like BUET and representative of flat allottees should be incorporated,
 - Proper building code must be followed for this type of flat construction,
 - Midterm evaluation of the project activities should be done to ensure quality works,
 - Electricity line should be connected directly with the PDB line, never through sub-station,
 - Boundary wall and proper roads should be constructed,
 - Quality construction materials for civil works should be used,
 - Quality materials for gas line, sanitary and electrical fittings should be used in the flats,
 - Office for flat owner association should be constructed in the flat areas,
 - Provision of lift should be incorporated in the project planning,
 - Mosque, community center, departmental store, community clinic and school should be constructed in the project area,
 - Own water supply system should be established to ensure continuous supply of water,
 - Cooperation and coordination should be ensured among different service providing agencies like City Corporation, DESCO/PDB, WASA, NHA etc.

4.1.4. Findings of the assessment of major strengths and weaknesses of the project

The major strengths and weaknesses identified by the KII are discussed below:

4.1.4.1 Strengths of the project

- **Construction of 600 new flats:** There are 600 flats comprised with 160 flats each having plinth area of 1000 sft, 260 flats each having plinth area 800 sft and 180 flats each having plinth area of 500 sft have been constructed by the utilization of unused lands in Section-2 and 14, Mirpur, Dhaka, Bangladesh under the construction works of the project. Thus, 600 low and middle income people have been benefited by the allotment of 600 flats.
- **Suitable place for the buildings:** All 600 flats have been constructed in the suitable area within the Dhaka city, of which 1000 sft flat category at Section-2, Mirpur, Dhaka and both 800 sft flat category and 500 sft flat category located Section-14, Mirpur, Dhaka, where more or less all the facilities of citizen are available. All the buildings have been constructed at open and well ventilated places with sufficient space among the buildings that ensured the healthy environment for the residents of the flats.
- **Consideration of building code/regulations:** The construction of flats have been maintained as per economic design, drawing and building code such as ACI (American Concrete Institute) and BNBC (Bangladesh National Building Code) have been followed for the design of these buildings under this project.

- **Assurance of economic return:** All 600 flat allottees have become owner of the flats by the purchase of flats from NHA. As well as, any of the flat allottees has full freedom to sell his/her allotted flat at any time with competitive and higher market price rate. Therefore, the economic return of flat allottees has been assured by the purchase of the flats against their invested money.
- **Economic benefit of the project:** The 600 low and middle income people of Bangladesh have invested their money with the benefit of maximum 25 years installment at a low price of flat (1103.03 BDT per sft). According to the opinion by the flat allottees and economic analysis calculated in the Table 3.10, the current prices of the flats were 4,000.0 BDT/sft for 1000 sft flat category, 2,802.27 BDT/sft for 800 sft flat category, 2,301.39 BDT/sft for 500 sft flat category, 2695.31 BDT/sft for average price of three flat categories. Therefore, the calculated average benefit cost ratio (BCR) of the flats is 0.61, whereas the highest BCR has been achieved by the 1000 sft flat category (1.39) followed by 800 sft flat category (0.67) and the lowest BCR has been achieved by the 500 sft flat category (0.37).
- **Provision of community and garage facilities:** The ground floor of each building has been provided for common community space protected by collapsible gate and these open spaces of the ground floor have been utilized by the allottees of all flats of the respective building. These spaces have been utilized as garage for car parking, family and community programs, office of the flat owner associations particularly for 800 sft and 500 sft flat categories.
- **Well protected flat colony for 1000 sft flat category:** Out of 600 flats, 160 flats having plinth area of 1000 sft located at Section-2, Mirpur, Dhaka have been constructed within a boundary wall area. Thus, the colony of these 160 flats has become well protected area and ensured social security for the residents of this flat category.

4.1.4.2 Weaknesses of the project implementation process

- **Delayed approval of RDPP and implementation of the project:** The original implementation period of the project was July 1998 to June 2001. Accordingly, the main DPP had been approved by the ECNEC on 02 June 1999 at an estimated amount of 4953.77 lakh Tk. The DPP was revised due to increase of the cost of ‘Pile’ foundation of 800 sft and 500 sft flats of 44 buildings under construction in Mirpur-14 and the increase of PWD schedule rate/2004. Therefore, the revised project proforma (RDPP) had been approved by ECNEC on 12 October, 2005 at an estimated amount of 5448.97 lakh Tk. (As per RDPP and IMED evaluation report). Thus, the last revised period for project implementation was July 1998 to June 2006. This revision had delayed the project implementation and increased the project costs too. But within this revised and stipulated time frame the project had not been implemented and ultimately the implementation of the project activities had been completed in the year of 2009.
- **Delayed transfer of the flats:** The applications had been submitted by the applicants in the year 2005. The lottery for the allotment of the flats had been done in 2006, but the flats have been allotted to the beneficiaries in October 2008. No organized procedure had been followed to hand over the keys of the flats to the allottees, where individual allottee had collected his/her flat’s key from the respective authority by his/her own communication that created administrative harassment for the allottees.
- **Duplication of flat allotment:** The respondents of 1000 sft flat category expressed that the duplication of flat allotment had been occurred at least for 13 allottees that also created administrative harassment for the respective allottees. Lack of utilization of National ID number of the applicants had created this problem and ultimately this problem had been resolved.

- **Lack of boundary wall for 800 sft and 500 sft flat buildings:** The boundary wall for 800 sft and 500 sft flat buildings located at Section-14, Mirpur, Dhaka had not been incorporated and constructed that made the respective areas totally unsecured. As a result, outsiders always creating problems and threatening the residents of the flats. The outsiders have occupied the back side (southern side) of the flat areas by the illegal and unauthorized establishment of the shops and markets, which completely covered the back sided drains of the buildings that creating continuous water stagnant. Not only that the outsiders have also constructed illegal and unauthorized club between two flat buildings and do gossip and threatening the residents of the flats. Finally, the lack of boundary wall in the area of 800 sft and 500 flat buildings has created the social environment extremely unsecured and risky.
- **Scattered distribution of the buildings of 800 sft and 500 sft flat categories:** Out of 60 flat buildings, 44 buildings comprised with 26 building for 800 sft flat category and 18 buildings for 500 sft category had been constructed scatteredly within the open lands of the old buildings of BDLG. This scattered distribution of the flats also created the problem for the construction of boundary wall and made the environment unsecured and risky.
- **Lengthy process of fund release:** The lengthy process of fund release from different concerned ministries also enhanced the delayed implementation of the project.
- **Delayed connection of the utility facilities:** The connections of different utility facilities necessary for the implementation of the works was carried out through various Government Departments like DESCO for electricity supply line, WASA for water supply line, Titas Gas Transmission and Distribution Company for gas line and other local bodies. These connections of utility facilities also delayed the implementation of the project.
- **Repeated transfer of management staff:** No of management staff had been recruited for the project. As a result, revenue staffs were involved to complete the construction works by deputation. Besides these, within the implementation period of the project at least 30 PDs (Executive Engineer) had been transferred from the project and re-deputed by other ones. Thus the difficulties were faced by the management team and the implementation of the project works was delayed.
- **Designing of the project:** National Housing Authority (NHA) had no strong setup for design wing during the implementation period of the project, which created problem for any change of project design. As a result, quick change of design would not be possible that inferred the smooth implementation of the project.
- **Lack of lift provision:** All 60 buildings under the project are six (6) storied, whereas lift is obligatory for the allottees of 4th and 5th floors. But the provision of lifts was not incorporated in the project planning. Though, the lifts had been installed only in the buildings of 1000 sft flat category after the completion of the allotment of the flats by the own cost of the flat allottees and executed by the NHA. But lifts had not been installed in the buildings of 800 sft and 500 sft flat category.
- **Illegal occupation of the land:** The lands acquired for the construction of flats had been illegally occupied by the unauthorized people. In addition, there were some lower court cases at Dhaka Metropolitan Magistrate Court, which interfere the project activities. The colony people of BDLG buildings in the area of 800 sft and 500 sft flat categories also hampered the entrance of construction materials and goods into the project site. These constrains also delayed the implementation of the project.
- **Lack of proper roads in 800 sft and 500 sft flat areas:** The buildings for 800 sft and 500 flats had been constructed on the lands of old BDLG buildings area, but proper roads had

not been constructed. Only the approach roads of the buildings had been constructed by the flat allottees of the respective buildings and these approach roads were connected with the old and already damaged roads of the BDLG buildings. As a result, the residents of 800 sft and 500 sft flat areas are facing problem due to unsuitability of the old damaged roads especially during the rainy seasons.

- **Demarcation problem of the lands for 800 sft and 500 sft flat buildings:** The scattered construction of the buildings for 800 sft and 500 sft flat had been done on the lands acquired from the lands of old BDLG buildings located at Mirpur-14. Therefore, lands for the buildings of had not been demarcated. Thus the ownership of the building area under the project had been created serious social problem with the residents of old BDLG buildings and outsiders of the project areas.
- **Establishment of sub-station of power:** The electrical lines for the flats under the project had not been connected directly with the PDB lines. Instead of this, a sub-station has been established for each of the nine buildings and the huge amount of abnormal electric bills in addition of individual flat's bills had created burden for the low and middle income people who had been allotted with the flats. Any kinds of repair and maintenance of the sub-station of power are also borne by the flat allottees, which is also a burden for allottees.
- **Administrative complexity for the monthly payment of installment for flats:** The flat allottees should have maintained a procedure for the submission of their installment for flats. At first they submit the “Chalan” to the office of NHA at Segunbagicha, Dhaka for approval. After the approval, allottees collect the copy of Chalan and submit the money to the BASIC Bank. Again the flat allottees need to go to the NHA office at Segunbagicha to submit the receipt copy of the Chalan. Thus an allottee needs to go NHA office for three times and the flat allottees face the harassment by this type administrative complexity. Direct submission of installment to the BASIC bank located near the project area can resolve this problem.
- **Lack of service after completion of the project:** The project areas are being looked after by the office of the Executive Engineer, Mirpur H&SD-2, NHA, Dhaka. After the completion of the project a series of unauthorized temporary shops have been established at the adjacent to the southern walls of the buildings of 800 sft and 500 sft flat categories and occupied the drains from eastern to western directions of the buildings. Some unauthorized clubs have also been established by the outsiders between two buildings of many cases. Some cases, unauthorized shops have been established within the open spaces of the ground floor of the building by the unauthorized people in cooperation with some flat allottees, but nobody can protect it. These types of illegal construction and occupation are not being prohibited by the concerned authority.

4.1.5 Assessment of the sustainability of the construction works

The sustainability of the construction works under the project were assessed by the collection of the information from Project Management Personnel especially Engineers of NHA, Mirpur Housing and Settlement Division-2, Dhaka and head office of NHA through a semi-designed questionnaire interview regarding the quality, durability, sustainability, cost-effectiveness and maintenance works. The major findings of the assessment are discussed below:

- **Management of the project:** The Chief Engineer (H&SD), now the Chairman, NHA was responsible for the overall management of the construction of 600 flats at the head office level and the Project Director (Executive Engineer), Mirpur National Housing Division-2 was entrusted with the responsibility of management of the project at the field level.
- **Designing and planning of the project:** The Executive Engineer (PD) and Chief Engineer (H&SD), NHA was involved in the designing and preparation of the technical

specification of the construction of 600 flats of this project and all the buildings had been constructed fulfilling all specifications of the design.

- **Selection and performance of the contractor:** The Open Tender Method (OTM) was used to select the goods and contractors in specific flat category and all the works have been completed fulfilling all the technical specifications of the contract. The performance of the contractor in terms of the compliance of the technical specifications was also good. The contract value was also at par with the schedule price with few variations, which was resolved by the supplementary tender (ST) or variation item method.
- **Monitoring and quality control of the materials:** The Chief Engineer (H&SD) and PD (Executive Engineer), Mirpur H&SD-2, NHA was responsible for monitoring the project implementation at the head office level and the PD (Executive Engineer), Mirpur H&SD-2 was responsible for quality control of materials, management of materials, quantity and timeliness at the field level. The contractor and the client had carried out the field laboratory tests for the construction materials according to the technical specifications, but no challenges were required for field laboratory tests. The PD was responsible for analyzing the field monitoring reports, but no non-conformance by the contractor was contained in the monitoring reports.
- **Sustainability of the works:** The sustainability of the construction of flats depends on the design, materials, and management of the works. Considering the ever increasing in the country, this type of project is substantially sustainable.
 - a. **Design of the building:** All 60 buildings constructed under this project are six (6) storied and these buildings had been constructed on the skyscraping lands of Dhaka city. Therefore, the construction of six (6) storied building on the high price land is not sustainable. Thus at least 10 to 15 storied buildings should be constructed with lift facilities.
 - b. **Plinth area of the flats:** Three categories of flats such as 1000 sft, 800 sft and 500 sft had been constructed, where the construction of 500 sft flat is one kind of inhumanity. Therefore, 500 sft flat should be included in similar future planning and project and the plinth area of a flat must be considered not less than 800 sft.
 - c. **Materials of the construction works:** Durability of the constructions works substantially depends on the quality construction materials. The good quality and sufficient quantity of iron rods, quality bricks, perfect ratio of cement, sand and concrete in the RCC and plaster of walls and floors, quality woods for doors, quality fittings and items for sanitary, electrical and gas line should be used in the construction works.
 - d. **Management of the construction works:** Without strong monitoring quality construction works never be ensured. Therefore, strong monitoring for quality control of the constructions works should be ensured. For this purpose expert panel from specialized organization like BUET should be incorporated in the monitoring team.
- **Cost-effectiveness of the works:** Due to the allotment of the flats at low price, resulted to enhance the economic savings of the flat allottees and gaining of assets. The price of the assets is increasing in open market. Thus the economic returns against the invested money have been ensured by the project.

4.2. Recommendations

The construction of 600 flats has provided the shelter for 600 families of low and middle income people of Bangladesh in the heart of Dhaka city by the implementation of the project. This project also increased the economic savings and improved the livelihood of the beneficiaries by

ensuring the social facilities, secure of life and other facilities. Besides these, the major recommendations of the project are given below:

- **Avoidance of delay implementation:** To get the benefits from the project, delay of the project implementation should be avoided and it should be implemented within the stipulated time and work frame.
- **Design of the works:** The construction of flats having plinth area of 500 sft should be omitted from the future similar project in Bangladesh. The flats should be constructed not less than 800 sft plinth area.
- **Selection of qualified contractor:** The qualified contractors should be selected as per Public Procurement Rules (PPR) of Bangladesh and their performance must be ensured for the fulfilling of all technical specifications of the contract.
- **Monitoring and quality control of the materials:** To ensure the quality construction works, the project activities must strongly be monitored by the expert team. The renowned expert members from reputed organization like BUET should be incorporated in the expert team. As well as the representative from the flat owners should also be incorporated in the monitoring team to ensure quality works. The field laboratory tests for the construction materials according to the technical specifications should also be done by the contractor and or client and random challenges for field laboratory tests should also be offered by the client. In case of non-conformance by the contractor, punishment must be ensured.
- **Consideration of proper building code:** The proper building code such as ACI (American Concrete Institute) and BNBC (Bangladesh National Building Code) must be considered for designing the future project in Bangladesh.
- **Timely release of the fund:** Sufficient amount of funds should be released timely to implement the project within stipulated time and work frame.
- **Use of quality construction materials and fittings:** To ensure the durability and to check any unwanted accident and occurrence, quality construction materials such as good quality and sufficient quantity of iron rods, quality bricks, perfect ratio of cement, sand and concrete in the RCC and plaster of walls and floors, quality woods for doors, quality fittings and items for sanitary, electrical and gas line should be used in the construction works.
- **Provision of boundary wall:** The boundary wall to surround the flat area must be included in the future similar project planning and the boundary wall of the flat must be constructed with proper height and quality materials to ensure security of the residents.
- **Construction of sufficient roads and drains:** The sufficient roads and strong drainage system should be constructed with quality construction materials in the flat areas and the roads should be constructed elevated above the ground level.
- **Installation of lift:** Lift for multistoried building should be included in the future similar project planning in Bangladesh and that lift should be installed during the construction of flats with generator facilities for emergency power supply.
- **Provision of independent water supply facility:** To ensure quality and sufficient quantity of water, the independent deep tube well and tank should be installed in the flat area.
- **Provision of social facilities:** Different kinds of social facilities like construction of mosque for pray, maktab for children, community center, departmental store, community clinic and school, gymnasium etc should be included in the future similar project planning in Bangladesh and these facilities should be provided during the construction of flats.

- **Connection of electricity line with PDB line:** The electricity line should be connected directly with the PDB line instead of establishment of sub-station in the flat area to avoid unseen billing harassment from the sub-station.
- **Coordination among utility service authorities:** Cooperation and coordination should be maintained among different service providing agencies like City Corporation, DESCO/PDB, WASA, NHA etc.
- **Sustainability:** The construction of six (6) storied building on the skyscraping land price of Dhaka city is not justifiable. Therefore, the construction at least 15 storied buildings with lift and other community facilities should be included in future similar project planning.
- **Establishment of satellite town:** In the present days, selling of limited area of land to the citizen of Bangladesh is common phenomenon like Purbacha, Uttara Model town etc. For ever increasing population of Bangladesh this type land selling project not justifiable. Instead of it satellite town many be established where the multistoried buildings comprising at least 15 storied with lift and all community facilities such as own water supply system, community center, community clinic, mosque, school, college, super store/departmental stores, amusement facilities for children, gymnasium etc should be included. This type of satellite town should be established adjacent to metropolitan cities but not within the metropolitan cities of Bangladesh. This type of town should be established by the GoB funding but developed by the private sector, where the construction works should be managed and monitored by both GOB and developer. The flats of this town will be sold to the citizen of Bangladesh on hire purchase basis or at a time by the transparent lottery system.

4.3 Conclusions

The project activities have fulfilled the targeted objectives and provided the shelter of 600 families by the allotment of 600 flats among low and middle income people of Bangladesh on hire purchase basis for 25 years. This project also improved the livelihood of the beneficiaries, ensured secured life, economic benefit to the allottees as well as improved the social environment among the beneficiaries. But the construction of six (6) storied building on the skyscraping price of land in Dhaka city is not justifiable. Therefore, this type of project should be replicated by the construction of at least 15 storied buildings with all community facilities to provide shelter for more number of limited income people in other Metropolitan cities of Bangladesh.

Impact Evaluation Study of Construction of 600 Flats for Selling to Limited Income Group of People on Hire Purchase basis/ for Residential Accommodation to Govt. Employees in Dhaka city (Revised)"

Prepared by:
International Training & Management Consultants (ITMC)
 Dhaka, Bangladesh

Questionnaire for Beneficiaries
 600 দাঁড়ি বগিচা কীরি ম্যাপটফিল্ড'ই ডি রবিচ

তথ্যসংগ্রহ -

A.0 *DEi`vZvi e`vMZ I Ae`ibMZ Z`wi t*

- A.1 *DEi`vZvi bvg:* ----- |
- A.2 *DEi`vZvi wj 1/2:* *তথ্যসংগ্রহ: (1=চ্যা, 2=গন্য)* |
- A.3 *DEi`vZvi`eevNK Ae`v:* *তথ্যসংগ্রহ: (1=এএন, 2=এএএন, 3=এএএ, 4=জয়বক, 5=এসসি)* |
- A.4 *ag:* *তথ্যসংগ্রহ: (1 = Bmj, 2= n`y, 3= Lpb, 4=tesx, 5=Ab`ib)* |
- A.5 *d`vUi`ib:* *তথ্যসংগ্রহ: (1=গিচা-2, 2=গিচা-14)* |
- A.6 *d`vUi`aib/ AvqZb:* *তথ্যসংগ্রহ: (1= 1,000 eM, 2= 800 eM, 3= 500 eM)* |
- A.7 *feb b`f* : -----; 1.8 *d`vU b`f:* ----- |

B.0 *d`vUi`gij Kibv`m`u`K`Z`wi t*

- B.1 *Av`ib` t`K`v` m`f` GB d`v`U emem Ki`Qb?*
তথ্যসংগ্রহ: (1=মি কীরি ইবকু নত লুই` মফ গুজ ক, 2=ন`ইসি মাধ্যমে ক্রয় সূত্রে মালিক, 3 = `বমফ গুজ ক, 4=ফিও ইনটমে এএমকি) |
- B.2 *Av`ib` t`K`v` K`v`U`m`i`Z` A`I` d`v`U`U` mi`K`v`i` i` b`K`U` n`Z` L`u`i`` K`i`Q`b?*
তথ্যসংগ্রহ: (1=মি কীরি কগপরি/কগরি, 2= ফেমি কীরি কগপরি/কগরি, 3= এ`এমকি ইনটমে, 4=এ`এমকি ইনটমে, 5=এ`এব`এমকি ইনটমে, 6=এ`এবি ইনটমে, 7= এ`এসসি ইনটমে, 8=এ`এবি`এমকি ইনটমে (D`j`L`K`i`ab -----)| |

C.0 *d`vU`eiv`i`c`i`i` আর্থিক অবস্থা সংক্রান্ত তথ্যাদি*

- C.1 *mi`K`v`i`x`K`g`R`Z`K`g`P`i`x`n`j` , d`vU`ক্রয়ের সময় আপনবি`teZb`t`M`W`K`Z`Z`g`ev`teZb`t`j`K`Z`u`Q`j`?*
(W`f`b`i`L`u`j`N`i`1`t`K`20`Z`g`t`M`W`i`m`i`K`ms`L`v`em`b) |
- C.2 *f`em`i`K`v`i`x`K`g`R`Z`K`g`P`i`x`ev`e`em`q`x`ev`Ab`v`t`ck`v`i`g`u`j`K`n`j`d`vU`ক্রয়ের সময় আপনবি`g`v`m`K`Av`q`K`Z`U`v`K`v`u`Q`j`D`j`L`K`i`ab:*
তথ্যসংগ্রহ: (1= 5,000 UvKv`ev`Z`vi`Kg, 2= 5,001 t`K`10,000 UvKv, 3=10,001 t`K`15,000 UvKv, 4=15,001 t`K`20,000 UvKv, 5=20,000 UvKv`i`D`i`x`) |

D.0 *A`u`v`Z`K`j`v`f` (Economic Benefit) m`u`i`K`Z`wi t*

- D.1 *e`Z`v`t`b`GB`d`v`U`i`c`i`Z`e`M`e`L`Av`q`Z`t`b`i`Av`b`g`m`b`K`ev`R`i`i`g`j`K`Z`?* |
- D.2 *d`vU`ক্রয়ের কার`Y`A`u`v`Z`K`f`i`v`e`j`v`f`e`i`b`n`t`q`b`u`K`?* *তথ্যসংগ্রহ: (1=n`u`2=br)* |
- D.3 *Av`ib`u`K`f`i`v`e`d`v`U`i`g`j`c`w`i`k`v`a`K`i`Q`b`/K`i`Q`b`?*
তথ্যসংগ্রহ: (1= 5 ermi`tgq`v`x`u`K`v`f`Z, 2= 10 ermi`tgq`v`x`u`K`v`f`Z, 3= 15 ermi`tgq`v`x`u`K`v`f`Z, 4=20 ermi`tgq`v`x`u`K`v`f`Z, 5= 25 ermi`tgq`v`x`u`K`v`f`Z, 6=GKKj`v`b)| |

E.0 *ib`g`i`K`v`R`i`b`M`Z`g`v`b`*

- E.1 *d`vU`t`j`v`Z`e`e`y`Z`ib`g`i`m`i`g`M`i`b`M`Z`g`v`b`t`K`g`b`?*
তথ্যসংগ্রহ: (1= L`y`f`i`t`j`v, 2 = f`i`t`j`v, 3 = t`g`v`U`v`t`g`m`U`f`i`t`j`v, 4 = L`v`i`v`c, 5 = L`y`L`v`i`v`c)| |
- E.2 *d`vU`t`j`v`Z`e`e`y`Z`m`i`t`b`U`v`i`x`u`c`l`U`sm`-G`i`b`M`Z`g`v`b`t`K`g`b`?*
তথ্যসংগ্রহ: (1= L`y`f`i`t`j`v, 2 = f`i`t`j`v, 3 = t`g`v`U`v`t`g`m`U`f`i`t`j`v, 4 = L`v`i`v`c, 5 = L`y`L`v`i`v`c)| |

Annex-1: Data Collection Instruments

(Beneficiaries Questionnaire)

F.0 iv`l-NvU I ঈনেজ সংক্রান্ত Z_`wi t

F.1 AĀ AvevmK Gj vKvq cĀqRb gmdK iv`l-NvU I ĩWb ubvgZ ntqĀQ ĩK? ĩKW: (1 = n`vŁ2 = bv)

F.2 ubvgZ iv`l-NvU I ĩWb ,tj vi ,bMZ gvb tKgb?
 ĩKW: (1 = LŁ fıťj v, 2 = fıťj v, 3 = tgvUrĀgmU fıťj v, 4 = Lvıvc, 5 = LŁ Lvıvc)|

F.3 Avcbvi AvevmK Gj vKvq ubvgZ iv`l ,tj vi eZĀvb Ae`v tKgb? Dĳ Ā Kiab:
 ĩKW: (1= me ,tj v iv`l Pj vPĳ i DcĥmŁ, 2=ŁQzi v`l ĩĳĳ ĩMĀ, 3=ewĀ cmbĳZ Rj ve×Zv mĳĳ nq,
 4=ŁKĳZv ubvgZ nqub, 5=cĀqRĳbi Zĳbvq ubPz6=ŁQzi v`l A%a `vcbvi `Lĳ AvĀQ, 7 = Ab` ĩKvb
 ms`vi ĩLvov-LŁpi KviĳY bĀ, 6=Ab` ĩKvb KviY-----)|

G.0 বিদ্যুৎ, গ্যাস ও পানি সরবরাহ সংক্রান্ত তথ্যাদি

G.1 Avcbvi d`ĳU me`y mieivn jvBb I DcKiY ,tj vi ,bMZ gvb tKgb?
 ĩKW: (1 = LŁ fıťj v, 2 = fıťj v, 3 = tgvUrĀgmU fıťj v, 4 = Lvıvc, 5 = LŁ Lvıvc)|

G.2 Avcbvi d`ĳU M`m mieivn jvBb I DcKiY ,tj vi ,bMZ gvb tKgb?
 ĩKW: (1 = LŁ fıťj v, 2 = fıťj v, 3 = tgvUrĀgmU fıťj v, 4 = Lvıvc, 5 = LŁ Lvıvc)|

G.3 Avcbvi d`ĳU cmb mieivn jvBb I DcKiY ,tj vi ,bMZ gvb tKgb?
 ĩKW: (1 = LŁ fıťj v, 2 = fıťj v, 3 = tgvUrĀgmU fıťj v, 4 = Lvıvc, 5 = LŁ Lvıvc)|

G.4 AĀ AvevmK Gj vKvq mieivnKZ.cmbi ,bMZ gvb tKgb?
 ĩKW: (1 = DĒg, 2=cıb Kivi DcĥmŁ bq, 3=e`envi Kivi DcĥmŁ bq)|

G.5 Avcbvi d`ĳU me`y, cmb I M`m mieivn ĩmevi gvb tKgb?
 ĩKW: (1 = LŁ fıťj v, 2 = fıťj v, 3 = tgvUrĀgmU fıťj v, 4 = Lvıvc, 5 = LŁ Lvıvc)|

H.0 ĳigvZ I iĳĳbteĳb m`uĳŁ Z_`wi t

H.1 AĀ AvevmK Gj vKvq cĀqRb ntĳ ĥ ĩKvb ĳigvZ Kır Kiv Kĳi `vĳKb?
 ĩKW: (1= msŁkĀ ĩmev cĀZĀvb ĩĳK, 2= ĩKvb cĀZĀvb ĩmev cĀvb Kĳi bv, 3 = ĩR Liĳ ĳba ĳয় কং
 `mK, 4= gıĳ K Kĳ `vb mĳıZi gva`ĳg, 5= Ab`vb` (Dĳ Ā Kiab) -----)|

I.0 mgeıq ĩfıĒK Kivĳi m`uĳŁ Z_`wi t

I.1 AĀ AvevmK Gj vKvq ĩKvb gıĳ K Kĳ `vb mĳıZ AvĀQ ĩK? ĩKW: (1= nıĳ, 2= bv)

I.2 gıĳ K Kĳ `vb mĳıZ `vĳĳ G mKĳ mĳıZ ĩK aiĳYi KivR fıĳKv ĳiĳL `vĳK? Dĳ Ā Kiab:
 ĩKW: (1=এলাকায় নিরাপত্তা সংক্রান্ত, 2=পরিষ্কার পরিচ্ছন্নতা সংক্রান্ত, 3=বিরোধ নিষ্পত্তি সংক্রান্ত, 4=সামাজিক
 কল্যাণ বৃদ্ধি সংক্রান্ত, 5=রাস্তাঘাট মেরামত ও রক্ষণাবেক্ষণ সংক্রান্ত, 6=সামাজিক আচার-Abĳĳb mĳĳmŁZv
 সংক্রান্ত, 7=অন্যান্য-----)|

cĀqRĳb
 GKŁaK Lıĳ
 Nĳi cĀĳ`i
 msL`v emb

J.0 নিরাপত্তা সংক্রান্ত তথ্যাদি:

J.1 AĀ AvevmK Gj vKvq mĳıRK ĩbıvcĒv tKgb?
 ĩKW: (1=AŁZ DĒg, 2=ĳvUrĀgmU fıťj v, 3= fıťj v bq, 4= SŁKcyĳ)|

J.2 AĀ AvevmK Gj vKvq mĳıĳi ĳiĳte Kiv ĩbıvcĒv KivR fıĳKv iĳLb?
 ĩKW: (1= msŁkĀ ĩbıvcĒv ms`v, 2= MŁZ mĳıZi gva`ĳg, 3= ĩKvb ĩbıvcĒv e`v ĳbB)|

J.3 Avcbvi Gj vKvq ĩbıvcĒv cĀPĳi i Ae`v tKgb?
 ĩKW: (1=mĳıĳi ĳiĳte ĩbıvcĒv cĀPĳi AvĀQ, 2=ıbıvcĒv cĀPĳi AcĳĳZ, 3=ıbıvcĒv cĀPĳi bıB)|

K.0 জীবনযাত্রার মান উন্নয়ন সংক্রান্ত Z_`wi t

K.1 AĀ d`ĳU Lıı` Kivi cĳeAvıcb ĩK aiĳbi Amııavi m`ııb ntZb?
 ĩKW: (1=XıKv knĳi `ıq ĩKvb ĩKıvb ĩQj bv, 2=cĀZ gıĳm AŁZıı 3 evox fıov cĀvb KiĳZ ntZv,
 3=mĳıRK fıĳte ĩbĳRĳK ĳnq ĳĳb ntZv, 4= mĳıRK ĩbıvcĒv cııĳek ĩQj bv, 5= AŁm/e`emv cĀZĀvb
 ĳıZıqĳZ Amııav ĩQj , 6=Ab`vb`-----)|

cĀqRĳb
 GKŁaK Lıĳ
 Nĳi cĀĳ`i
 msL`v emb

K.2 AĀ d`ĳU eivĳı cvl qıi KviĳY Avcbvi Rıeb ĳıĳvi ĳıĳbi ĩKvb cıı eZĳ ntqĀQ ĩK?
 ĩKW: (1= nıĳ, 2= bv)

K.3 AĀ d`ĳU eivĳı cvl qıi KviĳY Avcbvi Rıeb ĳıĳvi ĳıĳbi ĩK ĩK cıı eZĳ ntqĀQ, Dĳ Ā Kiab:
 ĩKW: (1=mĳıRK ĳıĳb ĳıĳv eıx ĳcĳĳQ, 2=A`%ııZK fıĳte jvııvb ntqıQ, 3=d`ĳıı gıĳ K ntqıQ,
 4=GKıU `ıq ĩKıvb ĳcĳĳQ, 5=`ıY ĳıĳ cııĳek ĳcĳĳQ, 6= mĳıĳi ĳıĳv e`vı mııav ntqĀQ,
 7=Ab`vb` -----)|

cĀqRĳb
 GKŁaK Lıĳ
 Nĳi cĀĳ`i
 msL`v emb

Annex-1: Data Collection Instruments

(Beneficiaries Questionnaire)

- K.4 *AĪ d'vU eivĪ cvl qvi KviġY cteP Zġbvq mšibġi i wkyv- 'v' PwKrmv mġav ewx tctqġQ wK?*
‡KwW: (1= nū, 2= bv)
- K.5 *AĪ d'vU eivĪ cvl qvi KviġY cteP Zġbvq Avw R mġav ewx tctqġQ wK?*
‡KwW: (1= nū, 2= bv)
- L.0** **সামাজিক সুবিধাদি সংক্রান্ত Z_wi t**
- L.1 *Avcbvi AvevmK Gj vKvq ‡Kvb gwj K Kj 'vb mġuZi Rb' ‡Kvb mġw' ̃ Avdm AvġQ wK?*
‡KwW: (1= nū, 2= bv)
- L.2 *gwj K Kj 'vb mġuZi mġw' ̃ Avdm vKġj Zv wK fiġe cġZwōZ wK?*
‡KwW: (1=mi Kvi xfiġi wbgZ, 2=mġuZi wR LiġP wbgZ)
- L.3 *Avcbvi AvevmK Gj vKvi wki-wKġkviġi i Rb' ‡Lj vaj-vi chwB mġaw' AvġQ wK?*
‡KwW: (1= nū, 2= bv)
- L.4 *Avcbvi AvevmK Gj vKvq ev Avġk cvġk ev'Pvġ' i Rb' hġ_ó msL'K wK'ġv cġZōvb AvġQ wK?*
‡KwW: (1= nū, 2= bv)
- L.5 *Avcbvi AvevmK Gj vKvq ev'Pvġ' i agvġ wky'vi Rb' g³e AvġQ wK?*
‡KwW: (1= nū, 2= bv)
- L.6 *Avcbvi AvevmK Gj vKvq cġ_̃vi Rb' Dcmvbj q AvġQ wK?*
‡KwW: (1= nū, 2= bv)
- L.7 *Avcbvi AvevmK Gj vKvq cġ_̃vi Rb' Dcmvbj q vKġj Zv wK fiġe cġZwōZ?*
‡KwW: (1=mi Kvi xfiġi wbgZ, 2=mġuZi wR LiġP wbgZ)
- L.8 *Avcbvi AvevmK Gj vKvq ‡Kvb KwgDibwU tmvvi AvġQ wK?*
‡KwW: (1= nū, 2= bv)
- M.0** **সামাজিক সম্প্রীতি সংক্রান্ত তথ্যাদি:**
- M.1 *Avcbvi AvevmK feġbi cvġki d'vUi cġZġekxi mġ_ mġvmRK m'úwZ ‡Kgb?*
‡KwW: (1= Lġ fġj v, 2= fġj v, 3= tġvUġġmU fġj v, 4= fġj v bq)|
- N.0** **cwiġek 'HY m'úwZ Z_wi t**
- N.1 *AĪ AvevmK Gj vKvi eR'Acvvi Y e'e'v ‡Kgb?*
‡KwW: (1= AwZ DĒg, 2=tġvUġġmU fġj v, 3= Lvivc, 4= Lġ Lvivc)|
- N.2 *AĪ AvevmK Gj vKvq eġR'ġ KviġY cwiġek 'ġj Z nġ'Q wK?*
‡KwW: (1= nū, 2= bv)
- N.3 *d'vU wbg'̃bi dtj AĪ Gj vKvi cwiġek i ‡Kvb 'ġwZ nġqġQ wK?*
‡KwW: (1= nū, 2= bv)
- O.0** **e'e'icbv m'úwZ Z_wi t**
- O.1 *AĪ d'vUmgv weZiġYi ġyġĪ KZġġyi 'QZv m'úġK'Avcbvi gZvqZ Dġj L Kiab:*
‡KwW: (1=m'úw'QZv Aej wB Kiv nġqġQ, 2='QZv m'šġi RbK bq, 3=‡Kvb avi Yv bivB)|
- O.2 *AĪ AvevmK d'vU eivĪ tctZ eivĪ Kvi x cġZōvġbi wBKU nġZ ‡Kvb mġ'vi m'ġyb nġqġQb wK?*
‡KwW: (1= nū, 2= bv)
- O.3 *DĒi nūnġj, wK aiġbi mġ'vi m'ġyb nġqġQb Dġj L Kiab:*
‡KwW: (1= KwMR-cĪ tctZ 'ox nġqġQ, 2=KZġy KZġ nqiwbi 'Kvi nġZ nġqġQ, 3= AwZwġ³ A_ġ' ġj bġ' b KiġZ nġqġQ, 4=Ab' ‡Kvb mġ'v (hv' vġK))|
- P.0** **‡UKmB (Sustainablity) সংক্রান্ত পরামর্শঃ**
- P.1 *AĪ cġġġi i b'vq fiel 'Z Avġiv cġġi ev'bvq ‡'ġki Rb' j vFRbK nġe wK?*
‡KwW: (1= nū, 2= bv)
- P.2 *XvKv knġi i GġZv D'P gġj 'i RvġġZ eZġvb cġġġi i b'vq Qq (6) Zj v feb wbg'̃b Kiv fiel 'Zj Rb' hġ³msMZ eġj gġb Kġib wK?*
‡KwW: (1= nū, 2= bv)
- P.3 *hv' h³msMZ biv nq, Zvntġ KZ Zj v feb wbg'̃b Kiv mġwK eġj gġb Kġib?*
‡KwW:(1=Kgġy 10 Zj v, 2=Kgġy 15 Zj v, 3=Kgġy 20 Zj v ev Zt'xvġ)|

Annex-1: Data Collection Instruments

(Beneficiaries Questionnaire)

P.4 fivel tZ G aitbi dWU ubg#bi tTtT Avtiv uK uK Dbzi e'e vcbv Mhb Kiv thZ cvfi Avcbvi civgk_vKtj
DfjL Kiab:

K. -----

L. -----

M. -----

N. -----

O. -----

Z_ mSMhKvixi bvgt ----- msukó mgvi fivBRvfi i bvgt -----

Z_ mSMhKvixi vTjit----- msukó mgvi fivBRvfi i vTjit-----

Z_ mSMhKvixi tgvvBj bst----- msukó mgvi fivBRvfi i tgvvBj bst-----

Zwi L t ----- Zwi L t -----

Impact Evaluation Study of Construction of 600 Flats for Selling to Limited Income group of People on Hire Purchase basis/ for Residential Accommodation to Govt. Employees in Dhaka city (Revised)”

**Prepared by:
International Training & Management Consultants (ITMC)
Dhaka, Bangladesh**

জাতীয় পরিকল্পনা কমিশন

তারিখ-

600 দাঁড় ভগ্ন চুক্তি চুক্তি গ্ৰহণ কৰি ডি ডি কাম মেম্বৰছীপ (FGD) ৰে ডি এম এলি গু:

FGD কৰিবলৈ নাম:

দাঁড়ি আইডি:; ফোন নম্বৰ:; ঠিকনা:; জিলা:

ক্রমিক সংখ্যা	আবেদনকাৰীৰ নাম	পতা	দাঁড়ি নং	বয়স	দাঁড়ি সংখ্যা	প্ৰশ্ন	মন্তব্য
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
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14							
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17							
18							
19							
20							

A.0 *e e icbv m u n K Z w t*

A.1 *A I Ave m K d u e i v i t c t z t k v b a i t b i m g m v i m s b n t q u k t j D t j L K i a b :*

- K. -----/
- L. -----/
- M. -----/

A.2 *f i e l r t z G K B a i t b i c k r i e v l e v q t b G m K j* সমস্যা সমাধানের উপায় সংক্রান্ত আপনাদের পরামর্শ দিন:

- K. -----/
- L. -----/
- M. -----/

A.3 *f A v t q i t j v k t i g v S G a i t b i d u u e z i t y i t y t i Q z v A v b q t b i j t y u k u k c t y c t b q v D u P Z e t j g t b K t i b ?*

- K. -----/
- L. -----/
- M. -----/

B.0 *জীবন যাত্রার মান বৃদ্ধি সংক্রান্ত Z w t*

B.1 *A I d u e i v i c v l q v i c t e A v c b v i R x e b h v i v i u k u k A m y e a v u Q j h v G L b n t Q b v , D t j L K i a b :*

- K. -----/
- L. -----/
- M. -----/

B.2 *A I d u e i v i c v l q v i K v i t y c t e P Z z b v q u k u k m y e a v e u x t c t q t Q , D t j L K i a b :*

- K. -----/
- L. -----/
- M. -----/

C.0 *সামাজিক সুবিধা সংক্রান্ত তথ্যাদিঃ*

C.1 *A I A v e m K G j v K v q u k u k m y e a v e u x K i v D u P Z e v d u u u b g t b c k t i i A s t p . 3 u Q j b v ? D t j L K i a b :*

- K. -----/
- L. -----/
- M. -----/

D.0 *শিক্ষা, চিকিৎসা সুবিধা সংক্রান্ত তথ্যাদিঃ*

D.1 *A I d u e i v i c u B A v c b v i m s t b t i u k q v R x e t b u k a i t b i f i g K v i v L t Q D t j L K i a b :*

- K. -----/
- L. -----/
- M. -----/

D.2 *A I d u e i v i c u B A v c b v i i r m y e a v q u k a i t b i f i g K v i v L t Q D t j L K i a b :*

- K. -----/
- L. -----/
- M. -----/

E.0 ফ্ল্যাট নির্মাণে গুণগত মান সংক্রান্ত তথ্যাদিঃ

- E.1 *Avcbrv ememi Z d-ıfUi †Kvb †Kvb †bgfıb mıgMı, †jv me†Ptq †ekx fı†jv? D†j † Kiab:*
 K. -----|
 L. -----|
 M. -----|
- E.2 *Avcbrv ememi Z d-ıfUi †Kvb †Kvb †bgfıb mıgMı, †jv me†Ptq †ekx Lviıv? D†j † Kiab:*
 K. -----|
 L. -----|
 M. -----|

F.0 *iv-ı* ফ্ল্যাট ও ড্রেনেজ সংক্রান্ত তথ্যাদিঃ

- F.1 *Avcbrv`i AveıııK Gj vKvi me, †jv iv-ı Pj vPtj i Dc†hvMx †K? †Kvb iv-ı Pj vPtj i Dc†hvMx bv n†j, Zvi KviY †K? D†j † Kiab:*
 K. -----|
 L. -----|
 M. -----|

- F.2 *ıbqıgZ iv-ı †gıvg†Zi Kvr nq †K? †KıW: (1= nıı; 2= bv)*
ıbqıgZ †gıvg†Zi Kvr bv n†q _vK†j Zvi KviY †K D†j † Kiab:
 K. -----|
 L. -----|
 M. -----|



- F.3 *Avcbrv`i AveıııK Gj vKvi iv-ı-N†U eıııi Kvi†Y †Kvb Rj ve×Zv nq †K? Rj ve×Zv n†q _vK†j Gi m=†e` KviY D†j † Kiab:*
 K. -----|
 L. -----|
 M. -----|

- F.4 *G ai†bi Rj ve×Zv`ııKı†Yi Dcıv †K? D†j † Kiab:*
 K. -----|
 L. -----|
 M. -----|

G.0 *M`ım, ıe`ıy, cııb* সর্বা সংক্রান্ত তথ্যাদিঃ

- G.1 *Avcbrv`i d-ıfU mi eiııKZ.M`ım, ıe`ıy I cııb mi eiııı †meııı gııı †Kgb D†j † Kiab:*
 K. -----|
 L. -----|
 M. -----|
- G.2 *Avcbrv`i d-ıfU ıe`ıy, cııb I M`ım mi eiııı †meıııı mgm`ıv n†j †Kfı†e mgiıııı †c†q _ı†Kb?*
 K. -----|
 L. -----|
 M. -----|

H.0 গুজ K Kj 'ib সমিতি সংক্রান্ত তথ্যাদিঃ

- H.1 AĪ AveṁṁK Gj vKvq †Kvb Kj 'ib mḡuZ Av†Q ṁK? †_†K_vK†j Zv ṁK ai†bi fḡKv cyj b K†i_v†K, D†j_† Ki ab:
K. -----|
L. -----|
M. -----|

I.0 mḡuRK নিরাপত্তা সংক্রান্ত তথ্যাদিঃ

- I.1 AĪ AveṁṁK Gj vKvq mḡuRK ṁbi vĀv e'e_v ṁK f†e ṁbṁZ Kiv nq? D†j_† Ki ab:
K. -----|
L. -----|
M. -----|
- I.2 AĪ AveṁṁK Gj vKvq mḡuR ṁbi vĀv e'e_v b v_vK†j, ṁK f†e Zv e v'ēvqb Kiv m†e? D†j_† Ki ab:
K. -----|
L. -----|
M. -----|

J.0 পরিবেশ সংক্রান্ত তথ্যাদিঃ

- J.1 AĪ AveṁṁK Gj vKvi eR^Acmvi Y e'e_v †Kgb?
K. -----|
L. -----|
M. -----|
- J.2 e†R^ Kvi †Y `†Y †i†a Ki Y†q ṁK? Avcbvi ci vḡk^ b:
K. -----|
L. -----|
M. -----|

K.0 লাগসই প্রকল্প সংক্রান্ত তথ্যাদিঃ

- K.1 XiKv kn†ii D^P ḡ†j `i R††Z Qq (6) Zj v feb ṁḡḡb KZUv h†h^3 e†j ḡ†b K†ib?
h† h†h† b v nq, Z††j f†el `†Z G ai†bi c††i †UKmB Kivi Rb^ ṁK Kiv D†PZ e†j ḡ†b K†ib, D†j_† Ki ab:
K. -----|
L. -----|
M. -----|

L.0 Ab†c f†el `r c††i i Rb^ ci vḡk†

- L.1 f†el `†Z G ai†bi d^U ṁḡḡbi †††† Av†iv ṁK ṁK Dbz†i e'e_vcbv M††b Kiv ††Z c††i Avcbvi ci vḡk^_vK†j, D†j_† Ki ab:
K. -----|
L. -----|
M. -----|

FGD c†i P†j b vKvi xi b vḡ t -----

FGD c†i P†j b vKvi xi `†yi t -----

FGD c†i P†j b vKvi xi †ḡv†Bj t -----

Z†i L t -----

Annex-1: Data Collection Instruments

(Questionnaire for KII)

Impact Evaluation Study of Construction of 600 Flats for selling to limited income group of people on hire purchase basis/ for residential accommodation to Govt. Employees in Dhaka City (Revised)"

Prepared by:
International Training & Management Consultants
Dhaka, Bangladesh

Questionnaire for Management Personnel & Policy level Officials of NHA

৬০০ ইউনিটের কীর্তি কীর্তি

A.1 Which office was responsible for the overall management of the construction of 600 flats at the Head office level?

A.2 Who were entrusted with responsibility of management of the project at the field level?

A.3 Which office was involved in the design of the construction of 600 flats of this project?

A.4 What was the primary focuses for the construction of 600 flats?

A.5 Which office was responsible for preparation of the technical specifications of the construction of 600 flats?

A.6 Had all the buildings been constructed fulfilling all specifications of the design?

Annex-1: Data Collection Instruments

(Questionnaire for KII)

A.7 What were the selection criteria of the goods and contractors in specific flat category?

A.8 Was the work completed fulfilling all the technical specifications of the contract?

A.9 How much was the performance of the contractor in terms of the compliance of the technical specifications?

A.10 Which office was responsible for monitoring the project implementation at the field level?

A.11 Who was responsible for quality control of materials, management of materials, quantity and timeliness at the field level?

A.12 Did the contractor and or the client carry out field laboratory tests according to the technical specifications?

A.13 Which office was responsible for analyzing the field monitoring reports?

A.14 Whether the monitoring reports contained any non-conformance by the contractor?

Annex-1: Data Collection Instruments

(Questionnaire for KII)

A.15 What actions were taken in case of non-compliance?

A.16 How many cases of actual non-compliance with the technical specifications were reported in this project?

A.17 How were the cases mitigated?

A.18 Was there any case of challenging the field laboratory test? How the issue was resolved?

A.19 Was the contract value at par with the schedule price?

A.20 If not, why and how the issue was resolved?

A.21 What were the major constraints in implementing the project?

A.22 Which code or building regulations have been followed for the design of these buildings?

A.23 Do you consider the approval by the respective building authorities like Rajuk, WASA, DESCO, DCC, Fire brigade etc?

Yes No

Annex-1: Data Collection Instruments

(Questionnaire for KII)

A.24 If no, what are the reasons?

A.25 Please mention at least five strengths and five weaknesses of the construction work:

Strengths	Weaknesses (Faults)
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

A.26 Do you think that the construction of flats has contributed to improve the livelihood of the beneficiaries and how?

Yes No

A.27 Do you think that the construction of 6 storied buildings like this project on the high price land of Dhaka city is sustainable? If no, what would be the sustainable measures to resolve this?

A.28 Do you think that economic benefits of the allottees have been achieved due to construction of such flats?

A.29 Would you please mention at least 3 measures for improving the effective management for future planning of these type construction works other cities of Bangladesh?

Annex-1: Data Collection Instruments

(Questionnaire for KII)

A.29.1 For planning:

1. Location aspect : -----
2. Area aspect : -----
3. Target group :-----
4. Case study : -----

A.29.2 For designing:

1. Economic aspect :-----
2. Mass scale housing: -----
3. Improvement of individual unit plan: -----
4. Improvement of the design of the master plan: -----
5. Others: -----

A.29.3 For distributing:

1. Registration procedure:-----
2. Transfer rule: -----
3. Strong association regulated by NHA:-----
5. Others: -----

Thank You

Annex-2: Observations/ Physical Verifications on 3 Categories Flat

The Observation Checklist for Component Wise Cost and Implementation Period of Construction of 600 Flats

Building Type: 1=1,000 sft, 2= 800 sft or 3= 500 sft,

Building No.:

Flat No.:

SI.No.	Components as DPP	Unit	Original approved		Revised approved		Actual implementation (%)		Extended cost (% of original)	Implementation period			Extended period (% of original)	Remarks
			4	5	6	7	8	9		10	11	12		
1	2	3	Quantity	Cost (Lakh Tk)	Quantity	Cost (Lakh Tk)	Quantity	Cost (Lakh Tk)	Cost (Lakh Tk)	Original	Revised	Actual		
1.	Land acquisition	Acre												
2.	Land development	CM												
3.	Construction of Flat building													
3.a	Construction of 1000 sft flat 160 nos.	m ² & nos.												
3.b	Construction of 800 sft flat 260 nos.	m ² & nos.												
3.c	Construction of 500 sft flat 180 nos.	m ² & nos.												
4.	Road works	M ²												
5.	Water reservoir with pump	Nos.												
6.	Water supply pipe line	Meter												
7.	External Electrification	Lump-sum												
8.	Gas line	Meter												
9.	Pucca surface drain	Meter												
10.	12" dia RCC pipe culvert	Meter												

Annex-2: Observations/ Physical Verifications on 3 Categories Flat

The Observation Checklist for Component Wise Implementation Status of Construction Works of 600 flats

Building Type: 1=1,000 sft, 2= 800 sft or 3= 500 sft,

Building No.:

Flat No.:

Name of works/materials	Unit	Quantity Implemented	Present status of construction work		Remarks
			Damaged Condition During Visit	Workable/Good Condition During Visit	
1. Construction Works					
a. Plaster of the walls	%				
b. Doors	Nos.				
c. Windows	Nos.				
d. Window Grills	Nos.				
e. Floors	%				
f. Stair with Ralling	Nos.				
g. Collapsible Gate of the building	Nos.				
2. Sanitary works					
a. Commode	Nos.	160			
b. Long pan	Nos.	860			
c. Wash hand basin	Nos.	1020			
d. Sink tray	Nos.	600			
3. Electrical fittings and materials	LS	LS			
4. Construction of roads	Sq.m	3868			
5. Underground water reservoir	Nos.	60			
5. Water pump	Nos.	60			
6. Gas line and fittings	M	4371.84			
7. Pucca surface drain	M	1219.14			
8. RCC pipe culvert	Nos. M	12 58.52			



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