

FEASIBILITY STUDY REPORT

FOR
'RURAL AND PERI-URBAN HOUSING
FINANCE PROJECT-SECOND PHASE'





**Financial Institutions Division, Ministry of Finance,
Government of the people's Republic of Bangladesh**

Project Feasibility Study Report

for

'Rural and Peri-Urban Housing Finance Project-Second Phase'

December, 2022

**Bangladesh House Building Finance Corporation
22 Purana Paltan, Dhaka-1000.**



Project Feasibility Study Report for Rural and Peri-Urban Housing Finance Project-Second Phase

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Executive Summary

The housing sector serves the fundamental human need of shelter as well as contributes in improving the national economy. Bangladesh House Building Finance Corporation (BHBFC) as a statehood agency is continuing its effort to expand the access to housing finance to mitigate housing problem for lower and lower-middle income groups of people. In that context, BHBFC approached to reputed development partner, IsDB for financing in Rural and Peri-Urban Housing Finance Project. This project has been successfully completed with aide of IsDB to 10715 housing units from where 64290 resident were benefited with improved housing services and related facilities. The positive lesson and the impact encourage BHBFC to keep on the effort and adopt the next phase of the project titled as ‘Rural and Peri-Urban Housing Finance Project- Second Phase’ so that it can render more credit facility to the middle and lower-income group of people as well as address climate responsiveness such as financing in eco-friendly and climate resilient housing. To review and re-evaluate the experience of the last phase vis-a-vis the substantiality of the project proposed for the second phase a feasibility study was felt necessary. The objective of the feasibility study was to explore the scope of further expanding affordable housing finance for planned, sustainable multi-storied housings and to address the climate change issue through introducing climate-resilient and eco-friendly housing as country’s effort in adapting and mitigating environmental adversary.

BHBFC as an Executing Agency:

BHBFC is the pioneering institution in the housing finance sector which was incepted in 1952 with a view to financing the construction, repair and remodeling the residential houses in facilitating the living standard of people of the country. The total paid-up capital of the corporation is paid by the Government of Bangladesh. It is the only financial institution in the housing sector that has been financing for the last 7 decades. BHBFC as the Executing Agency of the project has the institutional capacity (financial and technical) to retain the project output functional with its skilled & experienced workforces in operating the project successfully.

Projection of market sector/specific Demand of housing finance:

As a key factor of the project the demand projection has been mostly emphases in this study. The income- affordability method has been used for the demand assessment of the potential home borrowers, with the focusing on the LMIH segment. The income and consumption expenditure for 2022 has been distributed decile wise and found that the decile-7 and above for urban segment and the decile-8 and above for rural segment are the competent home loan



seekers as their income exceeds the consumption and remains to pay the EMI of the loan here based on the housing affordability concept. From total income, 30% of income is accounted for the payment toward the EMI of the home loan. Now, considering the current housing and housing finance conditions, it is conservatively estimated that 7% of urban households and 3% of rural households per annum are likely to be the formal home loan seekers and found BDT 1373.78 billion per annum total remand of housing finance in Bangladesh in addition.

The monthly income range 60,000-70,000/- is rationally used as the higher ceiling for the low and middle income households (LMIH) in Bangladesh. The housing finance demand for the LMIH segment is found BDT 602.83 billion per annum using a bench mark of 70,000 BDT as the ceiling for the LMIH.

Projection of BHBFC specific Demand of housing finance:

Though, The sector specific demand under the study has been determined following on income affordability approach using secondary data the specific demand to BHBFC for housing finance was attempted to determine using primary data for reliable understanding of the demand. Primary Data were collected from the field offices of BHBFC to determine the demand and supply of housing finance by BHBFC. It has been found that the total demand for the loan to BHBFC offices for next five FY years would reach to BDT 147.71 billion where BHBFC might attend BDT 46.25 billion with its existing fund. Hence, projected total unmet demand would be BDT 101.46 billion for five years which is implying the requirement of expanding its fund base.

Moreover, the total projected demand for the LMIH segment for next five FY years is BDT 3014.15 billion which again implies that BHBFC has the huge potential to expand its service coverage if the sufficient fund base is available along with the convenient operational policy.

Project Area:

As location of the project proposed to include the periphery areas of the metro and divisional cities and district, sub-district and urbanized growth centers of rural areas of Bangladesh which has been found consistent with the goal and objective as well as the economic viability of the project. It was found in the demand analysis that the demand and need for housing finance ever expanding in those areas and less served regarding the low cost financing.

Project Cost and mark up rate:

The study has reviewed the project cost plan as per the project document proposed. The estimated total cost of the project was 381.05 million USD which was distributed against the five components of the project. The study found that the 361.62 million USD (94.90%) was



allocated for financing the housing construction under component-A. Another 19.43 million USD (5.10%) was allocated under other component such as capacity development, project auditor and evaluator and support to PMU and administrative service. It is consisted with the goal and achievable considering the housing finance demand.

This estimated cost will be financed from three sources. The development partner's (IsDB) contributing portion would be 296.97 million USD, BHBFC/GoB's portion would be 11.76 million USD and end beneficiary portion would be 72.32 million USD. The demand for all the financing modalities was found consistent with the ratio of the allocation against modalities in the proposal. As the demand for the general housing are far in amounts to reach with the existing fund base of the EA. The allocations are focused on the housing financing schemes distributing rural and peri-urban areas.

The study felt the necessity of reviewing the markup rates and any adjustment before launching the products under the project considering the cost of borrowing (which is proposed to 2%), current market lending rate, inflation, the costing of construction. The study suggests the market rate for the general finance should be in the range of 6.5%-7.5% remaining the concessional rates 5% for climate resilient and eco-friendly housing financing as these types of housing materials are costlier. Along with the financial viability these kinds of housing finance is acceptable for facilitating sustainable economic development and climate restoration at the country level as well as representation of model financing for IsDB member countries.

Output, Outcome and Impact:

The output and outcome of the proposed project were evaluated in this study and were expected to obtain through the due implementation of the project. It was expected that the total number of 2335 multi storied building would be built with 18240 family units and number of end beneficiary would be 71616. The other components of the project would generate some other outputs such as- Trained resource personnel, Capacity development in Information technology (IT), Monitoring and Evaluation (M&E) of Executing Agency and now how of climate and environment related resources.

The project probable impacts are viewed in different ways- economic impacts, social impacts and environmental impacts such as generating employment, development of linkage industry, growth of housing market, social stability and security, reducing slum living, access to better education, health and environmental restoration. Based on the inputs and outputs the related cost-benefit analysis of the project also indicates that this project would be financially and economically viable.



Institutional Capacity of EA and Project Management:

BHBFC as the implementing agency have institutional capacity (financial and technical) to retain the project output functional with its skilled & experienced workforces. BHBFC will have to assign full-time necessary manpower to the PMU of head office and PIUs at field offices as additional charge or on deputation from its existing manpower structure.

The PMU will be operated under the direct supervision of the Project Director. The unit should comprise adequate number of officers and staffs including the technical and professional personnel. The proposal mentioned the total requirement of manpower 233 to operate the project implantation successfully where 35 would be on deputation and 66 would be on additional charge from the EA and 132 would be on direct recruitment/outsourcing. Depending on the opening and operation of new field offices of EA, the number of personnel on deputation/additional charge may be varied.

Risk and uncertainty:

The overall risk profile of the project is considered from low to medium level. However sufficient mitigation measures are foreseen and will be executed to reduce the risk impact and consequences in case one occurs.

Conclusion and Recommendation:

This study reviewed benefits vis-a-vis the challenge and risks involved with the project proposal and mentioned the mitigation measures as well. The Project is logically related to present and proposed plans for the country's growth and development, and is financially self supporting. On the other hand, the selection of the sites for constructing houses should be carefully assured to avoid any kind of climatic interventions. The elite capture of the low cost fund may deviate the goal. The macroeconomic stability and steadiness is also an external influential factor to succeed the project. Significant benefits to public health and economy can be derived from the proposed Project. All anticipated benefits have been evaluated on the basis of either quantifiable or non-quantifiable parameters. The study concluded that the implementation of the Project is feasible, whereas the financial support is essential. Therefore considering all the points reviewed and investigated in terms of financial, economical, physical, institutional and environmental, **this study concludes that the proposed project is feasible to implement and hereby is recommended to proceed on.**



Project Feasibility Study Report

Section 1: Basic Information

1.	Name of the proposed Project	:	Rural and Peri-Urban Housing Finance Project-Second Phase
2.	(a) Sponsoring Ministry (b) Implementing Agency	:	Financial Institutions Division, Ministry of Finance, GoB. Bangladesh House Building Finance Corporation (BHBFC)
3.	Project Objectives (Project proposed)	:	The main objective of the proposed project is to expand access to affordable finance for constructing planned, sustainable and eco-friendly multi-storied housings with improved quality and necessary basic facilities for lower and middle-income peoples dwelling in rural and peri-urban areas of the country which in turn will save cultivable land ensuring the optimum use of the land. This project also aims to address the climate change issue through introducing climate-resilient housing for climatically vulnerable segments and eco-friendly housing for reducing Green House Gases (GHG) emissions in atmospheres as country's effort in adapting and mitigating environmental adversary.
4.	Estimated Project Cost	:	US\$381.05 million
5.	Sector and sub-Sector	:	Sector : Housing Sub-sector : Housing Finance and climate
6.	Project Geographic Location	:	Countrywide
7.	Project Duration (Proposed)	:	Date of commencement : 01.01.2023 Date of completion : 31.12.2027



Section 2: Introduction

(a) Project Background:

(i) **Genesis:** Bangladesh with its huge population successfully manages the challenges and keep continuing the economic growth by bringing socio-economic transformation with the joint efforts of various state and non-state actors and people's inclusive innovation. Bangladesh experienced a steady economic growth in the past four decades; continued growth at 6-7% per year and remained resilient to regional and global financial and economic upheavals and even has sustained positive growth overcoming the havoc of ongoing Corona Pandemic. This steady acceleration in economic growth, coupled with proactive efforts on social development has led to speedy urbanization where sharp reduction in poverty rate fell from 49% in 2000 to 20% in 2022. Urban population grown from 28.6 million (23% of total) in 2001 to approximately 56.3 million (36% of total) in 2016¹.

The continuous economic growth has enabled Bangladesh to cross the threshold to lower-middle-income country (LMIC) where the per capita income of the country has risen to US\$3000². Gradually, the people's financial capacity is being improved which is leading to an increasing demand in housing sector.

The rising formation rate with shrinking household size and the growing eagerness of young people to own a separate home is intensifying the housing requirements. The requirement of 432,000 new housing units each year was reported in 2019³. The large population and low land-person ratio exacerbate the housing shortage⁴ problem in both urban and rural areas in Bangladesh increasing the slums and squatters in those areas⁵. The deficits of housing particularly for the low and middle income citizens retain the sector in partial equilibrium. The data depicted in different studies regarding the housing deficits are aggregated summarized and found that the total deficits of housing units fell around 15 million units whereas 8.5 units in urban areas as per the statistics of 2021.

¹ Bangladesh Bureau of Statistics. Sample vital Statistics 2016

² Report of Financial Express on 16.01.2022.

³ World Bank & Financial Express on 29.11.2019.

⁴ The housing shortage is estimated in 1991 to be about 3.10 million units, composed of 2.15 million in rural areas and 0.95 million units in urban areas. The annual population growth rate of the city is 4.34% and the household size is 4.8 (BBS, 2001).

⁵ Islam, et al, 2008; Arnold, et al, 2013.



(ii) Rationale: The housing sector serves the fundamental human need of shelter as well as contributes to the economy. Apart from providing physical shelter, the housing may have a significant impact on the lives of the dwellers in terms of skills enhancement, income generation, increased security, health, self-confidence and human dignity. Bangladesh House Building Finance Corporation (BHBFC) as a statehood agency desires to continue its effort in housing finance sector and mitigate housing problems for lower and lower-middle income groups of people. BHBFC seeks the low cost fund from the development partner for enhancing its financing capacity so that it can render more credit facilities to the middle and lower-income groups of people as well as can address climate responsiveness such as financing in eco-friendly and climate resilient housing.

In that perspective, it is necessary to understand and address the gap between the current demand and supply of housing finance to boost up the financing sector. This supply and demand analysis would suggest a way to inject the fund to optimize the investment benefit. Hence, a feasibility study needs to be conducted to understand the specific ways of investment by identifying the demand and supply gap. Moreover, this study will try to pave the exact pathways where the proposed fund will be utilized. It will also provide proper information regarding BHBFC's current institutional capacity and strength to utilize the fund in such a way that BHBFC can reach its vision.

(b) Objectives of the Study:

To explore the scope of expanding access to affordable finance for constructing planned, sustainable and eco-friendly multi-storied housings with improved quality and necessary basic facilities for lower and middle-income peoples dwelling in rural and peri-urban areas of the country which will ensure the optimum use of land and save cultivable land.

This study also attempts to find out the effective way to address the climate change issue through introducing climate-resilient housing for climatically vulnerable segments and eco-friendly housing for reducing Green House Gases (GHG) emissions in atmospheres as country's effort in adapting and mitigating environmental adversary.

The analytical tools under the study employs to determine financial and economic viability



taking into consideration all relevant factors outlined in the project concept note.

(c) Approach and methodology of the Study:

A comprehensive feasibility study takes into account all the relevant factors relating to financial, economic, and commercial viability to validate the scopes/possibilities. This current study will explore housing sector landscapes, housing finance sector landscapes, role of BHBFC in housing finance sector, the demand of housing and housing finance. It will also highlight the means of developing housing model and related facilities, the supply chain management of the green construction materials, the repayment ability of the potential borrowers, the minimization of the construction cost of the houses, positive and negative externalities and other social and environmental impacts along with the earlier phase project contribution in housing finance sector. Project fund outflow and in flow in the proposal will be reviewed on the basis of the comparable economic and financial analyses.

Both the descriptive and analytical methodology will be followed in this study. Revealed preference and simulation strategy will be employed in data collection and analysis. The feasibility study will also cover demand-supply ecosystem and equilibrium in housing finance which includes sector specific demand analysis from secondary data and BHBFC specific demand analysis from primary data for the comparative validity. Economic and financial cost-benefit analysis, technical, environmental, output, outcome and impact analysis will be incorporated in the study based on the proposal.

In addition, the study will cover the following issues (not limited to) considering the necessity of specificity and precision.

- (i) How to support and mobilize financial resources to the underserved segments;
- (ii) How to address the needful policy issues of climate changes;
- (iii) To search the scope for arranging required training and learning programs and hire suitable consultancy to make the schemes effective and sustainable;
- (iv) To verify the rental income of the built houses in consideration of the repayment factor of financing;
- (v) To specify benchmarks of eco-friendly and climate resilient housing (green building) and these equipments required for construction of houses.
- (vi) To find out the means and viability, necessity and effectiveness of assistances of the project in standard manner.



(d) Organization of the Study

The feasibility study is organized along the following manner to frame-up all relevant issues regarding the project.

Introduction section will describe background, objective of the study, approach and methodology of the study. Market/demand analysis section will cover an explicit definition of the problem, cause and consequences, relevance of the project idea, proposed project interventions, identifying the key stakeholders of the project, identifying the strengths, weakness, opportunities/challenges and demand analysis. Technical/technological analysis will incorporate a illustration with justification, description of the main, technology adopted, design, standards and specifications. This study will also cover climate sensitivity, description of output and the expected utilization rate, costs estimation. Environmental and disaster risk analysis will specify and describe the economic effects/impacts of environmental, disaster and climate change. Cost-benefit analysis will describe both financial analysis and economic analysis which includes option analysis, computing FNPV, FBCR, FIRR and ENPV, EBCR, EIRR with interpreting results.

Human resources and administrative support analysis will point out the functional structure and institutional capacity of the agency required for implementation and operational stages of the project, sources of the workforce and financing are needed to be identified. Recommendation and conclusion along with observations will also be discussed in this feasibility study.

Section 3: Market/Demand Analysis

(a) Problem Statement:

Housing is one of the basic human needs, which provides security and sense of belonging and it is recognized in the Universal Declaration of Human Rights as a part of the right to an adequate standard of living. Investments in housing sector are one of the most sustainable and secured investment. Yet, the world needs to build 96,000 new affordable homes every day to house the estimated 3 billion people who will need access to adequate housing by 2030 (Source: UN-Habitat). The housing sector plays an important role in attaining economic stability in Bangladesh, one of the most densely populated countries. This sector contributes 9.21 % in GDP, which is BDT 3,13,0287 million in numeric value. Yet,

There are acute affordable and sustainable housing finance deficiencies for lower, low-middle income citizens in rural and peri-urban areas of Bangladesh.



Though there are many projects to serve the housing demand in Bangladesh, there is also lack of policies and initiatives from the regulators, investors and other stakeholders.

There is a scarcity of proper study regarding assessment of ascertaining factors affecting affordable and sustainable housing and housing finance demand, metering the supply side and necessary measures to fill up the gap especially for lower, low-middle income group of people. Past research and studies on housing sector in Bangladesh and the secondary data do not suffice to assess the clear demand and supply side analysis. The gap of information in this vital sector of the economy needs to be addressed properly.

According to Bangladesh Bank, the housing finance demand in fiscal year 2019-20 was BDT 1544 billion. Against this growing demand, the total outstanding home loan in 2020-2021 fiscal year was only BDT 971.8 billion.

A proper study is needed to conduct for evaluating the affordable housing scenario because in reality, the low and lower-middle income groups do not even get 1% of the housing financing benefit.

BHBFC, the state owned housing finance institution has been extending finance in housing construction as pioneer organization but still the huge demand are remained unaddressed for its financial constraints.

The exploratory study is necessary to find out the actual demand-supply gap of BHBFC finance to its target populations and the challenges and potentials for this. The study also desires to find the scope and prospect of financing in eco-friendly and climate resilient housing.

(b) Relevance of the Project Idea:

- (i) **The financial necessity:** The government is committed to improving the housing status of the country. But the annual budgetary allocation cannot cope up with the increasing demand for housing. Consequently, support from development partners would be alternative option to enhance the housing sector. Given this crux of economic reality, it was an imperative attempt to adopt the first phase of this proposed project with IsDB's support to spearhead financial assistance to the Lower and Middle-Income Households (LMIH) segment of the country. Thus, the current proposal for the further phase of the project seems to be one of the priority projects of the government for continuing the financing in this ever unsaturated sector.



(ii) Climate sensitivity and responsiveness: The report from the United Nations World Meteorological Organization (WMO), 2022 shows that the last eight years had been the warmest on record, fuelled by ever-rising greenhouse gas concentrations. Along with the housing shortage problem, Bangladesh is also one of major climate victim country. Therefore, national policy of Bangladesh is always adhering to the climate sensitivity for any development activities through two major policy strategies:

- Mitigation efforts to lower or remove greenhouse gas emissions.
- Adaptation efforts to adjust systems and societies to withstand the impacts of climate change.

In this project, mitigation and adaptation efforts are duly addressed through allocation of the fund to eco-friendly and climate resilient housing finance respectively.

(iii) Alignment with national Policies: The Government of Bangladesh (GoB), with the commitment to ensuring quality housing for its citizen has been extending several policy support in line with the up gradation of housing condition. The commitment is reflected in various government national development plans/policies such as Government’s 8th Five-Year Plan, Sustainable Development Goals (SDG), Energy conservation Master Plan-2030, National Housing Policy-2016. The project is strategically synchronous to those plans/policies where government emphasizes affordable housing pronouncing “none should be homeless”.

In the 8th Five-Year Plan, the strategies about housing focus on:

- Creating an efficient housing market.
- Improving the mechanism for financing housing.
- Extending housing loans to low-income people, and people living in poverty.
- A sustainable development pathway.

On the other hand, the main goal of the housing policy of Bangladesh is to provide accessible, sustainable, and quality housing for all. This policy also stress on the necessity of fund allocation from international market and donor agencies towards the development of cities and infrastructure, shelter for low income, housing and investment organization. In addition, In Sustainable Development Goals (SDGs), Bangladesh has promised to achieve the target of sufficient, safe and affordable housing by 2030 as per the goal 11. The master plan of Energy conservation-2030 has the target to reduce the energy consumption from rapidly increasing



Green House Gas (GHG) in buildings in Bangladesh by 2030 to ensure Energy Efficiency and Conservation.

(c) Proposed Project Intervention:

(i) Increasing Housing Facilities: Access to affordable finance for constructing planned, sustainable and eco-friendly multi storied housing with improved quality and necessary basic facilities for lower- and middle-income people dwelling in rural and Peri-urbane areas of the country.

(ii) Improving the living Standard: Living standard of middle socio-economic group of people of rural and peri-urban areas will be improved through this project.

(iii) Effective use of land: Multistoried building will ensure the effective use of land without hampering agricultural production and saving the cultivable land.

(iv) Climate Sensitivity: Addressing climate sensitivity through development of i. Eco-friendly, ii. Climate resilient housing.

(v) Women empowerment: Women empowerment will be established by active participation of women entrepreneurs in decision making process such as- Ownership of house by Women, Promoting gender equality, Participations of female officials service provider in project management.

(vi) Development of linkage industries: Facilitating construction materials (rod, cement, bricks etc.) supply industries in the case of production and distributions.

(vii) Employment opportunities: A number of professionals having experiences in housing sector as well as low-cost labors will have employment opportunities. Specially the peoples having technical knowledge about making eco housing construction can contribute in the project.

(viii) Increasing Government revenue collections: Taxes of construction material industries in the housing sector, investment inspection fees etc. will increase the government revenues.

(d) Stakeholders:

Stakeholders are people, groups, or institutions, which are likely to be affected by the proposed project (either negatively or positively) or benefited by the project interventions or those who can influence the outcome of the project. Generally, a distinction is made between groups of stakeholders, the primary and secondary stakeholders and key stakeholders.



The key stakeholders are Financial Institutions Division (FID), Bangladesh House Building Finance Corporation (BHBFC), Islamic Development Bank (IsDB).

Here, primary stakeholders are community members or potential borrowers who are directly affected or benefited by the project interventions. There are many other government and nongovernmental organizations that are involved in the implementation of that eco-friendly housing project such as Economic Relations Division (ERD), Finance Division (FD), Bangladesh Bank (BB), Scheduled Commercial Banks, Controller General of Accounts (CGA), Foreign Aided Projects Audit Directorate (FAPAD), Resource supporting stakeholders (such as HBRI, SREDA, IDCOL etc.), Development Authority as plan approval authority of housing (RAJUK, CDA, KDA, City Corporation, Pouroshova, Upazila etc.) and Chartered Accountants (CA Firm).

Table 1: The major stakeholder and their functions.

BHBFC	:	BHBFC is the executive agency of this housing finance Project. It will disburse the proposed fund to potential end borrowers.
Islamic Development Bank (IsDB)	:	The adequate fund needed for project will be provided by IsDB.
Potential End Borrower	:	A number of low and middle income groups of peoples living in the rural and peri urban areas can get financial and technical assistances for constructing building.
Financial Institutions Division (FID), Economic Relations Division (ERD), Finance Division (FD), Chief Financial and Accounts Officer (CFAO), Foreign Aided Projects Audit Directorate (FAPAD)	:	This organization are involved with the budgeting, accounting, auditing, approving the different functions related to implement the housing project.
Bangladesh Bank	:	The fund providing by the IsDB will be operated,, through a account named “Imprest Account” maintained with Bangladesh Bank.
RAJUK,CDA,KDA City Corporations, Pouroshova, Upazila	:	The authorities who pass the housing plan, design etc. of affluent borrowers wanted to be a stakeholders of this project.
Scheduled Commercial Bank	:	The disbursement and collection of Investment will be performed by Islamic Bank Bangladesh Limited (IBBL). In future other sharia based banks can be a partner of this business.



(e) Demand Analysis:

The demand and supply analysis of housing finance mostly analogous to the demand and supply analysis of housing itself. The general trend of the demand of housing finance follows the demand of housing almost proportionately. The uprising demand of finance for the incremented population depends also on the incremented capacity of the debt servicing of the population. The up-scaling of national income level is enabling the more LMIH fit for debt servicing and eventually is adding new demand over existing demand. In addition to, the high population density along with young demographic profile, rapid urbanization and the economic growth is leading to a high demand of housing vis-à-vis housing finance in Bangladesh which is not matched by a corresponding supply (borrowers) especially for the LMIH segment of the people.

Lack of comprehensive and proactive policy, housing market has led to a “partial equilibrium in the housing eco-system where majority banks and non-bank financial institutions (NBFIs) concentrate on serving the upper middle and higher-income segments of population mainly in metropolitan areas of major cities, which are comparatively affluent. The market on its own is not fully fulfilling its role to provide housing financing to meet the housing demand for the own-to-stay segment. Rather, it is catering to investment-led demand from the more affluent segments. But there is a potentially large demand for housing finance particularly from the LMIH segments which it has not translated into realizable transactions constrained by the lack of: (i) availability or access to finance, (ii) commensurate policy and regulatory framework and (iii) affordability of finance.

(i) The Projection of market Demand of housing finance:

Housing is a multidimensional durable commodity whose demand analysis creates some ambiguity begins with the actual definition of price of which eventually shows the complexity of the demand projection of housing finance. The demand estimation for housing finance for whole market segment is not found from reliable source in context of Bangladesh. This study wishes to show some rational analysis to identify the expectant home borrowers and the numeric demand projections. The necessary issues of housing market have taken into account for outlining the demand estimation such as the rate of urbanization, rental and ownership status i.e. the tenancy status, income sufficiency for debt servicing etc.



In case of Bangladesh the rate of growing urban population is around 5% well above the national population growth rate of per annum 1.4% during the last decades (Statistical Pocket Book-2019). This urban growth includes the migratory population from rural areas as well as the population of the converted rural areas into urban through expansion of the cities and municipalities.

The demand projection of housing finance is a complicated aspect as there is no straight lined methodology earmarked in the housing literature. There are two ways, commonly practiced by the researchers to estimate the housing finance demand as follows:

Supply side approach: Estimation of the requirements of housing finance to follow the potential supply of housing units from the public and private sectors.

The income-affordability approach: The demand is estimated on the basis of the sustainable debt service capacity while assuming certain minimum loan parameters applied by the lenders.

Given the multiple sources of supply of housing which is naturally heterogeneous and so practically less suitable to use the supply side approach in the determination of housing finance under the current study. The income- affordability method has been used for the demand assessment for the potential home borrowers, especially focusing the LMIH borrowers for the purpose of the study.

The demand projection needs the income profile of the expectant borrowers for sustainable debt servicing as per the approach of income affordability. The following table is derived based upon the data of HIES 2016 for the year of 2022. The income and consumption expenditure for 2022 has been enumerated on the basis of the growth rate of wage index (WRI) and consumer price index (CPI). (Reference: monthly report on CPI, inflation and WRI in Bangladesh of June, 2022).

Table 2: The distribution of households' monthly income and cons. expenditure by the deciles.

Category	No of HHs			Monthly HHs Income in BDT			Monthly HHs Cons. Exp. in BDT		
	Urban	Rural	National	Urban	Rural	National	Urban	Rural	National
decile 1	1319772	2782085	4107130	4767.37	2556.74	2925.47	20768.94	15726.89	16805.55
decile 2	1342056	2782528	4099272	12162.95	7219.81	8151.75	20041.97	17657.97	18313.83
decile 3	1315189	2782528	4099780	16753.58	10524.65	11692.58	22362.50	17723.31	18437.12
decile 4	1304995	2781675	4099854	20594.72	13232.78	14798.20	24303.36	18708.50	19629.56
decile 5	1353137	2803126	4102250	24421.76	16016.84	17973.95	27282.75	19735.57	21585.42
decile 6	1284348	2761464	4098637	28789.80	19079.06	21584.15	29129.98	21623.85	23720.32
decile 7	1313771	2781355	4100654	34532.64	22992.08	26116.43	32119.59	23538.93	26100.12
decile 8	1320602	2783555	4103125	42320.29	28509.41	32411.60	36886.62	25815.92	28415.74
decile 9	1320374	2783748	4102075	54823.89	37438.74	42838.54	46579.03	30581.01	35406.51
decile 10	1315467	2779648	4097271	169039.76	84105.91	109916.90	70756.40	41188.52	52061.74
Total	13189710	27820341	41010051	40755.86	24160.83	28832.17	32999.79	23235.67	26044.38

Source: Authors' derivation on the basis of the HIES 2016, monthly report on CPI, inflation and WRI in Bangladesh of April, 2022 by BBS.



Now, the above table describes that the deciles 1-6 for urban and the deciles 1-7 of rural households have the income levels which are lower than their consumption expenditures and are practically limited to support loan payments towards a housing loan on the basis of the current market condition at any consideration. Hence, the decile-7 and above for urban segment and the decile-8 and above for rural segment might be theoretically considered for the competent borrowing seekers. To follow the income- affordability approach, a considerable portion⁶ of the present monthly income is taken to be potentially used to service debt for a given tenure of the loan. Refer to the following table where 30% of urban and rural income is accounted for the payment toward the EMI of the home loan.

Table 3: Total housing loan demand per annum for next 5 year period of 2023-24 to 2027-28

Segment	Decile	Number of Household	Monthly income in BDT	EMI ⁷ in BDT (EMI)	Interest Rate ⁸ (r)	Tenure in years (n)	Present Value of Debt In BDT ⁹	% of Borrowing HHs	No of Borrowing HHs per annum	Loan Demand In Billion BDT
1	2	3	4	5 5=4×30%	6	7	$8 = \frac{EMI}{r} [1 + \frac{1}{(1+r)^n}]$	9	10 10=3×9	11 11=8×10
Urban	Decile 7	1313771	34532.64	10359.79	9%	20	1151433.43	7%	91964	105.89
	Decile 8	1320602	42320.29	12696.09			92442		130.45	
	Decile 9	1320374	54823.89	16447.17			92426		168.96	
	Decile 10	1315467	169039.76	50711.93			92083		519.01	
Subtotal									368915	924.30
Rural	Decile 8	2783555	28509.41	8552.82	8%	20	1022526.78	3%	83507	85.39
	Decile 9	2783748	37438.74	11231.62			83512		112.14	
	Decile 10	2779648	84105.91	25231.77			83389		251.55	
Subtotal									250409	449.08
Total									619324	1373.38

It is to measure what is the number of households in each segment will be the potential home loan seekers which is dubbed as the effective demand. Considering the current housing and

⁶ Housing affordability is a measure when the 25-40% of HHs income can afford the housing expenditure varying on the basis of developed and developing countries.

⁷ For the sustainable debt servicing capacity 30% of urban and rural income has been treated as the housing consumption.

⁸ The possible highest lending rate has been considered to sustain the demand estimation in face of any interest variation/sensitivity.

⁹ Considering EMI of 1.0 lac in 20 years is BDT 899.73 at 9% and EMI of 1.0 lac in 20 years is BDT 836.44 at 8% rate of interest.



housing finance conditions, existing housing shortage, the growth rate to home ownership, the common trend of uprising of the market, it is conservatively estimated that 7% of urban households per annum over the next 5 (five) FY years is likely to be the formal home loan seekers. On the rural side, it is anticipated that the potential rate will be slightly less compared to the urban demand. Therefore, the rate of potential home seekers is estimated to be 3% of rural households with the necessary financial capacity and the willingness. Since it is a gross conservative forecasting where the impact of inflation, the economic growth, rapid urbanization and the eventual migration may change the trajectory of this demand matrix.

Table 4: The housing loan demand projected per annum for the 5 FY period of 2023-24 to 2027-28.

SL	Category	Amount
1.	Urban housing demand per annum	BDT 924.30 Billion
2.	Rural housing demand per annum	BDT 449.08 Billion
Total housing demand per annum		BDT 1373.38 Billion
3.	Urban housing demand for Five FY (2023-24 to 2027-28)	BDT 4621.51 Billion
4.	Rural housing demand for Five FY (2023-24 to 2027-28)	BDT 2245.39 Billion
Total housing demand for Five FY (2023-24 to 2027-28)		BDT 6866.90Billion

The share of the per annum loan based on the rural-urban dichotomy is as below

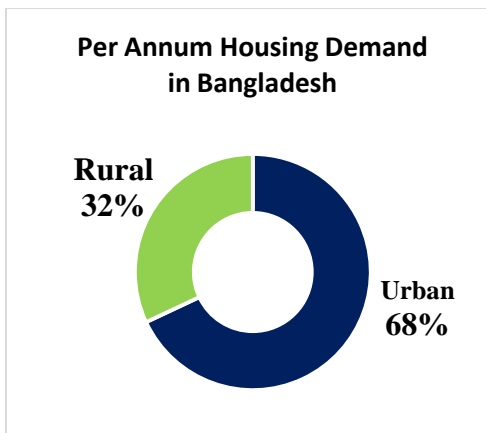


Figure 1: The projection of rural-urban per annum loan share in Bangladesh.

Housing structure and approach:

In the demand of the housing finance another aspect needs to be attended which is the growth of improvement of housing structure status in Bangladesh. The following chart describes that the growth of the pucca house (which is normally the formally built house) deserves formal/institutional finance:



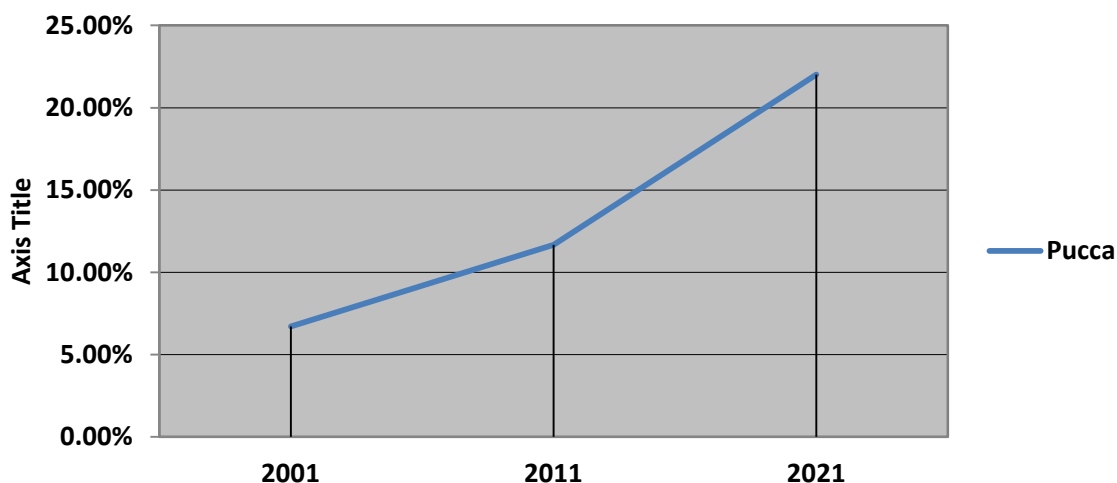


Figure 2: The growth rate of pucca, the formally built houses in last two decades.

Source: HIES- 2010, 2016, National Housing Census-2011.

The growth rate of pucca housing also infers the ever-increasing potential demand of formal housing finance. Moreover, still the 80% of HHs live in non-pucca (combined in semi-pucca, tin shade, and kutcha/jhupri) which shows the scope of the expanding housing finance is enormous and far distant to saturation. Therefore, the aforementioned demand projection is no more exaggerated.

(ii) Projection of Housing Finance demand for LMIH:

According to the income trajectory and the purchasing power capacity, the monthly income 60,000-70,000/- is rationally used as the higher ceiling for the low and middle income households (LMIH) in Bangladesh. Several international organizations (IFC, ADB, and IsDB) have used this threshold in their several studies in recent years for estimating the housing finance demand of the market. As to the threshold of HHs income, the following table describes the demand projection of the LMIH segment of Bangladesh which segments are mainly the target end beneficiary of the proposed project.

Table 5: Housing loan demand of LMIH segment per annum for the next five FY (period of 2023-24 to 2027-28)

Segments	Decile	Average Income per HH	No of HHs	No of Borrowing HHs p.a.	Loan Demand in Billion BDT
1	2	3	4	5	6
Urban	Decile-7	34532.64	1313771	91964	105.89
	Decile-8	42320.29	1320602	92442	130.45
	Decile-9	54823.89	1320374	92426	168.96
	Subtotal			3954747	118642
Rural	Decile-8	28509.41	2783555	83507	85.39
	Decile-9	37438.74	2783748	83512	112.14
	Subtotal			8346951	167019
Total			12301698	443851	602.83



Again, the loan demand for LMIH in rural-urban dichotomy is synchronous to the total housing loan demand.

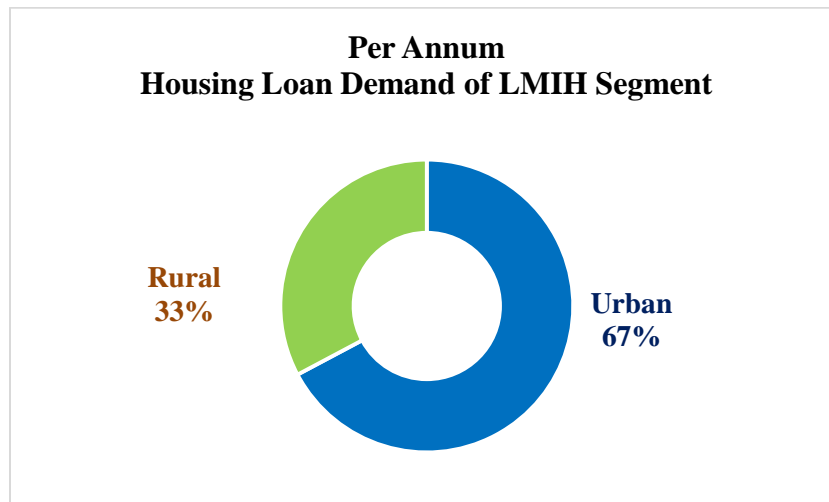


Figure 3: The housing loan demand of rural-urban dichotomy

The housing finance demand for the LMIH population is shown 602.83 billion taka per annum and 3014.15 billion taka in total for 05 years period of 2023-2028 which is visibly large compared to the present total home loan market. According to Bangladesh Bank annual publication, the financing to housing from the banking industry is taka 971.8 billion in 2021-2022 which is a small part of the total market. This estimation concurs with the statements of the international development agencies where they asserted about the ever increasing demand of the formal housing finance market in Bangladesh. Therefore the housing finance market is yet to saturate and scope to expand to address the existing demand.

(iii) BHBFC Specific Demand and Supply

Target market of BHBFC: BHBFC missions to provide financial assistance in order to resolve the housing problems of the low, lower-middle and middle income groups of people in affordable and eco-friendly manner. These income groups of people always have the strong preference towards the low cost service. Though privatized banks and non-bank financial institutions (NBFIs) have home loan disbursement portfolios bigger than BHBFC, but their approval policy is profit-oriented and target group is the top 20 percentile of major cities mainly Dhaka and Chattogram. The key differences between BHBFC and other home loan providers remain BHBFC's financing service targeting the apparently underserved LMIH segment of rural and peri-urban areas.



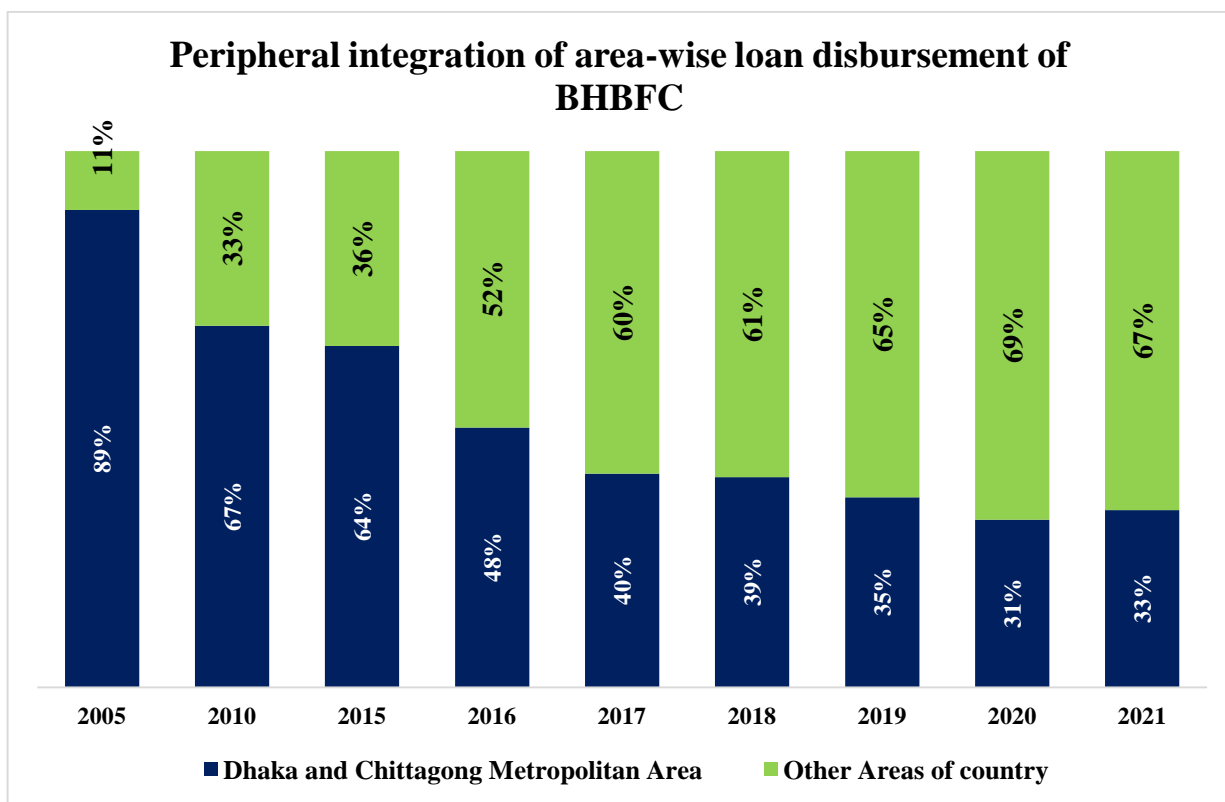


Figure 4: Peripheral integration of area wise loan disbursement of BHBFC

Source: Authors derivation from the data of BHBFC’s Loan department.

The state owned agency, BHBFC has diverted its loan portfolios from metropolitans of Dhaka and Chattagram to other areas of Bangladesh to penetrate in the main hub of the LMIH. BHBFC operates its loan servicing whole over Bangladesh with its expanded organizational setup in urban and predominantly peri-urban and rural growth centers. BHBFC has presented itself as a prima facie suitable candidate for LMIH segment.

Data collection and technique of analysis for demand estimation: Along with general loan products for the rural and peri-urban areas in the proposed 2nd phase of the project, climatic dimensions are included in the loan servicing screening such as assistances for eco-friendly and for climate resilient housing. The feasibility study is intended to find out and explore the demand of general loan products as well as eco-friendly & climate resilient loan products.

In that context, the demand estimation of those products of BHBFC is the key consideration for the potentiality of the project. The study has taken the on-ground approach to forecast the demand. In the loan operation of BHBFC, the first step is started with the primary application from the intended borrowers which is a free of cost. This study initiated the demand estimation



of the proposed product of BHBFC under the project based on the primary applicants as the standard of the grounded approach. Each field office of BHBFC keeps records of primary application counting primary application number and amount (amount of applied loan) is considered as a standard demand measuring tool.

In that move, Project Management Unit (PMU) circulated an office order to all operating branch offices of BHBFC (notably there are 63 branch offices covering entire country) for providing the primary loan application are relevant information from 2019-2020 to FY 2022-2023 through a prescribed table in Google drive sheet (**annexure-1**). Branch offices were instructed to provide of primary loan application information of general housing loan, eco-friendly housing loan and climate resilient housing loan categorically. It is worth to mention that primary loan application data of general loan scheme were readily available of the mentioned period. But the eco-friendly and climate resilient housing scheme were the new addition in the service portfolio of BHBFC. The data about those products were not readily available. To estimate the demand of these climate responsive products, this study resorted to the simulation strategy. A short questionnaire was developed where the instructions were provided to ask the demanders whether they would get these eco-friendly and climate resilient housing loans if those were offered at that time. On a random basis, each branch office selected a sample size from the total number of primary application (population size) for a particular fiscal year and called them over phone to collect the information.

Then the branch office collected the information based on the simulation strategy and covered them to the population accordingly. Thus the demand of eco-friendly housing loan and climate resilient housing loan were determined along with the general loan products and processed to a presentable form categorizing into 10 zonal offices of BHBFC.

Table 6: Loan demand from fiscal year 2019-2020 to fiscal year 2022-2023
(Amount in Billion BDT)

Fiscal Year	General housing loan demand		Eco-friendly housing loan demand		Climate resilient housing loan demand		Total housing loan demand	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount
2019-2020	1474	8.02	546	2.03	205	0.54	2225	10.59
2020-2021	1633	8.42	625	2.63	244	0.64	2502	11.69
2021-2022	1725	9.23	758	3.22	283	0.80	2766	13.25
2022-2023	1961	11.69	869	4.21	403	1.19	3233	17.09
Total	6793	37.36	2798	12.09	1135	3.17	10726	52.62

Source: Collected data from BHBFC's 63 branch offices throughout the country.



Based on the data presented in above table a trend analysis was done to get the data projection for the upcoming years of the project period. In context of the population increase, rising urbanization, existing housing gap between demand and supply, it is normal trend of uprising housing demand followed by the increasing demand of housing finance as well. In a conservative manner, the increasing trends of last three years were averaged and applied for projecting the demands for the project period [annexure-2, 2(a), (b), (c), (d)] and summarized in the table as under:

Table 7: Total housing loan demand projection for next five years (2023-2024 to 2027-2028)

(Amount In billion BDT)

Years	Projected demand				Demand can be catered with existing fund inflow				Unmet demand	Total market demand for LMIH
	General	eco-friendly	CR ¹⁰	Total	General	eco-friendly	CR	Total		
2023-2024	13.33	5.35	1.55	20.23	7.25	1.00	-	8.25	11.98	602.83
2024-2025	15.19	6.79	2.01	23.99	7.50	1.25	-	8.75	15.24	602.83
2025-2026	17.32	8.62	2.61	28.56	7.75	1.50	-	9.25	19.31	602.83
2026-2027	19.74	10.95	3.40	34.09	8.00	1.75	-	9.75	24.34	602.83
2027-2028	22.51	13.91	4.42	40.84	8.25	2.00	-	10.25	30.59	602.83
Total	88.09	45.62	13.99	147.71	38.75	7.50	-	46.25	101.46	3014.15

Source: Authors derivation through trend analysis from the data of BHBFC's field offices.

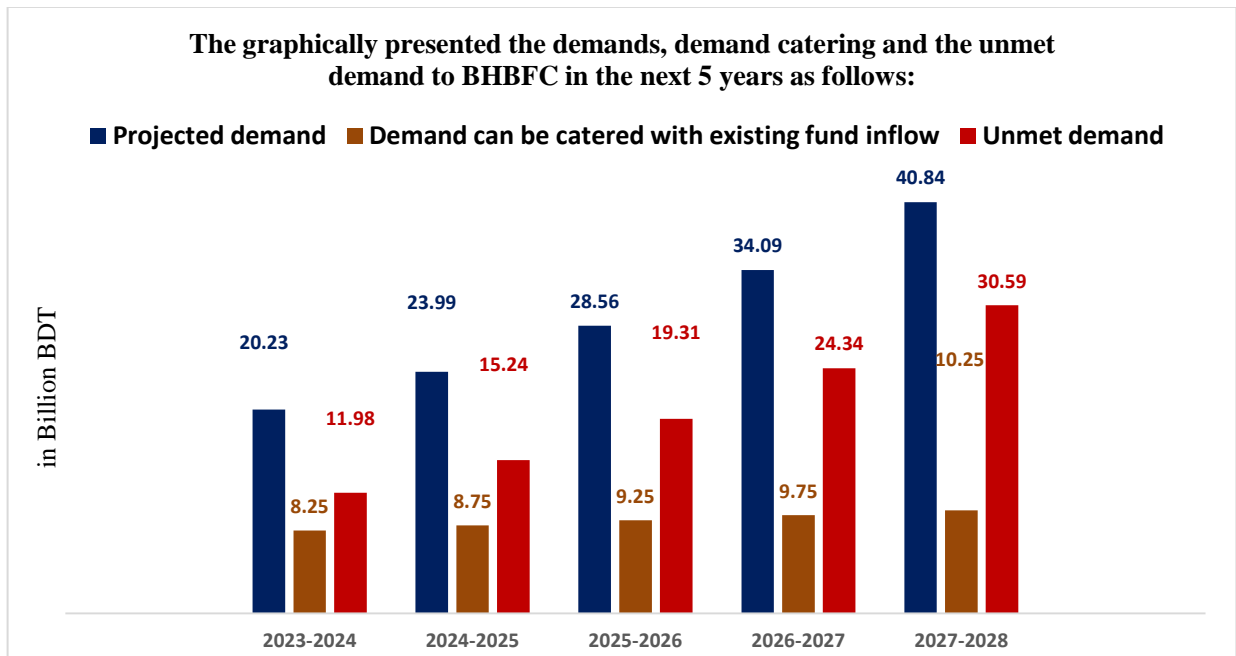


Figure 5: The demand analysis of BHBFC for the next 5 years.

¹⁰ CR means Climate Resilient



The previous chart/table describes that the total application for the loan in BHBFC offices for five years is projected to BDT 147.71 billion which is termed as the attended demand in BHBFC. Where 46.25 billion may be entered with the existing fund inflow. Hence, projected total unmet demand would be BDT 101.46 billion for next five years.

Moreover, this demand estimation is a conservative in that sense that only the people who attended offices were taken into account. The publicity and awareness development programs can create new demands. The commensurate market demand for BHBFC to the LMIH people is larger than the attended demand.

A large portion of this effective demand remains unmet each year which are in need of low cost financial support for housing. BHBFC, the most reliable beacon to low-income home finance expectants, couldn't attend its applicants adequately for its limited fund flow. Therefore, BHBFC has the huge potential to expand its service coverage if the sufficient fund base is available along with the convenient operational policy.

Limitation: Data were collected from each field office on sample basis. The highest emphasis was given to make the sample be representative to the population. The sample size could be higher in this regard. The results and findings would be more robust and comprehensive if the size and sources of data were larger and more versatile; though, this might be a scope of large scale academic study.

(iv) SWOT Analysis:

As a basic strategic business analysis tool, SWOT analysis of this proposed project would help us to plan out the project and consider factors that may help or hinder its success. In that perspective, it is necessary to identify and analyze the possible key areas of the project that holds the strength, weakness, opportunity and threats. Below table would help to point out each area in more specified way-



	Positive	Negative
Internal	<p>Strength: The institutional capacity and expertise to attend the demand have been increased through constant development in various sectors of BHBFC. The number of field office has been increased to 87 from 29 which would help to capture the intended borrowers from all over the country. Sector wise expert personnel to process any loan proposal. BHBFC has extensive experience in the field of housing finance sector. Low cost and low processing fees in housing finance sector have established BHBFC in favorable position. BHBFC has product variability to cater the needs of different segments of population.</p>	<p>Weakness: As a solely state owned organization, BHBFC has to pay more focus on implementing government agenda rather only doing business. BHBFC is more focused on its main mission of fulfilling the need of housing finance of the low and middle income group. So, it has to concentrate on that segment specially.</p>
External	<p>Opportunity: The demand supply gap in the housing finance market has been considered actively while formulating the proposal of the project paper. There is a huge demand for housing loan especially in the growth areas of the country and also remains scope of providing housing finance. As a government financial institution, BHBFC is in favorable position to implement government agenda of housing finance through using its establishment and resources. Exploring the scope and opportunity in the green housing finance sector in association with different sector specialist to implement in BHBFC and enrich the knowledge and financing capacity.</p>	<p>Threat: The socio-economic situation of the world is changing vary rapidly due to various inter-state conflict. This causes imbalance in the economic growth of the country which might has a impact in the implementation of the project. The market of the housing finance has become more competitive with many other market players. BHBFC being an oldest institution in this sector is facing challenges to maintain monopoly in the market.</p>

Section 4: Technical/Technological & Engineering Analysis

- (a) Location:** The location of the project refers to the area where the house will be constant mainly under the financing of the project will be the location for implementing the project towns and the peri urban areas and rural growth centers across Bangladesh. Specifically, This project will include the periphery areas of the metro and divisional cities and district, sub-district and urbanized growth centers of rural areas of Bangladesh.
- (b) Metropolitan:** Metropolitan areas as the core- urban areas mostly excluded from the coverage of the proposed project except the eco-friendly housing schemes under this project.



(c) Peri-urban: In delimiting the location of the project, the peripheral urban areas (dubbed as peri-urban areas in the project) are the areas outside/adjacent to the core urban i.e. metro/divisional city areas. All other, district towns as well as some selective parts of city areas are included as the peri-urban areas in case of the operation of this project.

(d) Rural areas: Rural areas under the location of the project, are the areas at sub-district (Upazila), Union level which are suitable for formal housing construction in terms of availability of the modern facilities such as electricity, water supply, fuel and road connectivity. Specifically, the sub district (Upazila) centers, Union centers and growth centers are included as the rural areas for the location of the project. There are different definition by different authority based on the nature of context of the activity in Bangladesh in case of delimiting the urban-rural dichotomy. In case of operating this project activity following the targets of the project. The aforementioned location and its explanation is acceptable beyond of any academic jargon.

(e) Technical design :

There are two types of housing proposed in response to climate issue eco friendly and climate resilient housing. Template or model of eco-friendly housing and climate resilient housing including the definite benchmarks may be developed with the guidance of relevant government/international organization such as HBRI, SREDA, Bangladesh Bank, GIZ etc. Yet In selection of the template of eco-friendly and climate resilient housing, The borrower will get the flexibility in selection of these models ensuring the adoption of minimum benchmark set for these housings. The beneficiaries can re-arrange, reshape, and replace the suggested model of housing on the basis of the included standard base mark from the green criteria.

Based on the current practices of green financing market the following designed products under the project will be feasible to provide:

(i) Financing in Green Building: This is the financing to a completely certified green building with eco friendly building materials and technology. The flexibility will be endorsed in the model based on the certain benchmarks defined for this green building construction.

(ii) Financing in Green Featuring Building: This is the financing to the construction of those building which will incorporate certain eco-friendly features in the construction based on the benchmark items set for those constructions of eco-friendly houses.

(iii) Financing in Climate Resilient housing: On the other hand, financing in Climate



Resilient Housing will be extended to the specially designated buildings to be built in the areas where the climate is adversely affected. In context of adopting climate resilient building model, the climatic phenomena tidal wave, storm, flood and salinity will be addressed with a appropriate special type of design and building materials invented and promoted by statehood organization HBRI and similar other organizations. As the owner's driven construction there are also flexibility in adopting the model based upon the adoption of benchmarks set for this housing.

Section 5:

(a) Review on cost estimation:

As per the project document, the cost of the project has been estimated as 381.05 million USD as annexure-2 in the PCN are given below-

Table 8: Detailed Financing plan as per PCN.

(In million USD)

SL. No.	Project Component		Development Partner: IsDB Group						GoB/BHBFC		Owner's Equity		Total
			Loan (Credit)		Grant		Sub-total	%	Amt	%	Amt.	%	
			Regular	Concessional	Monetary Grant	Technical assistance Grant							
A	Financing for Construction of Houses with Related Facilities	i.Rural Housing	105.88	11.76	-	-	117.64	80%	-	-	29.41	20%	147.06
		ii.Peri-urban Housing	162.85	-			162.85	80%	-	-	40.71	20%	203.56
		iii.CR&EF Housing	-	8.81			8.81	80%	-	-	2.20	20%	11.00
		Sub-total	268.73	20.57			289.30	80%	-	-	72.32	20%	361.62
B	Capacity Development Program for developing housing model and related facilities		-	0.24	0.94	0.94	2.12	100%	-	-	-	-	2.12
C	Capacity Development for IT support		-	0.47	0.94	0.94	2.35	100%	-	-	-	-	2.35
D	Project Auditor and evaluator		-	0.38	-	-	0.38	100%	-	-	-	-	0.38
E	Support to PMU & Administrative service, Startup Work Shop and familiarization visit		-	1.88	0.47	0.47	2.82	19.3%	11.76	80.7%	-	-	14.58
TOTAL BASE COST			268.73	23.54	2.35	2.35	296.97	80%	11.76	-	72.32	20%	381.05

This estimated cost will be financed from three sources. The development partner will contribute the majority portion which is 296.97 million USD and 77.93% of the total cost. Another source of funds is BHBFC/GoB, which will contribute 11.76 million USD or 0.46% of the total cost. The rest of the cost amount of 72.32 million USD will be expended by the end beneficiary from their own resources as equity contribution.



Component-A: This cost has been divided into 5 components, among which the large portion of the cost has been allocated for the Component –A, that is financing for the construction of houses with related facilities. In this component, around 289.30 million USD which is 75.92% of the total cost has been allocated for the construction of houses in rural areas, peri-Urban areas and for climate resilient & energy efficient housing.

This component is directly related to the attainment of the main objective of the project. As the project document specifies the main objective based on the built housing unit, the estimated cost under this component will be directly used for the construction of these units. The estimated cost of the units are consistent with the allocated amount of Component-A. Moreover, a concessional loan amount of 20.57 million USD has been allocated mainly for the financing in the construction of climate resilient building and eco-friendly building as well as construction of building in the rural areas. However, the rate of materials has been increasing due to economic and geopolitical conditions, but the impact of inflation may not affect the output of the project because the cost has been estimated in standard currency.

Component-B: Component-B includes consultancy fees for the development of housing model such as climate resilient housing model, eco-friendly housing model and rural & peri-urban, training cost for the trainer & the other staffs, product development & policy manual development cost etc. Around 2.12 million USD which is 0.55% of the total cost has been allocated against this component. This component mainly deals with the development of various sample of housing model for intended clients who may choose any housing model from proposed sample. For the consultancy purpose various studies suggest that, any consultancy work may cost 2-5% of the project cost depending on the criteria of jobs the consultant needs to be conducted. As this component only demands for sample architectural design rather than intensive project life consultation on the built houses, the incurred cost may varies from 0.5 to 2% of the total cost. Therefore, this estimated cost for this component is compatible with the present market demand. Under this component a piloting scheme can be undertaken to verify the housing model acceptance amount the end beneficiaries and allocate a fund for that.

Component-C: One of the most vital components of this project is Capacity Development for IT support, which includes need assessment consultancy, purchase of hardware & software, network & security support etc. The first phase of this project had similar component under



which 149 Desktop, 10 laptop and other accessories were bought spending 0.15 million USD equivalent to 1.4 crore BDT. Depending on the market price and condition of the project, the allocation of amount 2.35 million USD under this component is consistent with the actual purpose of the component.

Component-D&E: Furthermore, the component D & E covers the audit consultation and administrative service consecutively. As the estimated cost of the 2nd phase has increased, the allocation for the audit purpose has been increased proportionately. Similarly, the cost of the component-E has been allocated as per the administrative expenses mentioned in the previous section.

From the above discussion it can be commented that, the component wise allocation of the cost is congruent with the objectives of the project as well as current market price and conditions.

On the basis the review on cost estimates, the project may adopt the detail financing plan allocating against sub components under the project components.



The following table contains the items and allocation of the components as the detail financing plan for the project:

Table 9: The detailed project cost and financing plan.

(Amount in Million USD)

Project Component		Development Partner: IsDB Group				GoB/ BHBFC	Owners Equity	Total
		Loan (Credit)		Grant				
		Regular	Concessional	Monetary Grant	Technical Grant			
A	Financing for Construction of Houses with Related Facilities							
1	i. Rural Housing	105.88	11.76	-	-	-	29.41	147.05
	ii. Peri-urban Housing	162.85	-				40.71	203.56
	iii. CR & EF Housing	-	8.81				2.20	11.01
	Sub-Total	268.73	20.57	-	-	-	72.32	361.62
B	Capacity Development Program for developing housing model And related facilities.							
1	Consultancy fee: Climate resilient housing model development	-	0.05	0.10	0.10	-	-	0.25
2	Consultancy fee:Eco-friendly housing model development	-	0.03	0.10	0.10	-	-	0.23
3	Consultancy fee:Islamic shariah based housing model development	-	0.02	0.10	0.10	-	-	0.22
4	Consultancy fee:Rural & peri-urban housing development finance	-	0.01	0.10	0.10	-	-	0.21
5	Piloting for Eco-friendly housing and Climate resilient housing	-	0.03	0.20	0.20	-	-	0.43
6	Training of the trainer & the other staffs	-	0.05	0.13	0.13	-	-	0.31
7	Product development & Governance Structure	-	0.02	0.10	0.10	-	-	0.22
8	Manual and policy documentation	-	0.02	0.10	0.10	-	-	0.22
9	Legal documentation and treasury in English	-	0.01	0.01	0.01	-	-	0.03
	Sub-Total	-	0.24	0.94	0.94	-	-	2.12
C	Capacity Development for IT support.							
1	Need Assessment Consultancy & IT support		0.06	0.11	0.11	-	-	0.28
2	Purchase of software		0.07	0.14	0.14	-	-	0.35
3	Purchase of hardware		0.14	0.28	0.28	-	-	0.71
4	Purchase of digital device and equipment		0.09	0.10	0.10	-	-	0.29
5	Manual and policy documentation for IT		0.07	0.13	0.13	-	-	0.33
6	System Configuration-IT system and Financial reporting system		0.02	0.05	0.05	-	-	0.12
7	Networking & security support		-	0.10	0.10	-	-	0.20
8	Consultancy fee : IT Expertise & Training		0.01	0.03	0.03	-	-	0.07
	Sub-Total	-	0.47	0.94	0.94	-	-	2.35
D	Project Auditor and evaluator.							
1	Consultancy fee (Project Auditor Fee, evaluator fee)	-	0.27	-	-	-	-	0.27
2	Compliance and Monitoring framework	-	0.11	-	-	-	-	0.11
	Sub-Total	-	0.38	-	-	-	-	0.38
E	Support to PMU & Administrative service, Startup Work Shop and familiarization visit.							
1	Collection of assets (Purchase and rent of vehicle)	-	0.13	0.20	0.20	1.75	-	2.28
2	Pay of Officers	-	-	-	-	6.00	-	6.00
3	Pay of establishment	-	0.06	0.07	0.07	1.50	-	1.70
4	Supply & Services	-	-	0.08	0.08	1.30	-	1.46
5	Repairs and maintenance	-	-	0.03	0.03	0.30	-	0.36
6	Media and Publication	-	-	0.06	0.06	0.50	-	0.62
7	Procurement advertisements	-	-	-	-	0.33	-	0.33
8	Sensitization awareness program,	-	0.69	0.02	0.02	0.08	-	0.81
9	Familiarization visit and startup workshop	-	1.00	0.01	0.01	-	-	1.02
	Sub-Total	-	1.88	0.47	0.47	11.76	-	14.58
	Total main components	268.73	23.54	2.35	2.35	11.76	72.32	381.05
1	Physical contingency	13.44	1.18	0.12	0.12	0.59	3.62	19.05
2	Price contingency	13.44	1.18	0.12	0.12	0.59	3.62	19.05
	Grand Total	295.60	25.89	2.59	2.59	12.94	79.55	419.16

(b) Review on proposed financing structure:

The main component of the project is component-A which covers the lion share of allocation-under the component, 361.62 million USD i.e 94.9% of the total project cost has been allocated to finance the construction of different types of houses with related basic facilities. 289.30



million USD is allocated from proposed development partner's funding and the remaining 72.32 million USD is estimated as the contribution of house owners as their equity. In, that financing plan, 4 kinds of housing models are proposed to be financing where climate resilient and eco-friendly housing models are newly introduced products which are fascinating as well as challenging.

Based on the proposed financing, the already demand analysis have been conducted and mentioned in details in the preceding section of the study. The demands for all the types of financing modalities are found consistent with the ratios of the allocation against those modalities in the proposal. As the demand for the general housing are far in amounts to reach with the existing fund base of the EA. The allocations are focused on the low cast housing financing schemes distributing rural and peri-urban areas. More conveniently, the allocation of 11.7 million USD proposed for rural housing from concessional loan at lower rate (5%) is a timely intervention for rural integration. In that context, the careful measurement is needed to avoid the elite capture.

Moreover, the lower rate, when it becomes the lower than the existing inflation rate is financially not viable which is a challenge and disincentive for repayment. Therefore this study suggests to adopt special kind of housing models coupled with suitable terms and conditions to safe guard the funding for reaching the targeted lower and lower middle groups of the rural areas. Moreover, the markup rate is also needed to adjust with the inflation and market lending rate so that the repayment behavior cannot be affected by moral hazard, arbitrage or any kind of strategic behavior.

The similar thoughts are relevant to the markup cap for climate resilient and eco-friendly housing financing in terms of financial viability. Though, the lower rate is essential for this kinds of housing finance as these types of housing needs green and energy saving materials which is normally costlier than the normal building materials. The lesser cost of financing will incentivize the end beneficiaries towards these kinds of housing which is acceptable for facilitating sustainable economic development and climate restoration at the country level as well as representations as a model financing for IsDB member countries. In addition, the markup rate for general financing (rural and peri urban) which is the major part of financing has been proposed as (6-7) %. These rates are steps toward the market development for the LMIH. But these rates are also ambitious considering the current uprising trend of market lending rate. Therefore the markup rates are needed to review and adjust before launching the products under the project. The study suggests the market rate for the general finance should be from 6.5% to 7.5% remaining the concessional rates at 5% for this time-being.



(c) Financing Mechanism: The mechanism and mark up issues should be settled considering the suitability and viability of the current financial market situation and favoring the project goals and objectives on mutual understanding of the IsDB, GoB and BHBFC. In that context, the study opines that the mechanism of financing can be followed the similar manner of the earlier phase of project as bellow-

(i) The Government of Bangladesh (GoB) will sign financing agreements with IsDB, (ii) The GoB will take the financing in US Dollar or in Euro based on the pricing policy and offer of IsDB and international market of currency trading, (iii) BHBFC will sign corresponding subsidiary loan agreement (SLA) with GoB in currency of BDT complying terms and conditions of financing agreements between GoB and IsDB.

Section 6: Output plan:

The proposal of the project illustrates a range of outputs and outcomes to emphasize on the necessity of financial assistance to meet the unmet demand for housing finance in LMIH segment. The output and outcomes depend on the various internal and external factors among which inflation, geo-economic political condition, and the world economy are mostly dominating. Depending on the present situation, the outputs and outcomes of the proposed project are evaluated in this study and are expected to obtain through the due implementation of the project. The expected Outputs and Outcomes are as follows-

(a) Output

Under the proposed project, the approved financing will be disbursed to the end beneficiaries for constructing multi storied buildings in the project areas. Also, a portion of financing are allocated to construct Climate Resilient Buildings and Environment Friendly Buildings. The outputs have been measured considering the number of constructed buildings vis-a-vis the number of housing units. The published constructions rates of the Public Works Department (PWD) of GoB and BHBFC are considered to estimate the cost of buildings. Detail calculations of the outputs are reviewed and annexed [Annexure- 4(a), (b), (c), (d), (e)] at the end of this study report. The summary findings of output are shown in the following table:



Table 10: Estimated number of building and family units to be built under the Component.

(In Number)

Areas of Financing	Number of multi-storied Building to be built			Number of family Units to be built		
	Regular	Concessional	Total	Regular	Concessional	Total
i) Rural housing	1145	113	1258	6870	904	7774
ii) Peri-Urban housing	980	-	980	9800	-	9800
iii) Climate Resilient	-	55	55	-	330	330
iv) Eco-friendly housing	-	42	42	-	336	336
Total	2125	210	2335	16670	1570	18,240

Therefore, it is expected that the total number of 2335 multi storied building will be built with 18240 family units. Moreover improved citizen amenities will upgrade the living standard of the intended borrowers from LMIH segment of the population.

These are the outputs mentioned above are generated from the major financing to end beneficiaries for house construction with related facilities. The other components of the project will generate many outputs such as below:

Trained resource personnel, Capacity development in Information technology (IT), Monitoring and Evaluation (M&E) of Executing Agency, Gathered know how of climate and environment related resource i.e. specified housing model, shelter of climate victims and restoration of environment through reduction of Green House Gas (GHG).

(b) Outcome:

It can be inferred from the output that, this fund will create an opportunity for 18240 household to get the benefit of low cost housing finance. Moreover, a huge number of people, will be benefited from the improved housing facility through housing construction. This number approximately 72960 at the rate of 4 persons per household according to the recent population census-2022 by BBS.

On the basis of the direct outputs described in the preceding sections, the corresponding outcomes are enumerated and presented in the following table:

Table 11: Estimated outcome in terms of number of beneficiaries

(In Number)

Areas/modes of Financing	Number of beneficiaries		
	Regular	Concessional	Total
Rural housing financing	27,480	3,616	31,096
Peri-Urban housing financing	39,200	-	39,200
Climate Resilient and Eco-friendly housing financing	-	2,664	2,664
Total	66,680	6,280	72,960

Considering the household number 4.0 as per population and Housing census, 2022.



(c) Impacts:

As economic impact, this Project will extend the construction sector of the country beyond the regular frontiers, and effectively inject several growth-generating points in the peri-urban and rural areas of Bangladesh. Impact the social benefit although, not easy to quantify, will be significant as the standard of living of people will be significantly enhanced in the target areas. A great national interest will be served through its will contribution towards optimum use of inherited land by constructing multi-storied buildings for residential purposes and releasing sufficient land for other productive use. Safe and sound living against natural calamities (e.g. cyclones, thunderstorms, heavy rainfall, etc.) will take the lifestyle of peri-urban and rural people to a much better level. Create social bondage within the community and open up the scope of social and economic activities.

Impacts can be classified in different ways like economic impacts, social impacts and environmental impacts described in following section:

(i) **Economic Impacts:** This project can have the following economic impacts:

Generating employment: Housing construction generates employment. The type of employment ranges from unskilled and lowly skilled workers to highly paid professionals and includes a considerable proportion of technically skilled workers. Considering minimum BDT 500 for per Labor Day, it is enumerated that minimum around 43178-day laborers can work in this sector from the fund flow.

Table 12: Estimated scenario of employment generation from the fund flow

(In Number)

Areas/modes of Financing	Employed day laborer in number		Total Employed day laborer in number
	Regular	Concessional	
Rural housing financing	19,475	2,160	21,635
Peri-Urban housing financing	29,953	-	29,953
Climate Resilient and Eco-friendly housing financing	-	1,613	1,613
Total	49,428	3,773	53,201

Development of linkage industry: This Project will extend the construction sector of the country beyond the regular frontiers, and effectively inject several growth-generating points to the sector. The linkage industry will grow with these real estate developments by contributing to national growth through multiplying effects.



Growth of Housing Market: Development of a viable model of housing finance market targeting low-income people of the country will be possible through this project.

Increasing Tax Revenues: Revenue sources during the construction phase include sales taxes on building materials, corporate taxes on builders' profits, income taxes on construction workers, and fees for other government inspections etc. In addition to immediate fiscal benefits, housing construction also provides on-going benefits to the local economy. These include residential property taxes, property taxes from the businesses supported by the residents, and utility user fees.

Increasing savings: Improved housing finance may also lead to increased savings in the economy. The availability of affordable housing finance may lead to increased savings as potential homeowners save to make the required down payment and to maintain the asset.

Small business aspect: Housing provides a place of employment for many micro and small businesses and can be used as collateral to secure a loan.

(ii) Social Impact:

Social Stability and Security Aspect: Private ownership of housing can provide security in old age as housing assets are leveraged to generate income. More generally, housing assets provide economic and social stability as assets are accumulated, passed from one generation to the next and used as security in times of economic stress.

Reducing Slum Living: Slum reduction may occur because of the new affordability brought about by deepening of housing finance and an increase in housing supply. New construction in the upper end of housing markets allows for the movement of middle-income groups; this in turn motivates lower-income households to avail of the lower-cost housing units previously occupied by the middle-income groups.

Access to better education: There is a link between education and housing. Having a house as an asset improves homeowners' borrowing capacity and so housing finance could lead to more investment in human capital. And to the extent that housing finance improves housing affordability for the poor, it may improve the probability of education opportunities for the poor.

Health and human welfare: More and better housing increases the welfare of housing occupants. The evidence points specifically to improved health conditions, but there are other



benefits such as less stress and increased security, especially for children and women. This link is obvious as the healthiness of a household's environment will be determined in no small manner by housing, along with housing-related infrastructures such as water and sanitation.

Social and political stability and engagement: Greater homeownership may increase civic engagement and stability through the creation of a property-owning society with a stake in the local and national community. The idea is that having a stake in the country in the form of home results in greater allegiance to the nation, which would translate into increased political stability and greater motivation to work hard.

(iii) Environmental impact:

Bangladesh is one of the worst sufferers of climate change due to its geographical location and socio-economic characteristics. The improvement of standard of living in rural/peri-urban areas would have a great positive impact on the human environment and ecological balance. Eco-friendly housing will help to mitigate the climate change effect by reducing GHG. Climate-resilient housing will help people to lead a sustainable and decent life. Safe and sound living against natural calamities (e.g. cyclones, thunder-storm, heavy rainfall etc.) will take the lifestyle of people to a much better level.

Section 7: Environmental Sustainability, Climate Resilience and Disaster Risk Analysis

Environmental Sustainability, Climate Resilience and Disaster Risk Analysis-

(a) What are the likely environmental, disaster and climate change impacts or risks from the project (any impact of project to increase the existing disaster and climate change-relate risks and/or contribute to create new risks)?

There is no significant negative environmental, disaster and climate change impacts to increase the existing disaster and climate change-relate risks or contribute to create new risks from this project. Though some of the minutiae negative impacts are identified as:



Negative Impact-01

Disruption of existing natural environment and modification of micro-climate:

- ❶ Increased development density;
- ❷ Reduced natural ground cover;
- ❸ Obstruction of ventilating wind;
- ❹ Increased surface run-off.

Negative Impact-02

- ❶ Increased loading on Infrastructure and utility services;
- ❷ Increased vehicular and/or pedestrian traffic;
- ❸ Increased demand on water, sanitation services, energy etc.

Negative Impact-03

Worker accidents and health infection.

Negative Impact-04

Increased social conflict.

(b) What countermeasures should be taken to reduce these impacts?

Mitigation effort: In mitigation efforts, eco-friendly housing would be an ideal replacement of traditional housing to reduce greenhouse gas emissions. There are some major components of eco-friendly housing- Materials for eco-friendly housing, Energy systems for eco-friendly housing, Water management in eco-friendly housing, Health components of eco-friendly housing.

Developing model and benchmark for eco friendly & climate resilient housing:

Based on the current practices of green financing market financing in eco-friendly housing under the project will be designated in Green Building Loan which is the financing to a completely certified green building with eco friendly building materials and technology. The flexibility will be endorsed in the model based on the certain benchmarks defined for this green building construction. Green building is the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life-cycle from sitting to design, construction, operation, maintenance, renovation and deconstruction. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort. Green building is also known as a sustainable or high-performance building. Green buildings are designed in such a way to reduce the overall impact on the environment and human health by:

- i. Reducing trash, pollution and degradation of the environment.
- ii. Efficiently using energy, water and other resources.
- iii. Protecting occupant health and improving productivity.



Counter Measure for Negative Impact-01

- ❶ The project is restricted to approved density building line, plot coverage and plot ratio. Careful layout and orientation of buildings to respect wind and sun direction.
- ❷ Adequate provision of green and open space planted with grass, shrub and tree cover.
- ❸ Adoption of appropriate technology in collection and disposal of storm water and surface run off.

Counter Measure for Negative Impact-02

- ❶ Have paved local access road and walkway system (with convenient widths)
- ❷ Encourage rainwater harvesting
- ❸ Provide adequate storm water drainage system.

Counter Measure for Negative Impact-03

- ❶ Employ skilled and trained workers, provide protective clothing
- ❷ Prepare clear work schedule and the organization plan.
- ❸ Enforce occupational health and safety standards.

Counter Measure for Negative Impact-04

- ❶ Encourage formation of community policing, and establish neighborhood association.
- ❷ Increase economic activities – increased employment opportunities, income earnings.
- ❸ Establish adequate social facilities to serve the wider communities.



(c) What is the cost of reducing/mitigating the negative impacts?

There is no direct cost for mitigating the negative impacts of this project. Furthermore, subsidies will be provided for the purpose of building eco-friendly housing to reduce environmental, disaster and climate change risks.

(d) Are there alternative ways of delivering the required services or goods without incurring these environmental costs? What are the costs of these alternatives?

Not Applicable

(e) What types of assessments are required for the project (e.g. EIA/DIA)?

Not Applicable

[Template or model of eco-friendly housing and climate resilient housing including the defined benchmarks will be developed with the guidance of relevant government/international organization such as HBRI, SREDA, Bangladesh Bank, GIZ etc. In selection of the template of eco-friendly and climate resilient housing, the borrower will enjoy the flexibility based upon the adoption of minimum benchmark set for the housing. The beneficiaries can re-arrange, reshape, and replace the suggested model of housing on the basis of the included standard from the green criteria.]

(f) Is there any resettlements issue to be addressed? If yes, provide the resettlement modality in detail.

Not Applicable

Assessment of Disaster Resilience of the Project

Contingency Plan for Emergency Disaster Management: Describe the evacuation plan if required, institutional arrangement for shutting down of utility services, and general procedures to be followed by individuals during disasters (Fire, Earthquake, Flood, Cyclone etc.); Mentioned earlier

Adaptation efforts for a climate-resilient housing:

In adaptation efforts, climate-resilient housing could be important for the people who are facing climate change-related calamities. Under the proposal, climate-resilient housing will include a specially designed housing service to adapt with the climatic phenomena, inter alia, cyclones, tidal wave/surges, salinity, flood and water logging.

Climate Resilient housing will be extended to the specially designated buildings to be built in the areas where the climate is adversely affected. In context of adopting climate resilient building model, the climatic phenomena tidal wave, storm, flood and salinity will be addressed with a special type of design and building materials invented and promoted by statehood organization HBRI and similar other organizations. As the owner's driven construction there



are also flexibility in adopting the model based upon the application of benchmarks set for this housing.

Business Continuity Plan: Outline the key response and recovery priorities. This plan will detail out how different utility services will be rendered to support the overall Emergency Management Plan;

It is not being impacted for a long time.

It will be mandated during the project according to the Bangladesh national Building Code-2020 (Chapter-7: Construction Practices and Safety)

Time of Recovery: Required time for rehabilitation after a disaster;

Not Relevant.

Reporting of residual risks: Reporting of remaining risks after recognition and put in place adequate risk reduction measures.

The reporting will be presented after assessing the progression of the project time-to-time.

Section 8: Financial and Economic Analysis:

(a) Financial Analysis:

In this financial analysis, total amount of \$296.97 million in different mode/purposes will be received by BHBFC through Government from IsDB. Grace period will be 2 years for every tranche. In this grace period, BHBFC will pay the interest/profit earned only, the regular payment installment will begin after two years of grace period for next 18 years. The different mode of finance under the proposal project is described as below which considered for analysis:

As proposal BHBFC will receive a total amount of \$268.73 m as regular loan which is investable to the end beneficiaries at the weighted average rate of interest 7.5 %. This total amount will be received by 2 trances in consecutive four years to build affordable and eco-housing system with 2 years grace period.

On the other hand, \$23.54m will be received as concessional loan in which \$20.57m for investable and \$2.97m for developing housing model and related facilities, increasing Capacity for IT support, Supporting to PMU & Administrative services etc.



Assumption for IsDB financing through to BHBFC financing:

1. A total financing amount of \$292.27m (investable \$268.73 m and non-investable \$2.97m) will be received by BHBFC in following manner:
 - (a) In 1st tranche, \$144.64m (regular \$134.36m, concessional \$10.28m) will be disbursed from IsDB in four Installments to BHBFC at the rate of 2.0% (Weighted average rate of interest) from july'2023 to dec'2024.
 - (b) In 2nd tranche, from july'2025 to dec'2026 the amount of \$134.36 m (regular \$134.36m, concessional \$10.28m) will be disbursed in another four Installments to BHBFC at the same rate of interest.
2. The weighted average rate of interest will be 2%.
3. Repayment period will be 18 years including grace period for each tranches of proceeds. Though the repayment for concessional loss will be 25 years.
4. Grace period will be 2 years. After grace period the principal and interest amount will be paid simultaneously in the next 18 years at semiannual basis.
5. BHBFC will receive \$2.97m for arranging development program for developing housing model and related facilities.
6. In the Payment side, BHBFC will pay regular installment to IsDB with Payment during grace period (PDGP) through GoB. Here we consider the amount of 110 crore as administrative cost for first 5 years which will be contributed by BHBFC (GoB)

Assumption for BHBFC's financing to the beneficiaries:

- i. In 1st tranche, \$144.64m (regular \$134.36m, concessional \$10.28m) will be disbursed by BHBFC at the rate of interest 7.5% from july'2023 to dec'2024. BHBFC will receive EMI, PDGP and 0.60 % of service fees (application & inspection fees) from the client.
- ii. In 2nd tranche, \$134.36 m (regular \$134.36m, concessional \$10.28m) will be disbursed in another four installments to the clients from july'2025 to dec'2026 with similar terms and conditions as 1st tranche.
- iii. BHBFC will receive EMI, PDGP and 0.60 % of service fees (application & inspection fees) from the beneficiaries.



- iv. The finance to end beneficiaries 7.5% per annum.
- v. Repayment period will be 20 years excluding grace period.
- vi. Grace period will be 1 year.

The receipts from different tranches and periods the repayment will be made to IsDB through GoB on semiannual basis are tentatively aggregated and shown as yearly repayment from 2023 to 2048.

Yearly repayment installment will be BDT 139.04 crore per year from 2023 to 2048. In this process, BHBFC has to pay against 2954.44 crore by 26 years which are summarized in the following table as below:

(Crore in BDT.)

Principal Payment (2025-2048)	=	2995.43
Regular Rent/Interest (2025-2048)	=	544.96
Rent/Interest during Grace Period (2023-2030)-RDGP	=	74.89
Operation cost from BHBFC	=	110.00
Total Payment	=	3725.28

If the BHBFC made full investment of Project aid and the 100% of the recovered amount of EMI is kept reinvestment ends years @ 7.5%, after the completion of Govt. repayment schedule by 2048, the principal balance will stand as 977.99 crore in BDT. The relevant information found in financial analysis¹¹ are given below -

(Crore in BDT. except in expression)

Net Financial Benefits	=	983.86
Net Economic Benefits	=	1475.79
FIRR	=	12.87%
EIRR	=	18.00%
FNPV	=	1521.88
ENPV	=	3381.68
BCR	=	1.61%

The above financial information indicates that this project will be financially viable against the cost of Borrowing.

(b) Economic Analysis:

Apart from investable amount, \$7.67m fund will be received from IsDB (Concessional \$2.97m,

¹¹ Financial and Economic analysis of the project fund (Annexure-3)



Monetary Grant \$2.35m and technical assistant Grant \$2.35m). This fund will be spent for various purposes such as

- Capacity building program for developing housing model and related facilities
- Capacity development for IT support
- Project Development and evaluator
- Support to PMU & Administrative service, Startup workshop and familiarization visit.

All of the above performances will have a great effect on socio-economic development along with the capacity and skill development of the EA and its resources as well as will add economic benefits. The most common economic benefits that will be brought by this project are mention below:

1. This Project will help to enable an improved housing ecosystem to expand the access of the underserved segments of society to affordable housing in a sustainable manner.
2. There is a great chance will be created by launching this housing project to develop green affordable housing in Bangladesh. By this work plan BHBFC will be able to Access for making a affordable finance for constructing well planned, sustainable and eco-friendly multi storied buildings with improved quality and necessary basic facilities for lower and middle income people dwelling I rural and peri-urban areas in Bangladesh.
3. It will improve the quality of living standards of stake holders.
4. It will ensure efficient use of land by vertically housing development and save the cultivable agricultural land.
5. Addressing climate sensitivity through making eco-friendly and climate resilient housing.
6. There is a scope of women empowering by ensuring active participation in decision making process such as
 - Ownership of house by women.
 - Promoting gender quality.
 - Ensuring participation of female officials/services provider in project management.There is scope of outsourcing for implementation of this project.
7. A pull of skilled manpower will be made by organizing various training seasons, workshop, seminar and symposium etc. By launching computer training to develop technical knowledge of the personnel's of BHBFC as well as Project management unit can be ensured.
8. There is a scope of generating employment opportunities to reduce unemployment situation of Bangladesh.
9. The various linkage industries which supply the construction materials such as bricks, cement, sand, rod etc. will be benefitted by this project. In this sector an employment opportunity as well as money circulation will be occurred by housing development.
10. Eco-friendly and sustainable housing has multiple 4effects on economic benefit.

On the basis of the above economic issues of benefits, the economic benefit can be enumerated to show these in financial calculations. It is conservatively assumed that economic benefit will score one and half times of financial value in monetary term. **So, it can be said as a conclusion that this project will be economically viable.**



Section 9: Institutional and Legal Analysis

(a) BHBFC as an Executing Agency:

Housing is the one of policy concern which is already paid attention by incorporating it in the constitutions of Bangladesh where shelter is recognized as one of five basic essentialities. To improved housing conditions of its citizen GoB have the institutional efforts in many kinds.

BHBFC is the only state-owned specialized financial institution in public sector to facilitated housing needs. BHBFC is the pioneering institution in this sector which was incepted in 1952 and this reconstituted in 1973 as per Bangladesh House Building Finance Corporation Order, 1973 (PO 7 of 1973) which is its legal statute. The total paid-up capital of the corporation is paid by the Government of Bangladesh. At present, the capital structure of BHBFC is as follows:

Table 13: Source of fund and outstanding.

(Amount in Crore BDT)	
Source	Amount
Authorized Capital	1000.00
Paid-up-Capital	110.00
Govt. Deposit	12.71
Govt. Loan	1635.60
Debenture Balance	394.50
Total Asset	5422.40

The primary objective is to alleviate the housing problem in the country. It is the only financial institution in the housing sector that has been financing for the last 7 decades. Although, after 1997 public sector privatization initiative, commercial banks and private sector housing institutions entered in the market and began to extend financial assistance to this sector predominantly in urban region. Yet, BHBFC continues to be the major source of housing credit for the middle and lower middle income group of people till today all over Bangladesh using its larger institutional networks. BHBFC is a statehood financial agency which is established under exclusive legal charter (PO 7 of 1973) enjoys some unique features in legal framework for instance, restriction in remission of loan. This legal advantage ensures full repayment of its loan and results in regular profit and better earning on investment.

(b) Performance of BHBFC

The overall dynamics in the activities of the BHBFC has increased in recent years for pragmatic steps taken by the management. The Corporation has undertaken effective long term



plans and subsequent efforts to implement those plans toward goal.

Table 14: Performance of BHBFC in last three fiscal years.

(Amount in Crore BDT)

Particulars	2019-2020	2020-2021	2021-2022	Comment
Loan Approved	445.31	619.26	714.84	All indices are showing positive growth.
Loan Disbursement	421.95	514.03	588.95	
Loan Recovery	484.85	565.08	652.01	
Loan Balance	3472.93	3702.51	3931.53	
Classified Loans	7.45%	5.99%	4.57%	
Net Profit	169.54	200.62	249.03	

BHBFC has obtained remarkably steady positive progress in its operational achievements, even in the adversary of corona pandemic, is recognized by the Government of Bangladesh. Some of which are shown in the following:



Figure 6: Important Achievements of BHBFC in recent years.

In its efforts to expand service coverage for less served areas already ‘Rural and Peri Urban Housing Finance Project’ of BHBFC has been implemented through the financing of International Development partner organization Islamic Development Bank (IsDB). The Project started in 2018-2019 Fiscal Year and ended on 30th October, 2022. Therefore, BHBFC institution capacity and legal statute is supportive to adopt and implement such an initiative to enhance its finance service to the lower middle income people other than the main law PO 7 of 1973, there are loan regulations, general regulation to operate and administer the organizations. Along with the legal statutes, BHBFC follows all other relevant laws and regulations applicable



and synchronous to its activities and functions.

(c) Offices as per Organizational Structure

Head Office of the Corporation is located in Dhaka, Bangladesh. There are 14 departments and 6 General Manager's offices at Head Office. Other than head office it has 10 Zonal offices and 14 Regional offices. There are 63 operational branch offices coverage all. The districts of the country against 100 approved branches. The remaining 37 approved operational branches offices will be shortly along with the progress of the project implementation.

Head Office

MD's and DMD's Office

- MD's Secretariat
- DMD's Secretariat
- Board Secretariat

General Manager's Offices (6):

- GM (Admin & Marketing)
- GM (Recovery & Law)
- GM (Loan, A/C & Eng.)
- GM (Audit)
- GM (East)
- GM (West)

Departments (14):

- Administration
- Accounts & Finance
- Loan
- Recovery
- Audit
- Law
- ICT (Operation)
- ICT (System)
- Engineering
- Common Service
- Marketing & Development
- Saleable House (Kharidabari) Management
- Planning & Human Resource Development
- Training Institute



Field Offices

Zonal Offices (10)			
1	Dhaka North	6	Rangpur
2	Dhaka South	7	Khulna
3	Mymensingh	8	Sylhet
4	Barishal	9	Rajshahi
5	Chattogram	10	Faridpur

Regional Offices (14)			
1	Josshore	8	Jamalpur
2	Pabna	9	Cumilla
3	Narayanganj	10	Rangamati
4	Gazipur	11	Gopalganj
5	Noakhali	12	Bogura
6	Narsingdi	13	Dinajpur
7	Tangail	14	Kushtia

Branch Offices (63)			
Category-A Offices(17), Category-B Offices(24) & Category-C Offices(22)			
Category-A Offices (17)			
1	Dhaka North Main Branch	10	Chattagram Main Branch
2	Dhaka South Main Branch	11	Coxs bazar Branch
3	Pallabi Branch	12	Khulna Main Branch
4	Gulshan Branch	13	Rajshahi Main Branch
5	Dhanmondi Branch	14	Mymensingh Main Branch
6	Mirpur Branch	15	Barishal Main Branch
7	Savar Branch	16	Rangpur Main Branch
8	Khilgaon Branch	17	Sylhet Main Branch
9	Faridpur Main Branch		
Category-B Offices (24)			
1	Manikganj Branch	13	Comilla Branch
2	Gazipur Branch	14	Feni Branch
3	Narsingdi Branch	15	B.Baria Branch
4	Narayanganj Branch	16	Rangamati Branch
5	Keraniganj Branch	17	Chadpur Branch
6	Jamalpur Branch	18	Noakhali Branch
7	Netrokona Branch	19	Naoga Branch
8	Kishhoregonj Branch	20	Pabna Branch
9	Tangail Branch	21	Sirajganj Branch
10	Satkira Branch	22	Bogura Branch
11	Jasshore Branch	23	Dinajpur Branch
12	Kushtia Branch	24	Gopalganj Branch
Category-C Offices (22)			
1	Munshiganj Branch	12	Magura Branch
2	Laxmipur Branch	13	Chuadanga Branch
3	Natore Branch	14	Rajbari Branch
4	Shreemangal Branch	15	Madaripur Branch
5	Sunamganj Branch	16	Sherpur Branch
6	Habigonj Branch	17	Panchgarh Branch
7	Bhola Branch	18	Patuakhali Branch
8	Gaibandha Branch	19	Pirojpur Branch
9	Lalmonirhat Branch	20	Jhenaidah Branch
10	Thakurgaon Branch	21	Khagrachori Branch
11	Kurigram Branch	22	Bagerhat Branch



(d) Human Resources and administrative Support Analysis:

Human Resource Structure of BHBFC: Human resource management is conducted centrally by administration department of BHBFC. The human resource management framework includes day-to-day operations of the administration department, pension and welfare, organizational activities, recruitment, transfer, promotion etc. Recruitment, promotion, transfer of skilled manpower in accordance with the approved organizational structure; Storage of information related to the employment of officers-employees; Provision of leave to officers and employees, determination of salary, approval of annual salary increase etc., formulation, amendment, administrative rules and regulations, order, notification etc. Payment of computer/laptop advance, execution of pension/welfare fund related activities, taking disciplinary action-etc. BHBFC as state owned institution complies with all the laws, rules and regulations of GoB in conducting the administrative affairs and human resource management. The detailed information is presented in the table 7.

Table 15: BHBFC's manpower details as on 31.07.2022

Serial	Designation	Number of working employee	Number of Approved employee as per organogram
1	Managing Director	1	1
2	Deputy Managing Director	1	1
3	General Manager	6	6
4	Deputy General Manager	16	25
5	Assistant General Manager	22	58
6	Senior System Analyst	0	2
7	Senior Principal Officer	79	89
8	System Analyst	0	2
9	Principal Officer	84	127
10	Executive Engineer	9	14
11	Programmer	3	5
12	Maintenance Engineer	2	2
13	Maintenance Engineer (Network)	2	2
14	Hardware Engineer	0	2
15	Senior Officer	127	250
16	Law Officer	13	26
17	Assistant Engineer	13	21
18	Assistant Programmer	10	15
Total 1 st Class (grade 9 and above)		388	648
19	Officer	53	368
20	Sub-Assistant Engineer	21	33
Total 2nd Class (grade 10)		74	401
21	Data Entry Operator	37	60
22	Driver	23	38
23	Electrician	5	8
Total 3rd Class (grade 13 and 16)		65	106
24	Photocopy Machine Operator	4	5
25	Office Support Staff	52	125
26	Plumber	4	8
27	Mali	0	4
28	Security Guard (supernumerary post)	14	0
29	Lift Operator (supernumerary post)	1	0
30	Bus Helper (supernumerary post)	1	0
31	Cleaner (supernumerary post)	4	0
Total 4th Class (grade 20)		80	142
Grand Total		607	1297

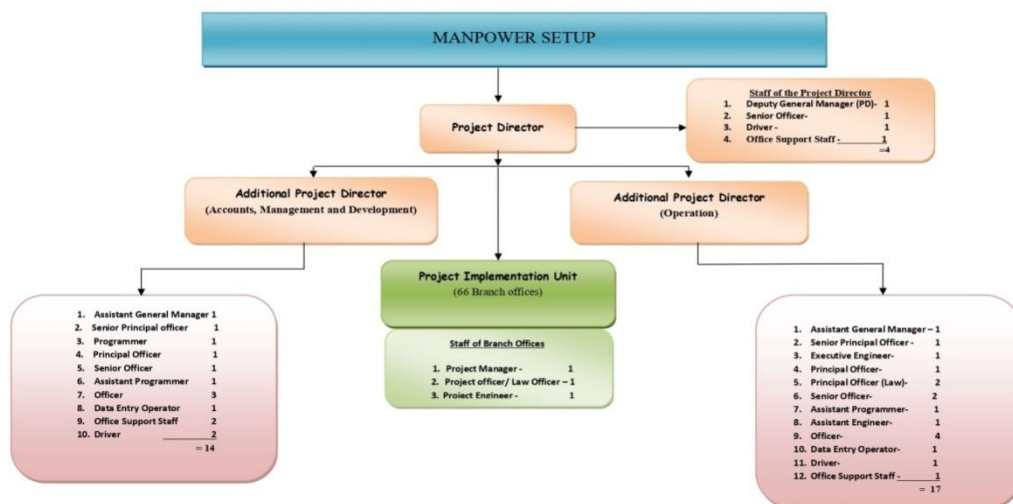


(e) Proposed Human Resource Structure for the project:

The human resource setup proposed in Project Concept Note (PCN) has been reviewed in this study. This study has analyzed human resource requirements, their costing, controlling and monitoring during implementation and post implementation of the project. Work forces with both managerial and operational skill are needed during implementation and operational phases of the project. As the general manager is an inter-financial institution post and frequently is transferred from one institution to another institution and only 6 in Number. Hence this study suggests to appoint a deputy general manager (grade-3) instead of GM which is the highest ranking position of BHBFC’s own employee as Project Director to the project as full time duty. BHBFC as the Executing Agency of the project has the institutional capacity (financial and technical) to retain the project output functional with its skilled & experienced workforces in operating the project successfully. Adequate fund has been segregated from the regular budget of BHBFC to incur the operational expenditure of the project which is consistent.

(f) Man Power Distribution:

BHBFC, the state-owned financial institution is entrusted to execute the project as the Executing Agency (EA). The executing agency will manage the project with its experienced and expertise resources.



As the proposal BHBFC will assign full-time necessary manpower to the PMU. But PIUs will from with the manpower of additional charge or on deputation from its permanent manpower



structure as well as with the direct recruitment/outsourcing for the project period based on the GoB's rules.

The planning for the combination of three types of manpower is supposed to be reasonable. The PMU will be full of permanent manpower so that the stringent monitoring and supervision will be ensured which is needed for successful operation. The additional charges are opted to reduce the cost for hiring manpower. The option for direct recruitment/outsourcing is essential as the existing manpower strength in branch offices is not sufficient to dedicate for PIUs. Therefore the essential support/supply for manpower this option should be opened. But this study recommends for outsourcing the required manpower has been opted for direct recruitment. As well as, will have to appoint based on a need assessment of the existing strength of EA.

The PMU will be located at the Head Office under the direct supervision of the Project Director. The unit will comprise adequate number of officers and staffs from both the technical and general sides including additional and deputy project directors. In addition, the staff of field offices will support the operational activities in addition to their regular duties. Number of manpower to be employed at PMU and PIU are shown in table following.

Table 16: Number of manpower to be employed at PMU and PIU.

(Amount in Number)

Nature of employment	No. of manpower to be employed at PMU	No. of manpower to be employed at PIU	Total
On Deputation	35	-	35
Additional Charge	-	66	66
Outsourcing	-	132	132
Total	35	198	233

Along with the manpower distribution the PCN has also estimated the salary and the allowances for these resources. As per the proposal the salary and allowances of Project Implementation Unit are shown in the following respectively.

Inflation, Taka devaluation may raise the estimation that should be in consideration. This study recommends adding 10% more budget against this cost estimation to ensure the sensitivity. Moreover, the deputed personal will get the similar other benefits as profit is implemented as



an in-house project. Depending on the opening and operation of new field offices of EA, the number of personnel on deputation/additional charge may be varied.

Table 17: Central Office: Project Management Unit

Sl. No	Position	Grade	No	Consolidated Monthly Salary	Consolidated Yearly(18m) Salary	Total salary for 1yrs	Total salary for 5yrs
1	Deputy General Manager	3	1	150,000.00	2,700,000.00	2,700,000.00	13,500,000.00
2	Assistant General Manager	4	2	125,000.00	2,250,000.00	4,500,000.00	22,500,000.00
3	Senior Principal Officer	5	2	115,000.00	2,070,000.00	4,140,000.00	20,700,000.00
4	Principal Officer	6	2	90,000.00	1,620,000.00	3,240,000.00	16,200,000.00
5	Principal Officer (Law)	6	2	90,000.00	1,620,000.00	3,240,000.00	16,200,000.00
6	Programmer	6	1	90,000.00	1,620,000.00	1,620,000.00	8,100,000.00
7	Executive Engineer	6	1	90,000.00	1,620,000.00	1,620,000.00	8,100,000.00
8	Senior officer	9	4	60,000.00	1,080,000.00	4,320,000.00	21,600,000.00
9	Assistant Programmer	9	2	60,000.00	1,080,000.00	2,160,000.00	10,800,000.00
10	Assistant Engineer	9	1	60,000.00	1,080,000.00	1,080,000.00	5,400,000.00
11	Officer	10	7	45,000.00	810,000.00	5,670,000.00	28,350,000.00
12	Data Entry Operator	13	2	19,300.00	347,400.00	694,800.00	3,474,000.00
13	Driver	17	4	16,550.00	297,900.00	1,191,600.00	5,958,000.00
14	Office Support Staff	20	4	15,550.00	279,900.00	1,119,600.00	5,598,000.00
Sub Total			35	1,026,400.00	18,475,200.00	37,296,000.00	186,480,000.00

Table 18: Branch Office : Project Implementation Unit

Sl. No	Position	Grade	No	Consolidated Monthly Allown.	Consolidated Yearly Allown.	Total allown. for 1yr	Total allown. for 5yrs
1	Project Manager ¹²		66	5,000.00	60,000.00	3,960,000.00	19,800,000.00
2	Project officer/Law Officer	9th	66	35,600.00	427,200.00	28,195,200.00	140,976,000.00
3	Project Engineer	10th	66	27,100.00	325,200.00	21,463,200.00	107,316,000.00
Sub Total			198	67,700.00	812,400.00	53,618,400.00	268,092,000.00

Table 19: Summary of the Manpower of the project

Sl. No	Position	Grade	No	Consolidated Monthly Allown.	Consolidated Yearly Allown.	Total allown. for 1yr	Total allown. for 5yrs
1	On Deputation		35	1,026,400.00	18,475,200.00	37,296,000.00	186,480,000.00
2	Additional charge		66	5,000.00	60,000.00	3,960,000.00	19,800,000.00
3	Direct Recruit		132	62,700.00	752,400.00	49,658,400.00	248,292,000.00
Total			233	1,094,100.00	19,287,600.00	90,914,400.00	454,572,000.00

¹² Branch Managers of respective branches will act as 'Project Manager' (additional Charge).



Section 10: Lessons learnt from the completed project:

With the increasing of the per capita income, the desire for quality housing is increased which eventually raises the demand for housing financial urban and the newly converted urban from rural areas. The limited fund inflow of BHBFC couldn't satisfy the increasing demand led the BHBFC to take initiative like 'Rural and Peri Urban Housing Finance Project' to expand the access to housing to LMIH people. Thus, BHBFC has been contributing in upgrading of the living standard of lower and lower middle socio economic group of people. BHBFC is keen to extend further and continue its effort in this regard and has adopted 'Rural and Peri-Urban Housing Finance Project' 2nd phase. The first phase of the project has been implemented from 2018-2022 periods through the financing of International Development partner organization Islamic Development Bank (IsDB). The following table shows the brief snapshot of the project which indicates the successful experience of project implementation.

Table 20: project implementation scenario.

SL	Particulars	Units	FY 2018-19 to 2022-2023 (upto 30th October)
1	Planned Project Aid from IsDB	million euro	94.33
2	Disbursed from IsDB	million euro	94.13
3	Expenditure done under project	million euro	94.13
4	Multy story houses built	number	1161
5	Residential housing units		10715
6	No of End Beneficiaries	number	64290
7	Overall Physical progress	percentage	110.99%
8	Overall financial progress	percentage	99.35%

Source: Data from Project Management Unit (PMU).

As per the table above, 64,290 number of end beneficiaries availed the financing assistance for construction houses and 1,161 multi-storied buildings were built which saved more than 102.0 hectares cultivable land.

Table 21: A brief summary statistics of output-outcomes the project.

SL.	Total No. of Housing Unit	Total No. of Building	Average Number of Housing unit per building	Average floor size	Average storey size	Average income of beneficiaries	Percentage of women Borrower
1	14425	1161	4.52	1170.40	2.93	31000	31%

Source: Data from Project Management Unit (PMU).



The summary statistics shows that the average income of the end beneficiaries is 31000 BDT per month which is the middle range of the LMIH. This implies that the demand of this segment is larger and needs to address. The unit size and the number of units in each building also announce the participation of the LMIH in the project. The participation of women borrower is 31% which is an optimistic scenario. Lessons from previous project can be identified in different dimension such as-

- (a) **Occupation/Scio-economic class of end beneficiaries:** The project target group was the lower and middle income groups of rural and peri-urban areas of the country. The end beneficiaries' profile of the project shows that the average income of the borrower was BDT 31,000. The main occupations of the borrowers were low and medium graded government and private service. Therefore, the lesson is to expand the portfolios of the next project targeting the lower and lower middle income segments of the people in case of demand review.
- (b) **Less penetration into the farmer:** This project covered less number of farmer borrowers compared to target set at outset of the project. There were few reasons needed to take into considerations in this regard. Usually rental income is a vital factor for the repayment of the loan. It is learned that the house rent in rural areas is not sufficient to make repayment the installment. The financing under the project was made to the houses which can earn rental income so that the installments of repayment are duly covered with the income. The farming activities are still favorable to traditional horizontal housing. In addition, the financial literacy and culture of taking loan of the farmer less familiar compared to other segments of the society. There is also an aversion for long term loan in farmers that's why the farmers show less interest. These are the issues needs to be into consideration to resolve in case of expanding housing finance to the farmer.
- (c) **Higher cost of construction in current market price:** It is also come out that estimated rate for construction considered for the project comparatively lower than the actual cost. Hence, the end beneficiaries had to bear larger equity to complete the project. For any kind of the housing project, the construction rate should be updated based on the real market situation.



- (d) **Repayment scenario and early/advanced payment:** In case of repayment, it is observed that overall repayment trend was satisfactory. Early settlement was also seen because of income obtained from other sources. It implies that rental income is not the sole income source to repay the loan burden. Return comes from other income sources to the borrower is playing role in better repayment status. This gives the lesson that the alternative income sources other than rental income should be considered for the loan.
- (e) **Repayment status of the project:** The repayment nature by the borrowers of the home loan under the project was analyzed. It was found that the total recovery from the recoverable amount was 100% which is very optimistic in regards of project viability. Furthermore, it was found that the borrowers were more regular in repayment which implied the scope of proper selection of the borrowers for expanding financing.
- (f) **Repayment to the government:** The executing Agency maintains the procedure of availing project aid through subsidiary loan agreement (SLA) with GoB and bound to repay to GoB. Repayment to the government started from FY 2019-2020 according to the approved repayment schedule. Brief summary of repayment to government is given below:

Table 22: Brief summary of repayment to government from EA.

Financial Year	Repayment amount in crore BDT	
	Repayable	Paid
2019-2020	4.26	4.26
2020-2021	5.77	5.77
2021-2022	21.93	21.93
2022-2023*	5.78	5.78
Total	37.74	37.74

Source: Figures from Accounts and Finance department, BHBFC.

*Up to November, 2022

Data presented in the above table shows that an Executing Agency, BHBFC has duly paid to GoB according to SLA. Then the GoB will repay to IsDB as per the contract. It also indicates the due diligence of the EA. The EA has strong base and capacity to repay the loan timely.



(g) Capacity development & expertise of PMU:

To implement the project properly, several capacity development initiatives were executed which upgraded the ability and productivity of Executing Agency. Moreover, the purchase of IT hardware enabled the institution’s operational monitoring and evaluation foundation which would be helpful for the 2nd phase of the project. But the requirements of the need assessment analysis for IT development still remain important in that context.

PMU for the project was located at the BHBFC HO at Dhaka and the PIUs were at field offices. The PMU was led by a full-time Project Director (PD) and assisted by technically capable core staffs deputed from BHBFC. Project management unit (PMU) has shown its efficiency in implementing the project. Project Implementation Assessment and Support Report (PIASR) conducted by IsDB in 2022, provided the overall rating that stands at 0.91 out of 1.0 for the Project which is highly satisfactory. It indicates the capacity and expertise of PMU. Moreover, the participation in project related training, seminars, workshops and conducting programs scaled up the skill and efficiency of the PMU. Therefore, the upgraded capacity will be supportive to implement the similar kind of project successfully.

(h) Awareness development campaign:

In the 1st Phase the awareness development program under employees of BHBFC were trained up by arranging 2-day long Workshop for the Trainers and Organizers. The 2nd Phase of was organized titling as “Awareness development program on affordable, Planned, and Eco-friendly Housing” where around three thousand interested people were participants. The program contributed in readiness to this type of project further.

Later on a resource guide titled “A Handbook on sustainable, affordable, planned and eco-friendly housing development” was published including the topics discussed in the first and second phases of ‘Awareness Development Program’ and was distributed among the potential beneficiaries. These ‘Awareness Development Program’ contributed a lot in finding new end beneficiaries.

(i) Field visit experience and positive notes of end beneficiaries:

Two separate teams visited BHBFC’s several field offices for achieving more inclusive experience regarding the project. One team lead by BHBFC’s managing director includes



other three members visited Narsingdi, Sremangal and Sylhet office and met to the borrower and visited the houses built with the financing help of the project. Another team visited BHBFC's Rangpur, Bogura, Sirajganj and tangail office which includes three members including project director. This team also met to the borrower and inspected the houses built with the financing help of the project. In both cases, end beneficiaries put there valuable comment as they got financial assistance from BHBFC. They hoped that this financial assistance would be continued further for fulfilling their needs. This opinion also signalize the participation of people in Development partner funded project and necessity of such project to be taken. Some pictures of the field visit are attached in **annexure-5**.

Section 11: Risk and Uncertainty Analysis

Assessing the risks is essential before implementing a project. The presumed risks that might affect the successful implementation of the project within cost, deadline and adequate quality is being demonstrated below. In general, the overall risk profile of the project is considered from low to medium level. However sufficient mitigation measures are foreseen and will be executed to reduce the risk impact and consequences in case one occurs.

(a) Potential Risk-01: Natural calamities (mainly floods)

Scale of Risk: Medium to Low

Mitigation for Risk:

Considering the risk of floods, the project sites will be identified with respect to the country's map marking flood-affected areas to assess the safety and accessibility of the proposed project sites. This assessment process will be validated by specialized BHBFC Engineers, who will ensure that the project sites are reasonably safe from flood as well as river erosion.

Based on BHBFC's experience, the completed housing units financed by BHBFC is located away from flood areas and not affected by flood flow.

BHBFC requires all loan applicants to have their engineering detailed plans and designs vetted and approved by a competent Engineering Authority in the relevant government office before accepting for processing. The design and plan approval authority has strict guidelines to avoid any kind of risk regarding the flood-affected area, which itself is adequate to mitigate the risk posed by floods in this project.



(b) Potential Risk-02: Right selection of home users (risk of elite capture)

Scale of Risk: Medium to Low

Mitigation for Risk:

BHBFC has a rigorous SOP system for selecting and prioritizing the end- beneficiaries based on eligibility criteria, to minimize the possibility of elite capture. BHBFC’s thorough eligibility criteria include assessment of applicants’ profile, income level. Also, first time home owners will be given priority.

As BHBFC’s operation and results of the sanctioned housing finance will be overseen by different layers for accountability assurance purpose:

Home buyers’ participation: as the project is demand-driven residential buildings due to the sense of ownership (end beneficiaries contribute 20% total construction cost) and participation approach of the home owner in the design and supervision;

The construction completion milestones will be supervised by experienced field engineers from BHBFC who are located in the proximity to BHBFC’s 26 field offices across the country;

Furthermore, the project will be managed and closely supervised by Implementation Committee (PIC) headed by the Managing Director, BHBFC;

The Project Audit will cover mainly the physical and financial auditing aspects to ensure that the built financed structures are associated with the intended end beneficiaries who applied for the sanctioned loan initially;

Quarterly/ annual progress reports (reports should be available upon ISDB request) which will be prepared by BHBFC and Project Auditor;

Regular supervision missions (i.e. twice a year) during the project implementation.

(c) Potential Risk-03: Capacity of the EA to manage the project

Scale of Risk: Low

Mitigation for Risk:

The Executing Agency (EA) has the capacity to manage the project as earlier face is completed successfully. Governance/Leadership, Organizational Management, Human Resource Management, and Financial Management of EA are up to the mark to implement the proposed project.

The EA developed its capacity by adding more personnel to workforce and by developing IT Infrastructure both Hardware and Software.



(d) Potential Risk-04: Delays in construction works

Scale of Risk: Low

Mitigation for Risk:

An important prerequisite for loan application is submission of land ownership document as collateral, which directly addresses any concerns related to availability of land. For the security of its return, BHBFC will hold the land and the built asset as registered mortgage against the credit. After repayments of all installments are over, then EA will redeem the mortgage property in favor of its land owner/Clients.

To validate the submitted documents (land title, income level) by the applicants, there is a dedicated law side in each field office. If any issue arises, the case will be sorted by the legal advisor available in the relevant field office. Among the FIs in Bangladesh, BHBFC is the only institution which has dedicated law and engineering branch in each field office.

In addition, installments of financing will be based on contracting milestones, which BHBFC already has developed in their operational procedure. This procedure will increase the contractors' incentive to complete the buildings on timely milestones and as per agreed quality.

(e) Potential Risk-05: Default Risk of the End Beneficiary

Scale of Risk: Low

Mitigation for Risk:

According to BHBFC's Policy, default occurs when the amount of loan is not paid as per the stipulated deadline mentioned in agreement between BHBFC and end beneficiary (borrower). When default occurs, BHBFC have the right to take action against the borrower intuitively and legally. BHBFC mortgage the land along with the built asset. The asset value of mortgaged property (land with built houses) generally precedes the loan outstanding, so the default loan is recovered following the recovery policy with updated outstanding.

In last fiscal year, BHBFC's recovery rate is 96% and 4% default. The reason behind this low rate of default is BHBFC's rigorous assessment process for the housing finance applicants. As the capacity of the applicants is assessed through eligibility criteria that mainly considers the applicants' capability to pay back the housing finance loan. Hence, the credit amount is determined mainly by the cost of apartments' construction, prospective rent returns from the financed apartments, and the income of borrowers, individual.



Section 12: Conclusion and Recommendation

The demand of housing is rising with the growth of population which is coupled with the desire for quality housing based on the upgrading of the income level which is subsequently resulted in higher need of financing. Though, the higher income segments cope up with the increasing demand in availing their housing requirement with their income steadiness. The lower and middle income segment, the lion share of the population faces the challenge to bear the housing consumption with their current income and badly need of low cost housing finance. In addressing the need requirement, it is a timely intervention to take initiative in regard of expanding access to affordable finance for constructing planned, sustainable and eco-friendly multi-storied housings for lower and middle-income people of the country who live in rural and peri-urban areas. Along with introducing climate-resilient and eco-friendly housing is also a synchronous effort to policy concern of climatically vulnerable country. In spite of ensuring low cost housing finance to LMIH, the project will save cultivable land ensuring the optimum use of the land as it is sure to do for a land scarce country.

The Project, as detailed, is sound and needed for the improvement of living standard of the dwellers through availing the adequate quality housing. On the other hand, a positive impact will be created on employment generation, linkage industry of brick, cement and building materials which is important regarding income generation activity. This Feasibility Study has verified the technical, economic, institutional and environmental feasibility of the proposed Project and revealed that the Project is feasible to implement in considering of all the respect. The Project is logically related to present and proposed plans for the country's growth and development, and is financially self supporting. Therefore, its funding and execution deserves to be recommended.

Through implementation of the project significant benefits to public health and economy can be derived including both direct and indirect. However, since these benefits are not fully quantifiable, non-quantifiable considerations such as saving cultivable land, support to climate, improving living standard and overall contributing in country's economy have become important in the overall economic justification of the project. Along with these, this study reviewed benefits vis-a-vis the challenge and risks involved with the project proposal and



mentioned the mitigation measures as well. Especially the elite capture of the low cost fund in the project may deviate the goal. On the other hand, the selection of the sites for constructing houses should be carefully assured to avoid any kind of climatic interventions. The macroeconomic stability and steadiness is also an external influential factor to success of the project.

Recommendations: Therefore considering all the points reviewed and investigated in terms of financial, economical, physical, institutional and environmental, **this study concludes that the proposed project is feasible to implement and hereby is recommended to proceed on.**

Section 13: Annexes

1. Annexure-1
2. Annexure-2
3. Annexure-2(a)
4. Annexure-2(b)
5. Annexure-2(c)
6. Annexure-2(d)
7. Annexure-3
8. Annexure-4(a)
9. Annexure-4(b)
10. Annexure-4(c)
11. Annexure-4(d)
12. Annexure-4(e)
13. Annexure-5



From FY 2019-2020 to FY 2022-2023

Sl. No	Name of Office	General Loan		Eco-friendly Housing Loan		Climate Resilient		Total	
		Primary Application	Amount (Crore taka)	Primary Application	Amount (Crore taka)	Primary Application	Amount (Crore taka)	Primary Application	Amount (Crore taka)
1	CHITTAGANG	232	139.91	70	40.79	42	20.56	344	201.26
2	COMILLA	104	52.93	26	13.50	17	8.75	147	75.18
3	NOAKHALI	77	45.87	28	16.39	10	2.20	115	64.46
4	COX'S BAZAR	67	44.45	26	19.05	16	12.50	109	76.00
5	RANGAMATI	55	31.36	29	13.44	0	-	84	44.80
6	BRAHMANBARIA	52	21.83	12	4.98	3	1.32	67	28.13
7	CHANDPUR	80	29.91	11	4.95	3	1.20	94	36.06
8	FENI	64	33.17	19	9.01	0	-	83	42.18
9	LAKSHMIPUR	14	2.77	21	10.19	22	9.18	57	22.14
10	KHAGRACHARI	83	47.50	11	4.95	0	-	94	52.45
11	KHULNA	227	300.73	128	21.98	52	3.99	407	326.70
12	SATKHIRA	61	30.27	23	4.33	67	13.12	151	47.72
13	BAGERHAT	31	15.78	17	7.50	34	10.20	82	33.48
14	JESSORE	282	109.67	35	13.35	17	6.65	334	129.67
15	KHUSTHIA	66	28.75	11	4.09	23	9.73	100	42.57
16	MAGURA	41	23.00	11	10.87	0	-	52	33.87
17	JHINAIDAHA	74	33.56	23	5.33	15	3.40	112	42.29
18	CHUADANGA	40	19.60	18	5.80	13	5.38	71	30.78
19	RAJSHAHI	469	251.21	155	36.40	40	8.60	664	296.21
20	BOGURA	105	25.52	97	23.33	41	10.75	243	59.60
21	NAOGAON	104	47.40	65	28.90	0	-	169	76.30
22	PABNA	127	58.19	62	29.91	31	8.50	220	96.60
23	NATORE	72	38.24	14	6.47	0	-	86	44.71
24	SIRAJGANJ	200	73.25	38	8.59	60	12.50	298	94.34
25	BARISHAL	229	68.72	125	78.79	123	25.40	477	172.91
26	PATUYAKHALI	66	25.93	25	5.20	49	10.10	140	41.23
27	BHOLA	91	33.32	11	8.20	27	6.80	129	48.32
28	PIROJEPUR	55	24.80	11	3.70	28	5.60	94	34.10
29	SYLHET	64	33.81	33	12.96	16	3.40	113	50.17
30	SREEMONGOL	22	10.82	22	10.54	11	4.45	55	25.81
31	HABIGANJ	18	6.40	14	5.31	7	4.41	39	16.11
32	SUNAMGONJ	15	6.40	9	2.72	28	10.50	52	19.62
33	UTTARA	171	126.20	273	210.55	0	-	444	336.75
34	GAZIPUR	162	105.66	41	10.54	0	-	203	116.20
35	NARSHINGDI	110	48.33	46	21.00	0	-	156	69.33
36	MANIKGANJ	57	31.50	27	15.63	15	3.30	99	50.43
37	DHANMONDI	91	70.85	58	24.42	0	-	149	95.27
38	JATRABARI	106	113.99	39	11.44	0	-	145	125.43
39	KHILGAON	126	81.70	102	21.30	0	-	228	103.00
40	KERANIGANJ	30	18.75	15	3.22	0	-	45	21.97
41	MUNSHIGANJ	56	24.75	32	14.19	26	11.19	114	50.13
42	MIRPUR	178	153.17	86	17.80	0	-	264	170.97
43	PALLABI	147	119.04	46	26.61	0	-	193	145.65
44	GULSHAN	38	18.06	25	13.52	0	-	63	31.58
45	SAVAR	169	83.00	129	21.70	0	-	298	104.70
46	FARIDPUR	270	105.42	51	10.80	13	2.90	334	119.12
47	GOPALGANJ	106	80.59	31	6.20	32	5.80	169	92.59
48	MADARIPUR	24	33.37	12	2.74	16	2.06	52	38.17
49	RAJBARI	73	35.64	42	21.62	7	3.14	122	60.40
50	NARAYANGANJ	147	86.38	29	9.12	0	-	176	95.50
51	MYMENSINGH	159	98.97	20	9.75	70	13.65	249	122.37
52	TANGAIL	138	49.94	67	26.74	15	6.87	220	83.55
53	JAMALPUR	204	93.88	22	9.71	17	3.50	243	107.09
54	KISHOREGANJ	104	54.24	59	35.21	32	16.87	195	106.32
55	NETROKONA	166	78.53	21	9.20	14	6.20	201	93.93
56	SHERPUR	76	35.52	7	5.20	5	2.00	88	42.72
57	RANGPUR	196	89.70	86	55.88	31	7.95	313	153.53
58	DINAJPUR	79	16.11	56	45.28	0	-	135	61.39
59	KURIGRAM	79	32.00	56	20.10	30	8.00	165	60.10
60	GAIBANDHA	93	44.90	22	8.95	17	3.89	132	57.74
61	LALMONIRHAT	75	33.13	47	18.04	0	-	122	51.17
62	THAKURGAON	40	42.00	24	18.13	0	-	64	60.13
63	PANCHAGAR	36	15.62	27	15.10	0	-	63	30.72
	GRAND TOTAL	6793	3,735.99	2798	1,211.20	1135	316.51	10726	5,263.70

From FY 2019-2020 to FY 2022-2023

Sl. No	Name of Office	General Loan		Eco-friendly Housing Loan		Climate Resilient		Total	
		Primary Application	Amount (Crore taka)	Primary Application	Amount (Crore taka)	Primary Application	Amount (Crore taka)	Primary Application	Amount (Crore taka)
1	CHITTAGANG ZONE	828	449.70	253	137.25	113	55.71	1194	642.66
2	KHULNA ZONE	822	561.36	266	73.25	221	52.47	1309	687.08
3	RAJSHAHI ZONE	1077	493.81	431	133.60	172	40.35	1680	667.75
4	BARISHAL ZONE	441	152.77	172	95.89	227	47.90	840	296.56
5	SYLHET ZONE	119	57.43	78.00	31.53	62.00	22.76	259	111.71
6	DHAKA NORTH	1123	755.81	731	361.77	15	3.30	1869	1,120.88
7	DHAKA SOUTH	465	325.57	217	59.27	26	11.19	708	396.03
8	FARIDPUR ZONE	473	255.02	136	41.36	68	13.90	677	310.28
9	MYMENSINGH ZONE	847	411.08	196	95.81	153	49.09	1196	555.98
10	RANGPUR ZONE	598	273.46	318	181.48	78	19.84	994	474.78
	TOTAL	6793	3,735.99	2798	1,211.20	1135	316.51	10726	5,263.70

Total (General + Eco-friendly + Climate Resilient)

Sl No	Name of Zonal Office	2019-20		2020-21				2021-22				2022-23				Total (2019-2023)			
		Number	Amount (In Crore BDT))	Number	Amount (In Crore BDT))	Percentage of Number Increased	Percentage of amount Increased	Number	Amount (In Crore BDT))	Percentage of Number Increased	Percentage of amount Increased	Number	Amount (In Crore BDT))	Percentage of Number Increased	Percentage of amount Increased	Number	Amount (In Crore BDT))	Percentage of Number Increased	Percentage of amount Increased
1	CHITTAGANG ZONE	251	101.32	295	134.9	18%	33%	282	155.465	-4%	15%	366	250.97	30%	61%	1194	642.66	14%	37%
2	KHULNA ZONE	229	124.75	291	155.61	27%	25%	362	185.565	24%	19%	427	221.15	18%	19%	1309	687.08	23%	21%
3	RAJSHAHI ZONE	357	163.65	439	163.25	23%	0%	420	149.33	-4%	-9%	464	191.52	10%	28%	1680	667.75	10%	6%
4	BARISHAL ZONE	175	57.47	179	55.21	2%	-4%	219	84.98	22%	54%	267	98.9	22%	16%	840	296.56	16%	22%
5	SYLHET ZONE	54	19.87	63	26.755	17%	35%	90	40.177	43%	50%	52	24.91	-42%	-38%	259	111.71	6%	16%
6	DHAKA NORTH	449	227.99	410	239.9	-9%	5%	462	276.73	13%	15%	548	376.26	19%	36%	1869	1120.88	8%	19%
7	DHAKA SOUTH	182	112.59	130	75.24	-29%	-33%	173	90.27	33%	20%	223	117.934	29%	31%	708	396.03	11%	6%
8	FARIDPUR ZONE	143	74.42	164	72.6	15%	-2%	170	68.51	4%	-6%	200	94.75	18%	38%	677	310.28	12%	10%
9	MYMENSING ZONE	220	102.11	278	123.825	26%	21%	331	153.96	19%	24%	367	176.08	11%	14%	1196	555.98	19%	20%
10	RANGPUR ZONE	165	75.12	253	121.93	53%	62%	257	121.09	2%	-1%	319	156.635	24%	29%	994	474.78	26%	30%
		2225	1059.29	2502	1169.22	12%	10%	2766	1326.08	11%	13%	3233	1709.11	17%	29%	10726	5263.696	13%	18%

General Loan																			
Sl No	Name of Zonal Office	2019-20		2020-21				2021-22				2022-23				Total (2019-2023)			
		Number	Amount (In Crore BDT)	Number	Amount (In Crore BDT)	Percentage of Number Increased	Percentage of amount Increased	Number	Amount (In Crore BDT)	Percentage of Number Increased	Percentage of amount Increased	Number	Amount (In Crore BDT)	Percentage of Number Increased	Percentage of amount Increased	Number	Amount (In Crore BDT)	Percentage of Number Increased	Percentage of amount Increased
1	CHITTAGANG ZONE	169	65.49	215	97.65	27%	49%	189	103.53	-12%	6%	255	183.03	35%	77%	828	449.70	17%	44%
2	KHULNA ZONE	147	106.33	185	130.82	26%	23%	232	152.17	25%	16%	258	172.04	11%	13%	822	561.36	21%	17%
3	RAJSHAHI ZONE	245	127.05	293	121.39	20%	-4%	258	104.05	-12%	-14%	281	141.32	9%	36%	1077	493.81	6%	6%
4	BARISHAL ZONE	92	34.13	98	28.96	7%	-15%	116	42.58	18%	47%	135	47.10	16%	11%	441	152.77	14%	14%
5	SYLHET ZONE	28	11.60	24	11.59	-14%	0%	45	23.34	88%	101%	22	10.90	-51%	-53%	119	57.43	7%	16%
6	DHAKA NORTH	284	168.32	248	162.31	-13%	-4%	276	187.46	11%	15%	315	237.72	14%	27%	1123	755.81	4%	13%
7	DHAKA SOUTH	135	100.19	88	59.87	-35%	-40%	107	71.74	22%	20%	135	93.77	26%	31%	465	325.57	4%	3%
8	FARIDPUR ZONE	103	63.56	124	63.61	20%	0%	112	52.49	-10%	-17%	134	75.36	20%	44%	473	255.02	10%	9%
9	MYMENSING ZONE	168	79.27	206	96.96	23%	22%	237	118.79	15%	23%	236	116.06	0%	-2%	847	411.08	12%	14%
10	RANGPUR ZONE	103	46.10	152	68.97	48%	50%	153	66.93	1%	-3%	190	91.46	24%	37%	598	273.46	24%	28%
		1474	802.04	1633	842.12	11%	5%	1725	923.07	6%	10%	1961	1,168.76	14%	27%	6793	3,735.99	10%	14%

Eco-friendly

Sl No	Name of Zonal Office	2019-20		2020-21				2021-22				2022-23				Total (2019-2023)			
		Number	Amount (In Crore BDT)	Number	Amount (In Crore BDT)	Percentage of Number Increased	Percentage of amount Increased	Number	Amount (In Crore BDT)	Percentage of Number Increased	Percentage of amount Increased	Number	Amount (In Crore BDT)	Percentage of Number Increased	Percentage of amount Increased	Number	Amount (In Crore BDT)	Percentage of Number Increased	Percentage of amount Increased
1	CHITTAGANG ZONE	58	24.89	59	27.54	2%	11%	64	37.41	8%	36%	72	47.41	13%	27%	253	137.25	8%	24%
2	KHULNA ZONE	46	11.68	56	14.3	22%	22%	76	19.45	36%	36%	88	27.82	16%	43%	266	73.25	24%	34%
3	RAJSHAHI ZONE	83	29.8	105	32.315	27%	8%	119	35.28	13%	9%	124	36.2	4%	3%	431	133.60	15%	7%
4	BARISHAL ZONE	33	13.34	34	15.65	3%	17%	47	30.7	38%	96%	58	36.2	23%	18%	172	95.89	22%	44%
5	SYLHET ZONE	14	4.92333	22	10.33	57%	110%	32	10.832	45%	5%	10	5.44	-69%	-50%	78	31.53	11%	22%
6	DHAKA NORTH	163	59.27	159	76.99	-2%	30%	182	88.47	14%	15%	227	137.04	25%	55%	731	361.77	12%	33%
7	DHAKA SOUTH	42	10.15	37	13.01	-12%	28%	59	15.49	59%	19%	79	20.62	34%	33%	217	59.27	27%	27%
8	FARIDPUR ZONE	29	8.77	26	6.81	-10%	-22%	39	11.69	50%	72%	42	14.09	8%	21%	136	41.36	16%	23%
9	MYMENSING ZONE	28	14.22	44	18.52	57%	30%	57	24.37	30%	32%	67	38.7	18%	59%	196	95.81	35%	40%
10	RANGPUR ZONE	50	26.62	83	48.07	66%	81%	83	48.76	0%	1%	102	58.03	23%	19%	318	181.48	30%	34%
		546	203.663	625	263.535	14%	29%	758	322.45	21%	22%	869	421.55	15%	31%	2798	1211.20	17%	27%

Climate Resilient

Sl No	Name of Zonal Office	2019-20		2020-21				2021-22				2022-23				Total (2019-2023)			
		Number	Amount (In Crore BDT))	Number	Amount (In Crore BDT))	Percentage of Number Increased	Percentage of amount Increased	Number	Amount (In Crore BDT))	Percentage of Number Increased	Percentage of amount Increased	Number	Amount (In Crore BDT))	Percentage of Number Increased	Percentage of amount Increased	Number	Amount (In Crore BDT))	Percentage of Number Increased	Percentage of amount Increased
1	CHITTAGANG ZONE	24	10.94	21	9.71	-13%	-11%	29	14.53	38%	50%	39	20.53	34%	41%	113	55.71	20%	27%
2	KHULNA ZONE	36	6.74	50	10.49	39%	56%	54	13.95	8%	33%	81	21.29	50%	53%	221	52.47	32%	47%
3	RAJSHAHI ZONE	29	6.8	41	9.55	41%	40%	43	10	5%	5%	59	14	37%	40%	172	40.35	28%	28%
4	BARISHAL ZONE	50	10	47	10.6	-6%	6%	56	11.7	19%	10%	74	15.6	32%	33%	227	47.9	15%	17%
5	SYLHET ZONE	12	3.343333	17	4.84	42%	45%	13	6.004	-24%	24%	20	8.57	54%	43%	62	22.757333	24%	37%
6	DHAKA NORTH	2	0.4	3	0.6	50%	50%	4	0.8	33%	33%	6	1.5	50%	88%	15	3.3	44%	57%
7	DHAKA SOUTH	5	2.25	5	2.36	0%	5%	7	3.04	40%	29%	9	3.54	29%	16%	26	11.19	23%	17%
8	FARIDPUR ZONE	11	2.09	14	2.18	27%	4%	19	4.33	36%	99%	24	5.3	26%	22%	68	13.9	30%	42%
9	MYMENSING ZONE	24	8.62	28	8.35	17%	-3%	37	10.8	32%	29%	64	21.32	73%	97%	153	49.09	41%	41%
10	RANGPUR ZONE	12	2.4	18	4.89	50%	104%	21	5.4	17%	10%	27	7.15	29%	32%	78	19.84	32%	49%
		205	53.58333	244	63.57	19%	19%	283	80.55	16%	27%	403	118.80	42%	47%	1135	316.51	26%	31%

Subject: Financial and Economic analysis of the project fund

Year	Financing from IsDB		Financing from BHBFC		Financial Return			Economic Return	Benefits		Cost of Borrowing	Accrued Profit for next year	IRR		NPV		BCR	
	Investment for Housing Construction	Investment for Capacity and efficiency Development.	Operational Cost	Oppurtunity Cost	Return as Fees (0.60%)	Return as EMI and IDCP @7.5%	Total Return	Total Return	Net Financial Benefits.	Net Economic Benefits.	Schedule Payment to Isdb as Cost of Borrowing	Accrued Profit Investable for next year	FIRR Calculation	EIRR Calculation	FNPV calculation	ENPV calculation	Cost	Return
1	2	3	4	5	6	7	8=5+6+7	9	10=8-2-4	11=9-2-4-5	12	13=8-12	14	15	16	17	18	19
2023	3,970,000,000.00	76,091,400.00	220,000,000.00	251,400,000.00	23,820,000.00	148,875,000.00	172,695,000.00	259,042,500.00	(4,017,305,000.00)	(4,182,357,500.00)	36,240,914.00	136,454,086.00	(4,017,305,000.00)	(4,182,357,500.00)	(4,017,305,000.00)	(4,182,357,500.00)	(4,190,000,000.00)	172695000.00
2024	7,940,000,000.00	152,182,800.00	220,000,000.00	489,600,000.00	48,458,724.52	686,651,625.63	735,110,350.15	1,102,665,525.22	(7,424,889,649.85)	(7,546,934,474.78)	187,534,570.00	547,575,780.15	(7,424,889,649.85)	(7,546,934,474.78)	(7,424,889,649.85)	(7,546,934,474.78)	(8,160,000,000.00)	735110350.15
2025	7,412,500,000.00	76,091,400.00	220,000,000.00	457,950,000.00	47,760,454.68	1,463,047,811.93	1,510,808,266.61	2,266,212,399.92	(6,121,691,733.39)	(5,824,237,600.08)	656,142,995.45	854,665,271.16	(6,121,691,733.39)	(5,824,237,600.08)	(6,121,691,733.39)	(5,824,237,600.08)	(7,632,500,000.00)	1510808266.61
2026	6,885,000,000.00		220,000,000.00	426,300,000.00	46,437,991.63	2,224,292,362.08	2,270,730,353.71	3,406,095,530.56	(4,834,269,646.29)	(4,125,204,469.44)	1,112,973,678.90	1,157,756,674.81	(4,834,269,646.29)	(4,125,204,469.44)	(4,834,269,646.29)	(4,125,204,469.44)	(7,105,000,000.00)	2270730353.71
2027	3,442,500,000.00		220,000,000.00	219,750,000.00	27,601,540.05	2,854,767,139.25	2,882,368,679.30	4,323,553,018.95	(780,131,320.70)	441,303,018.95	1,535,909,725.02	1,346,458,954.28	(780,131,320.70)	441,303,018.95	(780,131,320.70)	441,303,018.95	(3,662,500,000.00)	2882368679.30
2028				-	8,078,753.73	3,177,461,980.63	3,185,540,734.36	4,778,311,101.54	3,185,540,734.36	4,778,311,101.54	1,855,570,771.14	1,329,969,963.22	3,185,540,734.36	4,778,311,101.54	3,185,540,734.36	4,778,311,101.54	-	3185540734.36
2029				-	7,979,819.78	3,307,007,423.74	3,314,987,243.52	4,972,480,865.28	3,314,987,243.52	4,972,480,865.28	1,855,570,771.14	1,459,416,472.38	3,314,987,243.52	4,972,480,865.28	3,314,987,243.52	4,972,480,865.28	-	3314987243.52
2030				-	8,756,498.83	3,440,431,437.84	3,449,187,936.67	5,173,781,905.01	3,449,187,936.67	5,173,781,905.01	1,911,227,882.25	1,537,960,054.42	3,449,187,936.67	5,173,781,905.01	3,449,187,936.67	5,173,781,905.01	-	3449187936.67
2031				-	9,227,760.33	3,584,460,339.37	3,593,688,099.70	5,390,532,149.54	3,593,688,099.70	5,390,532,149.54	1,956,775,700.03	1,636,912,399.67	3,593,688,099.70	5,390,532,149.54	3,593,688,099.70	5,390,532,149.54	-	3593688099.70
2032				-	9,821,474.40	3,736,847,470.53	3,746,668,944.93	5,620,003,417.39	3,746,668,944.93	5,620,003,417.39	1,966,884,993.36	1,779,783,951.57	3,746,668,944.93	5,620,003,417.39	3,746,668,944.93	5,620,003,417.39	-	3746668944.93
2033				-	10,678,703.71	3,900,447,412.24	3,911,126,115.95	5,866,689,173.93	3,911,126,115.95	5,866,689,173.93	1,966,884,993.36	1,944,241,122.59	3,911,126,115.95	5,866,689,173.93	3,911,126,115.95	5,866,689,173.93	-	3911126115.95
2034				-	11,665,446.74	4,078,668,376.64	4,090,333,823.37	6,135,500,735.06	4,090,333,823.37	6,135,500,735.06	1,966,884,993.36	2,123,448,830.01	4,090,333,823.37	6,135,500,735.06	4,090,333,823.37	6,135,500,735.06	-	4090333823.37
2035				-	12,740,692.98	4,273,340,755.47	4,286,081,448.45	6,429,122,172.67	4,286,081,448.45	6,429,122,172.67	1,966,884,993.36	2,319,196,455.09	4,286,081,448.45	6,429,122,172.67	4,286,081,448.45	6,429,122,172.67	-	4286081448.45
2036				-	13,915,178.73	4,485,957,602.32	4,499,872,781.05	6,749,809,171.58	4,499,872,781.05	6,749,809,171.58	1,966,884,993.36	2,532,987,787.69	4,499,872,781.05	6,749,809,171.58	4,499,872,781.05	6,749,809,171.58	-	4499872781.05
2037				-	15,197,926.73	4,718,174,242.74	4,733,372,169.47	7,100,058,254.20	4,733,372,169.47	7,100,058,254.20	1,966,884,993.36	2,766,487,176.11	4,733,372,169.47	7,100,058,254.20	4,733,372,169.47	7,100,058,254.20	-	4733372169.47
2038				-	16,598,923.06	4,971,797,396.34	4,988,396,319.40	7,482,594,479.10	4,988,396,319.40	7,482,594,479.10	1,966,884,993.36	3,021,511,326.04	4,988,396,319.40	7,482,594,479.10	4,988,396,319.40	7,482,594,479.10	-	4988396319.40
2039				-	18,129,067.96	5,248,800,390.66	5,266,929,458.62	7,900,394,187.92	5,266,929,458.62	7,900,394,187.92	1,966,884,993.36	3,300,044,465.26	5,266,929,458.62	7,900,394,187.92	5,266,929,458.62	7,900,394,187.92	-	5266929458.62
2040				-	19,800,266.79	5,551,338,458.40	5,571,138,725.19	8,356,708,087.79	5,571,138,725.19	8,356,708,087.79	1,966,884,993.36	3,604,253,731.83	5,571,138,725.19	8,356,708,087.79	5,571,138,725.19	8,356,708,087.79	-	5571138725.19
2041				-	21,625,522.39	5,881,765,509.05	5,903,391,031.44	8,855,086,547.16	5,903,391,031.44	8,855,086,547.16	1,966,884,993.36	3,936,506,038.08	5,903,391,031.44	8,855,086,547.16	5,903,391,031.44	8,855,086,547.16	-	5903391031.44
2042				-	23,619,036.23	6,242,652,443.44	6,266,271,479.67	9,399,407,219.50	6,266,271,479.67	9,399,407,219.50	1,966,884,993.36	4,299,386,486.31	6,266,271,479.67	9,399,407,219.50	6,266,271,479.67	9,399,407,219.50	-	6266271479.67
2043				-	25,796,318.92	6,636,807,156.73	6,662,603,475.65	9,993,905,213.47	6,662,603,475.65	9,993,905,213.47	1,509,523,947.66	5,153,079,527.99	6,662,603,475.65	9,993,905,213.47	6,662,603,475.65	9,993,905,213.47	-	6662603475.65
2044				-	30,918,477.17	7,084,447,424.57	7,115,365,901.74	10,673,048,852.60	7,115,365,901.74	10,673,048,852.60	1,031,944,314.46	6,083,421,587.28	7,115,365,901.74	10,673,048,852.60	7,115,365,901.74	10,673,048,852.60	-	7115365901.74
2045				-	36,500,529.52	7,617,489,547.02	7,653,990,076.54	11,480,985,114.82	7,653,990,076.54	11,480,985,114.82	574,583,268.34	7,079,406,808.20	7,653,990,076.54	11,480,985,114.82	7,653,990,076.54	11,480,985,114.82	-	7653990076.54
2046				-	42,476,440.85	8,242,930,555.71	8,285,406,996.56	12,428,110,494.84	8,285,406,996.56	12,428,110,494.84	117,222,222.22	8,168,184,774.34	8,285,406,996.56	12,428,110,494.84	8,285,406,996.56	12,428,110,494.84	-	8285406996.56
2047				-	49,009,108.65	8,968,134,362.13	9,017,143,470.78	13,525,715,206.17	9,017,143,470.78	13,525,715,206.17	117,222,222.22	8,899,921,248.56	9,017,143,470.78	13,525,715,206.17	9,017,143,470.78	13,525,715,206.17	-	9017143470.78
2048				-	53,399,527.49	9,785,202,566.86	9,838,602,094.35	14,757,903,141.53	9,838,602,094.35	14,757,903,141.53	58,611,111.11	9,779,990,983.24	9,838,602,094.35	14,757,903,141.53	9,838,602,094.35	14,757,903,141.53	-	9838602094.35
				-													(24,974,023,836.17)	40,192,823,317.27
	29,650,000,000.00	304,365,600.00		1,779,000,000.00		640,014,185.84					36,152,789,020.90	86,799,021,956.28	12.87%	18.00%	15,218,799,481.10	33,816,769,709.57		1.61

Peri-urban Housing Scheme

Annexure- 4 (a)

Assumptions

(i) Construction Rate	
a) Garage	2,744.00
b) Ground Floor(Residential Area)	3,519.00
c) Residential Area (2nd floor and above)	2,071.00
(ii) Number of residential floor	5.00
(iii) Number of Unit per floor	2.00
(iv) Total Number of Unit	10.00
(v) Contingency	5%
(vi) Investable Amount	
	In USD 162,850,000.00
	USD to BDT (as on 16.11.2022) 106
	BDT 17,262,100,000.00

Sl. No	Distribution of construction Cost (element wise)	Amount of Taka (BDT)
1	Ground Floor (Parking 800 sft)	2,195,200.00
2	Typical Floor (800*5 sft)	8,284,000.00
3	Total	10,479,200.00
4	Average Construction Cost for 1-Unit (Ground floor to 5th floor)	2,095,840.00
5	Avg. Construction Cost for Each Floor (2-Unit)	4,191,680.00
6	Avg. Construction Cost for Each Building (10-Unit)	20,958,400.00
7	Contingency	1,047,920.00
	Total	22,006,320.00
	The loan ceiling for this product is considered	17,605,056.00
	Amount of loan to be disbursed in 5 years	17,262,100,000.00
		980.52
	The number of building to be built in 5 years	980.00
	The number of family units to be built in 5 years	9,800.00

Investment Details :

Project Investment	17,262,100,000.00
Owners Equity	4,315,525,000.00
Total Investment	21,577,625,000.00

Sl. No	Description of construction Cost (element wise)	Amount of Taka (BDT)
1	Labor (25%)	5,501,580.00
2	Bricks (12%)	2,640,758.40
3	Sand + Brick tips(5%)	1,100,316.00
4	Cement (13%)	2,860,821.60
5	Rod (10%)	2,200,632.00
6	Door + Window (12%)	2,640,758.40
7	Electricity (8%)	1,760,505.60
8	Plumbing + Sanitary (10%)	2,200,632.00
9	Finishing / Others	1,100,316.00
	Total	22,006,320.00

Empolyment Generation

Labour Cost	5,501,580.00
Avg.per Labour Cost per day	500.00
Avrge. Construction period for a building	12 months
Avgre perLabour cost of a labour for 12 months	180,000.00
Avgc. Number of Labour for completion a building	31
Total Number of labour	29,953

Rural Housing Scheme (Non-Concessional)

Annexure- 4 (b)

Assumptions

(i) Construction Rate	
a) Garage	2,643.00
b) Ground Floor(Residential Area)	3,341.00
c) Residential Area (2nd floor and above)	1,896.00
(ii) Number of residential floor	3
(iii) Number of Unit per floor	2
(iv) Total Number of Unit	6
(v) Contingency	5%
(vi) Investable Amount	
	In USD 105,880,000.00
	USD to BDT (as on 16.11.2022) 106
	BDT 11,223,280,000.00

Sl. No	Distribution of construction Cost (element wise)	Amount of Taka (BDT)
1	Ground Floor (Parking 700 sft)	1,850,100.00
2	Typical Floor (700*3 sft)	3,981,600.00
3	Total	5,831,700.00
4	Average Construction Cost for 1-Unit (Ground floor to 5th floor)	1,943,900.00
5	Avg. Construction Cost for Each Floor (2-Unit)	3,887,800.00
6	Avg. Construction Cost for Each Building (10-Unit)	11,663,400.00
7	Contingency	583,170.00
	Total	12,246,570.00
	The loan ceiling for this product is considered	9,797,256.00
	Amount of loan to be disbursed in 5 years	11,223,280,000.00
		1,145.55
	The number of building to be built in 5 years	1,145.00
	The number of family units to be built in 5 years	6,870.00

Investment Details :

Project Investment	11,223,280,000.00
Owners Equity	2,805,820,000.00
Total Investment	14,029,100,000.00

Sl. No	Description of construction Cost (element wise)	Amount of Taka (BDT)
1	Labor (25%)	3,061,642.50
2	Bricks (12%)	1,469,588.40
3	Sand + Brick tips(5%)	612,328.50
4	Cement (13%)	1,592,054.10
5	Rod (10%)	1,224,657.00
6	Door + Window (12%)	1,469,588.40
7	Electricity (8%)	979,725.60
8	Plumbing + Sanitary (10%)	1,224,657.00
9	Finishing / Others	612,328.50
	Total	12,246,570.00

Empolyment Generation

Labour Cost	3,061,642.50
Avg.per Labour Cost per day	500.00
Avrge. Construction period for a building	12 months
Avgre perLabour cost of a labour for 12 months	180,000.00
Avgc. Number of Labour for completion a building	17
Total Number of labour	19,475

Rural Housing Scheme (Concessional)

Annexure- 4 (c)

Assumptions

(i) Construction Rate	
a) Garage	2,643.00
b) Ground Floor(Residential Area)	3,341.00
c) Residential Area (2nd floor and above)	1,896.00
(ii) Number of residential floor	4
(iii) Number of Unit per floor	2
(iv) Total Number of Unit	8
(v) Contingency	5%
(vi) Investable Amount	
	In USD 11,760,000.00
	USD to BDT (as on 16.11.2022) 106
	BDT 1,246,560,000.00

Sl. No	Distribution of construction Cost (element wise)	Amount of Taka (BDT)
1	Ground Floor (Residential 600 sft)	2,004,600.00
2	Typical Floor (600*3 sft)	4,550,400.00
3	Total	6,555,000.00
4	Average Construction Cost for 1-Unit (Ground floor to 5th floor)	1,638,750.00
5	Avg. Construction Cost for Each Floor (2-Unit)	3,277,500.00
6	Avg. Construction Cost for Each Building (10-Unit)	13,110,000.00
7	Contingency	655,500.00
	Total	13,765,500.00
	The loan ceiling for this product is considered	11,012,400.00
	Amount of loan to be disbursed in 5 years	1,246,560,000.00
		113.20
	The number of building to be built in 5 years	113.00
	The number of family units to be built in 5 years	904.00

Investment Details :

Project Investment	1,246,560,000.00
Owners Equity	311,640,000.00
Total Investment	1,558,200,000.00

Sl. No	Description of construction Cost (element wise)	Amount of Taka (BDT)
1	Labor (25%)	3,441,375.00
2	Bricks (12%)	1,651,860.00
3	Sand + Brick tips(5%)	688,275.00
4	Cement (13%)	1,789,515.00
5	Rod (10%)	1,376,550.00
6	Door + Window (12%)	1,651,860.00
7	Electricity (8%)	1,101,240.00
8	Plumbing + Sanitary (10%)	1,376,550.00
9	Finishing / Others	688,275.00
	Total	13,765,500.00

Empolyment Generation

Labour Cost	3,441,375.00
Avg.per Labour Cost per day	500.00
Avrge. Construction period for a building	12 months
Avgre perLabour cost of a labour for 12 months	180,000.00
Avgc. Number of Labour for completion a building	19
Total Number of labour	2,160

Climate resilience Housing

Annexure- 4 (d)

Assumptions

(i) Construction Rate	
a) Garage	2,643.00
b) Ground Floor(Residential Area)	-
c) Residential Area (2nd floor and above)	1,896.00
(ii) Number of residential floor	3
(iii) Number of Unit per floor	2
(iv) Total Number of Unit	6
(v) Contingency	5%
(vi) Investable Amount	
	In USD 4,405,000.00
	USD to BDT (as on 16.11.2022) 106
	BDT 466,930,000.00

Sl. No	Distribution of construction Cost (element wise)	Amount of Taka (BDT)
1	Ground Floor (Garage 600 sft)	1,585,800.00
2	Typical Floor (600*3 sft)	3,412,800.00
3	Total	4,998,600.00
4	Average Construction Cost for 1-Unit (Ground floor to 5th floor)	1,666,200.00
5	Avg. Construction Cost for Each Floor (2-Unit)	3,332,400.00
6	Avg. Construction Cost for Each Building (10-Unit)	9,997,200.00
7	Contingency	499,860.00
	Total	10,497,060.00
	The loan ceiling for this product is considered	8,397,648.00
	Amount of loan to be disbursed in 5 years	466,930,000.00
		55.60
	The number of building to be built in 5 years	55.00
	The number of family units to be built in 5 years	330.00

Investment Details :

Project Investment	466,930,000.00
Owners Equity	116,732,500.00
Total Investment	583,662,500.00

Sl. No	Description of construction Cost (element wise)	Amount of Taka (BDT)
1	Labor (25%)	2,624,265.00
2	Bricks (12%)	1,259,647.20
3	Sand + Brick tips(5%)	524,853.00
4	Cement (13%)	1,364,617.80
5	Rod (10%)	1,049,706.00
6	Door + Window (12%)	1,259,647.20
7	Electricity (8%)	839,764.80
8	Plumbing + Sanitary (10%)	1,049,706.00
9	Finishing / Others	524,853.00
	Total	10,497,060.00

Empolyment Generation

Labour Cost	2,624,265.00
Avg.per Labour Cost per day	500.00
Avrge. Construction period for a building	12 months
Avgre perLabour cost of a labour for 12 months	180,000.00
Avgc. Number of Labour for completion a building	15
Total Number of labour	802

Eco-friendly Housing

Annexure- 4 (e)

Assumptions

(i) Construction Rate	
a) Garage	2,744.00
b) Ground Floor(Residential Area)	-
c) Residential Area (2nd floor and above)	2,071.00
(ii) Number of residential floor	4
(iii) Number of Unit per floor	2
(iv) Total Number of Unit	8
(v) Contingency	5%
(vi) Investable Amount	
	In USD
	4,405,000.00
	USD to BDT (as on 16.11.2022)
	106
	BDT
	466,930,000.00

Sl. No	Distribution of construction Cost (element wise)	Amount of Taka (BDT)
1	Ground Floor (Garage 600 sft)	1,646,400.00
2	Typical Floor (600*3 sft)	4,970,400.00
3	Total	6,616,800.00
4	Average Construction Cost for 1-Unit (Ground floor to 5th floor)	1,654,200.00
5	Avg. Construction Cost for Each Floor (2-Unit)	3,308,400.00
6	Avg. Construction Cost for Each Building (10-Unit)	13,233,600.00
7	Contingency	661,680.00
	Total	13,895,280.00
	The loan ceiling for this product is considered	11,116,224.00
	Amount of loan to be disbursed in 5 years	466,930,000.00
		42.00
	The number of building to be built in 5 years	42.00
	The number of family units to be built in 5 years	336.00

Investment Details :

Project Investment	466,930,000.00
Owners Equity	116,732,500.00
Total Investment	583,662,500.00

Sl. No	Description of construction Cost (element wise)	Amount of Taka (BDT)
1	Labor (25%)	3,473,820.00
2	Bricks (12%)	1,667,433.60
3	Sand + Brick tips(5%)	694,764.00
4	Cement (13%)	1,806,386.40
5	Rod (10%)	1,389,528.00
6	Door + Window (12%)	1,667,433.60
7	Electricity (8%)	1,111,622.40
8	Plumbing + Sanitary (10%)	1,389,528.00
9	Finishing / Others	694,764.00
	Total	13,895,280.00

Empolyment Generation

Labour Cost	3,473,820.00
Avg.per Labour Cost per day	500.00
Avrge. Construction period for a building	12 months
Avgre perLabour cost of a labour for 12 months	180,000.00
Avgc. Number of Labour for completion a building	19
Total Number of labour	811

Pictures of field visit

