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The impact of post covid-19 economic crisis on rental housing affordability in Rajshahi: A residual income-based analysis

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Abstract

Housing has always been a consistent and globally recognized urban issue that has hardly been mitigated. Most of the housing problems are largely centered on fact of affordability. Post-covid global economic uncertainty adds more to this problem as the living costs are having a rapid increase. In countries like Bangladesh the situation is more complex due to its huge population and being the third metropolitan Rajshahi faces this problem is at a severe scale. In most of the cases household income and living standards have remained constant, but to meet them, you must spend more due to inflation and some other post covid economic urges. This has a direct impact on the rental housing affordability of Rajshahi. After paying for the unavoidable non-housing costs, the remaining amount is insufficient for house rents or expenditures and thus the renters have to deal with housing cost burden. Using a residual income base method, this paper attempts to investigate the effect of the post-covid economic crisis on the rental housing affordability of Rajshahi with a comparison of pre covid situations. Hopefully, this paper will broaden future research opportunities and contribute to the implementation of the required policy to address this issue.

Keywords: Housing affordability; post covid economic crisis; residual income ; housing induced poverty.

1 Introduction

The concept of housing is far beyond just a shelter. It is an indicator social safety tenure security and also economic status. As a result owning house has always been in the top priorities all over the world including Bangladesh. Due to its shear population, rapid urbanization trend and urban migration housing has always been in concern list for this developing country. This housing issue also comes with the question of affordability, as it is the single most expensive investment of life time for most of the citizens. Moreover there is a lack of supply than demand thus the housing affordability stakes are always in the rise. As a result most of the families find it almost impossible to afford a house of their own. More to that there are some non-negotiable mandatory expenses as a part of daily life. These expenses are there to meet the need of food, clothing, transportation cost, education, treatments, medicines and other basic human needs. And these expenses cannot be compromised.

Keeping the economic condition of the common in mind, it is very difficult for the mass people of Bangladesh to meet these expenses. Even if they could the amount left after these expenses is not even mention worthy. On the other hand the post covid scenario has worsened this situation far more. This covid pandemic has resulted in a global economic regression. The developed country can any how go through this but the developing countries are falling in a loophole. Due to this economic imbalance the expenses behind all the daily necessities and commodities has increased. On the contrary the income of the mass people in most of the cases has remained the same and in some cases even decreased. The fall of local currency in international market has also added fuel to this burning scenario.

As a result the mass people are paying almost 1.5 times to meet the minimum standard of life than what they had to pay before this economic downfall. Now, it is very difficult for them to meet the regular expenses let alone owing a house. The higher income group can cope with it but the middle and lower income groups have fallen into a loophole. So, affordability level is not the same as before, it is far beyond their capacity. As a result a noticeable percentage of people had migrated from the metropolitan small towns or rural areas failing to meet the living cost. That is why this paper wants to investigate the impact of post covid economic crisis on the housing affordability level of the different economic group of Rajshahi Bangladesh.

2 Methodology

This article focuses to analyses the impact of post covid economic crisis in case of housing affordability. There are few models of measuring affordability but this paper adapts residual income based approach. As this approach measures the income left for housing after meeting the all necessary living expenses. This fits with the research focus. But this scenario cannot be generalized that is why a study area must be selected first. Existing scenario should be analyzed of the selected area. Using the data, reports and field survey the average household sized income should be identified. Following that the non-housing compulsory living cost must be analyzed of the pre covid and post covid scenario. This can be done by survey, questionnaire, secondary data of economic inflation and price rising of daily necessities. This household expense analysis will provide the scenario of residual income for housing of the pre and post covid situation and also reveal the variation of affordability level of the selected study area.

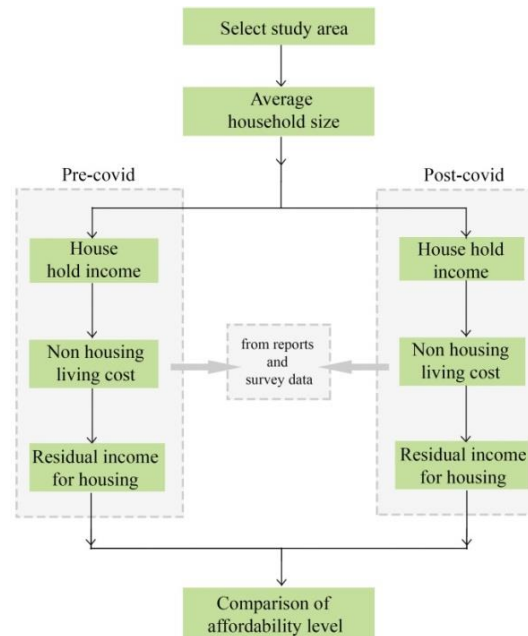


Figure 1: Methodology flow chart (source: by author)

3 Study area

The aim of this paper is to assess the impact of the post covid economic instability over housing affordability. But this problem cannot be generalized that is why a particular study is selected in the form of Rajshahi to conduct the study. Selecting Rajshahi was triggered by some background consideration, as it is the third metropolitan of Bangladesh. And being one of the most prominent cities in the northern region people keep migrating here thus this city. This city is rapidly raising and housing has been in demand(Hameem *et al.*, 2023).

On the other hand the living cost of Rajshahi compared to the other cities is at a considerable level. but this scenario was greatly affected by the covid pandemic. The living expenses have not remained the same as before. During these 2 years living cost has increased a lot. This has an immense impact in the housing affordability level of the people of Rajshahi. And all these factors fit with the purpose of the study and make Rajshahi an optimum study area.

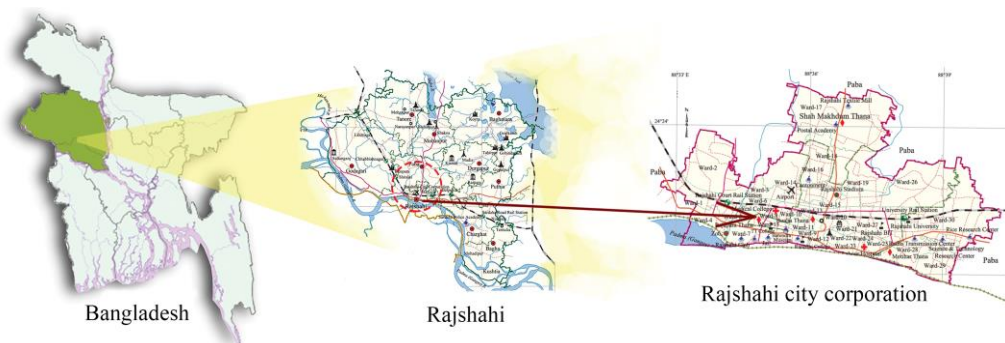


Figure 2: Location of the study area (source: by author)

4 Housing scenario in Rajshahi

Over the last decade Rajshahi has faced rapid housing demand. The urban population in Rajshahi district increase from 2595197 in 2011 to 2915013 in the year 2022 (Census, 2022). As a result the density has increased from 1070 to 1202 per kilometer (Census, 2022). Also the number of households has increased from 633758 to 775260 within the same period (Census, 2022).

Table 1. Rent index.(BANGLADESH BUREAU OF STATISTICS (BBS), 2021b)

Year	Rent index
2018-2019	5038.53
2019-2020	5339.74
2020-2021	5610.64

So, both the housing need and urban area of Rajshahi is expanding. This housing need comes with the question of affordability. Because on field ownership pattern indicates that majority of the houses are not owned by the users, rather rented. But the economic instability continuing from the covid situation added more to this problem(Jung and Murphy, 2020). As an impact of the global economic regression most of the house rents have gone up. So the renters have to pay more than what they were paying before this economic condition.

On the other hand those who wanted to own a house has also had to deal with similar situation. House prices have gone up within this few years. The construction material price and the labor cost have raised a lot. As a result those who want to buy or build new houses actually can't afford to do it.

Table 2. Building Material Price Index(BANGLADESH BUREAU OF STATISTICS (BBS), 2021a)

Time	Jun 20	July 20	Aug20	Sept20	Oct20	Nov20	Dec20	Jan21
Building material price index	624.67	626.74	627.40	628.78	630.21	632.01	633.94	640.87

So there is an always increasing housing demand. But the supply is not up to the mark. More to that the post covid global economic regression fueled the raising rents and housing prices and made it very difficult to afford for the people of Rajshahi. Thus there should be a thorough investigation of the impact of the housing cost increase on the affordability level of Rajshahi.

5 Affordability Analyses

This increase of house price and rents is in such a rate that it is shifting beyond the affordability level of the mass people of Rajshahi. There should be a proper assessment to reveal the on field impact of this sudden inflation over housing affordability. In this paper the residual income approach is followed to measure the affordability level. The residual income approach to measuring housing affordability views housing affordability in terms of households maintaining a minimal standard of living reflected in the ability to meet non-housing needs at some minimum level of adequacy after paying housing costs(Nwuba, C. C., & Kalu, 2018). The residual income approach arises from the recognition that housing costs tend to be inflexible and make the first claim on the disposable incomes of most households(Stone, 2006). It calculates how much of the income is left for housing (mortgage payments or rents) after taking the relevant non-housing expenditure items for different household types into account; if the amount left is insufficient for housing, a household has a housing affordability problem(Burke, Stone and Ralston, 2011). For this purpose a thorough investigation of income and expenditures of the target group must be done as these two are the key factors of affordability.

5.1 Economic Condition

In any given scenario the key determinant of the affordability is monthly income. Because income defines the ability to spend for any goods or service. Survey data and on filed investigation was conducted to find out the income range of the people of Rajshahi.

This investigation indicates that:

- A majority of the people is service holders and their income has more or less remained the same.
- There has been no such event of salary increase both in government and private sector.
- Those who run business or shop owners also claims of their business profit declining.
- Workers and labors wage index has gone up a bit but their work frequency has decreased.
- Producers often sell their goods with slim profit margins in local markets or to intermediaries.

So the income of the target area has remained the same or changed an inconsiderable amount. On the basis of income the people of Rajshahi can be categorized into:

Table 3. Different Income groups of Rajshahi (Asaduzzaman and Hameem, 2021)

Income group	Monthly income range BDT
Low income	<30000
Middle income	30000-120000
<ul style="list-style-type: none"> • Lower middle income • Middle - middle income • Upper - middle income 	<ul style="list-style-type: none"> • 30000-50,000 • 50000-80000 • 80000-120000
High income	120000+

5.2 Non-Housing Expenditures

There is a considerable amount of population growth and economic inflation. The living cost also has increased with the same acceleration. Stats show that almost all sort of goods and necessities were affected by the post covid inflation. The price increase and inflation data is shown on the table below:

Table 4. Inflation rate of non-housing expenditures (Bangladesh Bangladesh Bureau of Statistics, 2022)

Expenditure items	2018-19	2019-20	2020-21
Food	281.33	296.86	313.86
(Inflation)	5.51	5.56	5.73
Non food	229.58	243.00	255.85
(Inflation)	5.43	5.85	5.29
Clothing & footwear	277.64	290.00	298.14
(Inflation)	8.78	4.45	2.81
Gross rent, fuel & lighting	206.98	220.70	228.29
(Inflation)	3.36	6.63	3.44
Furniture, household equipment's & operation	265.25	282.67	298.15
(Inflation)	6.24	6.57	5.48
Medical care & health expenses	215.31	230.07	247.86
(Inflation)	2.88	6.86	7.73
Transport & communication	235.23	248.48	271.45
(Inflation)	7.51	5.63	9.24
Recreation, entertainment, education & cultural	186.72	190.13	193.61
(Inflation)	1.67	1.83	1.83
Misc. goods & services	239.87	259.27	288.53
(Inflation)	7.18	8.09	11.28

People can't always keep pace with this rapid increase in living cost. The higher income group can somehow cope with it. But the middle income group who shares the majority of the population finds it very difficult to meet their monthly expenses let alone the lower income tier.

This stats and data also aligned with the on field scenario. Survey was conducted to find out the pre covid and post covid living cost of the households of Rajshahi. Household size in Rajshahi district 4.09 in 2011 and 3.76 in the year 2022 (Census, 2022). So, four member families from those different income categories were taken into considerations and their monthly expenses was carefully considered. This analysis includes expenses from Utility bill, transportation, food, clothing, medicine, accessories, education, recreation and others. And also personal vehicle expenses, support staff expenses adds with the higher and higher middle income group And a comparison made of the pre covid and post covid prices of these ingredients to find out the gross amount of the increased living costs.

5.3 Affordability Analysis

The living cost has risen incredibly high within these last few years. And these expenses cannot be compromised as all these items falls upon daily commodities. In these circumstances the only thing that is compromised is the expenditures behind housing. Housing affordability has had a downfall in respect to the increased living cost. So the comparison of affordability over these pre and post covid situation is presented here:

Table 5. Residual income of different income groups of Rajshahi

Time frame	Income group	Monthly income (BDT)	Expenditures (BDT)	Residual income (BDT)
Pre covid	Low income	<30000	18000	12000
	Lower Middle income	30000-50,000	18000-32000	12000-17000
	Middle - middle income	50000-80,000	32000-55000	17000-25000
	Higher - middle income	80000-120,000	55000-85000	25000-35000
	High income	120000+	85000+	35000+
Post covid	Low income	<30000	24000	6000
	Lower Middle income	30000-50,000	24000-37000	6000-13000
	Middle - middle income	50000-80,000	37000-60000	13000-20000
	Higher - middle income	80000-120,000	60000-90000	20000-30000
	High income	120000+	90000+	30000+

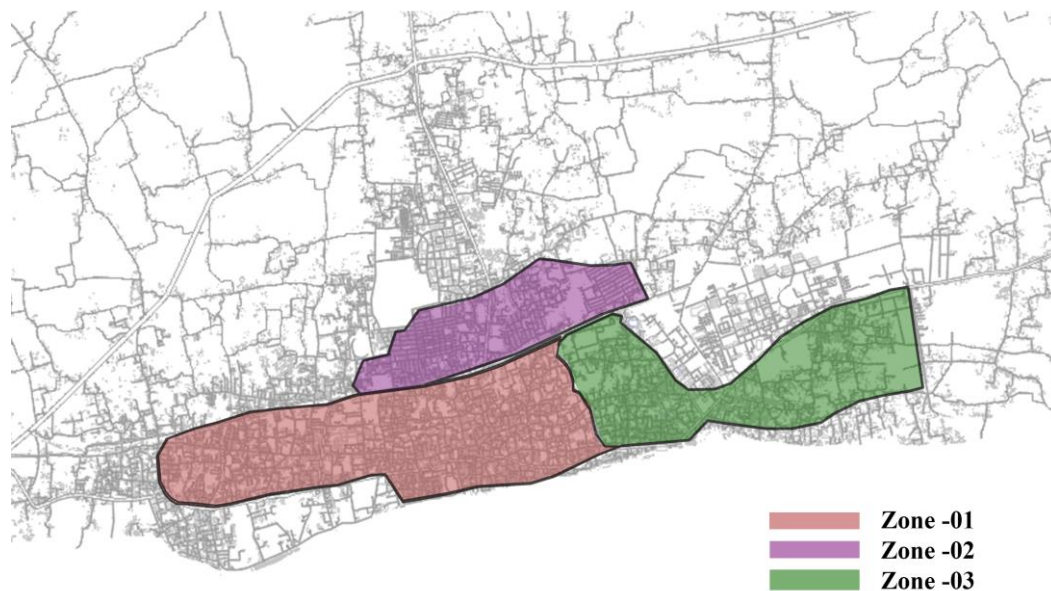


Figure 3: Different zones of Rajshahi on basis of house rents (source: by author)

In order to assess rental affordability, the study took into account the variations in rents across different zones and income groups. To obtain a comprehensive understanding of rental affordability, the study collected data on house rents from various zones and categorized them based on income groups. Comparing these data, the study aimed to determine how affordable housing was for different segments of the population in Rajshahi. That is why different zone was identified in respect to the house rental level. Where “Zone 01” consists area between Shaheb Bazar to Laxmipur, “Zone 02” Uposhohor and Padma Residential area and finally “Zone 03”: Sagarpara to Rajshahi university area. This analysis shed light on the affordability dynamics in the city, considering the financial constraints faced by residents in relation to the rental prices they encountered. The findings contributed to a better understanding of the housing market in Rajshahi and could inform policy decisions and interventions aimed at improving rental affordability for the local population.

Table 6. Affordability level of different income groups of Rajshahi

Zones	Income group	Residual income	House rent	Affordability level
Zone 1	Low income	6000	7000-10000	Unaffordable
	Lower Middle income	6000-13000	10000-15000	Unaffordable
	Middle - middle income	13000-20000	12000-15000	Moderately unaffordable
	Higher - middle income	20000-30000	15000-20000	Affordable
	High income	30000+	20000+	Affordable
Zone 2	Low income	6000	8000-12000	Unaffordable
	Lower Middle income	6000-13000	12000-18000	Unaffordable
	Middle - middle income	13000-20000	18000-20000	Unaffordable
	Higher - middle income	20000-30000	20000-25000	Affordable
	High income	30000+	25000+	Affordable

Zone 3	Low income	6000	6000-8000	Moderately unaffordable
	Lower Middle income	6000-13000	8000-12000	Moderately unaffordable
	Middle - middle income	13000-20000	12000-15000	Affordable
	Higher - middle income	20000-30000	15000-20000	Affordable
	High income	30000+	20000+	Affordable

6 Results and Discussion

Housing affordability remains a persistent issue in Rajshahi, and the post-COVID economic crisis has exacerbated the situation. The analysis conducted reveals that the economic inflation caused by the pandemic has rendered housing unaffordable for the lower and middle income groups in Rajshahi. Conversely, the higher middle and higher income groups have managed to navigate through the crisis more effectively, demonstrating the uneven impact of economic fluctuations on different income segments. Traditionally, it is recommended that individuals allocate approximately 30% of their monthly income towards housing costs. However, due to the prevailing economic uncertainty, other essential non-housing expenses, such as food, transportation, and utility bills, have experienced significant increases. These non-negotiable expenses are crucial for individuals and cannot be compromised. As a result, the residual income left after meeting these expenses is far below the recommended 30% threshold for the lower and middle income groups in Rajshahi.

This phenomenon, commonly known as housing cost burden, highlights the challenges faced by the lower and middle income groups in meeting their housing needs amidst the post-COVID economic uncertainty. The above analysis also indicates that in zone 01 and zone 02 the rental amount is a burden for lower and middle income people. But in zone 03 the rent is comparatively lower. The burden of housing costs, coupled with the rising non-housing expenses, has put considerable strain on financial well-being and overall quality of life.

7 Conclusion

The findings indicate that the post-COVID economic climate has had adverse implications for housing affordability, particularly for lower to middle income group of Rajshahi. Addressing this issue requires comprehensive strategies that take into account the unique challenges faced by this income group. It is crucial to implement measures that mitigate the housing cost burden and ensure access to affordable housing options for these segments of the population. Promoting equitable and sustainable housing in Rajshahi necessitates a multi-faceted approach. This includes exploring avenues for increasing the supply of affordable housing units, enhancing financial assistance programs, and fostering partnerships between government agencies, private sector stakeholders, and non-profit organizations. Additionally, investing in infrastructure development and urban planning initiatives that prioritize affordable housing can contribute to long-term solutions. By acknowledging the specific housing needs and financial constraints of the lower and middle income groups, Rajshahi can strive towards creating a more inclusive and affordable housing market. This will not only improve the well-being of individuals and families but also foster social and economic stability within the community.

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